ORGANIC COVER CROP CASE STUDIES

Scott Shriver

Farm location	Jefferson, IA
Certified organic acres	1979
Total acres	1979
Year of initial organic certification	2000 (Organic Crop Improvement Association)
Primary cash crops	Corn, soybeans, small grains
Years planting cover crops	Since 2000
Frequently used cover crops	Rye, clover, buckwheat
Livestock on farm	No
Soil type	Clarion Webster. OM 3.5%. Decent drainage. Sandy loam.

Brief Farm History

Scott Shriver and his family have been farming since 1994 and began managing their farm organically in 1998. It took ten years to transition all of their acreage to organic. Prior to that, the farm was a conventional corn and soybean operation for fifty to eighty years.

A very unique aspect of the Shriver operation is that they co-own a dehydration plant with a company out of Kansas. They cut small grain grasses, like wheat and barley, before they stem out and head, and then dry the forage. After drying, the dehydrated forage goes through a hammer mill and is pelletized to make human health food.

Cover Crop Use & Goals

They started small in cover crops, but now try to put a cover crop on every acre. Shriver was first introduced to cover crops through the organic certification process and exposure to MOSES resources. Shriver believes that the organic

community has led the conversation on cover crop benefits and soil health.

Shriver attributes soil health improvements, like increases in organic matter, soil biology and better tilth, erosion reduction and weed suppression to his cover crops. He does not fertilize or irrigate his covers. He plants single species stands because the dehydration facility needs purity to attain product specs, so this limits his ability to be creative with cover crop blends.

The biggest challenge for cover crop management is termination because it is weather dependent. If he doesn't have a good weather window, it can be a fight to terminate cover crops, particularly rye. Shriver really does appreciate the rye in this rotation though. He comments, "Rye is just about fool proof. Even if it is almost non-existent in the fall, it comes back in spring." Shriver also wishes he could incorporate more diversity, but the shortened season and dehydration operation prohibits this for now.

Crop Management

TYPICAL ROTATION

The typical rotation on the farm is corn, soybean, corn, soybean, small grain. The main opportunity to seed a cover crop that is not rye is to broadcast clover in the small grain ahead of corn. After soybeans, they struggle with the timing to plant a cover; sometimes they spread leftover small grain seed. After the second soybean crop in the rotation, they usually do not seed a cover, in order to not contaminate the small grain. After the small grain rotation, they may plant a second small grain crop for the dehydration facility, and allow it to grow enough to get a grass cutting in late summer. Some acres after small grains are also planted into buckwheat that is harvested for grain.

Shriver is working with rye on several acres, working to perfect a system for no-till soybeans planted into standing rye on his operation. After corn harvest in the fall, he drills rye on ¼ to ⅓ of his corn acres. He has tried aerial seeding in the past, but his experience is that the stand is uneven due to field ridges.

FIELD OPERATIONS

Equipment on the farm includes a Lemken Rubin 9 for primary tillage and a disc ripper for deep tillage. They use a soil finisher in the spring before planting. They have many tools available for in-row weed management. To terminate their cover crops, they use the roller crimper and a high speed disc for undercutting.

He terminates the rye with a roller crimper after the soybeans have been planted. They like to do fall tillage after soybean harvest ahead of corn, in order to knock the field ridges down and incorporate residue. He knows he may get volunteer rye after this.

NUTRIENT INPUTS AND TIMING

Hog manure and chicken litter are used on the farm every year, primarily for nitrogen value ahead of corn. Pelletized gypsum is spread on half of all acres for calcium and sulfur needs.

Corn with rye

Advice to New Cover Croppers

Shriver knows that his soil is improving with better soil tilth as a result of cover cropping, though it takes time to see these changes. He does not have the financial analysis to prove an economic benefit, but he believes he's stewarding the land for long term benefits and erosion control, and that these add up to future cost savings, even if he doesn't have the math to prove it.

For newcomers to covers, he suggests starting slowly, and also to not be afraid to terminate the cover early as you're beginning. More biomass is beneficial, but it is also harder to terminate and if you're just starting with termination, younger plant material is easier to work with and learn from. Shriver finds that MOSES, OGRAIN and Albert Lea Seed House are all excellent resources for cover crop information.

Looking to the Future

Shriver is ambitious and there is a lot happening on his farm, but cover crops are not leading his innovation efforts. He is focused on their dryer plant and the length of the farm season is currently limiting his ability to advance with covers. He would like to see more diversity in his cover crop program in future years.

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OGRAIN

The Organic Grain Resource and Information Network (OGRAIN) offers an educational framework for developing organic grain production in the Upper Midwest. Whether you farm 10 acres or 10,000, are an experienced organic grower or just considering the transition to organic, OGRAIN provides learning opportunities to improve your organic row crop and small grain operation.
https://ograin.cals.wisc.edu/

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