

ORGANIC COVER CROP CASE STUDIES



Matthew Fitzgerald

Farm location	Glencoe, MN
Certified organic acres	2500
Total acres	2500
Year of initial organic certification	1994 (Organic Crop Improvement Association)
Primary cash crops	Corn, soybean, specialty small grain, canning pea, dry yellow pea
Years planting cover crops	5
Frequently used cover crops	Winter rye, winter triticale, red clover underseeded into wheat
Livestock on farm	None
Soil type	Clay loam, heavy, dark

Brief Farm History

Fitzgerald and his family have been farming organically since 1994. They have been farming as the second generation on their current land since 2000.

Cover Crop Use & Goals

Fitzgerald is just getting started using cover crops. He sees their potential to be incorporated in a rotation after small grains crop, or after a shorter season crop such as canning vegetables or sugar beets. Fitzgerald was introduced to cover cropping through a Minnesota Department of Agriculture (MDA) water conservation program. When he began the program, the farm was just barely over the threshold of being able to qualify for clean water status because they had used alfalfa in their rotation. **Adding cover crops to their system was the logical progression to improve their practices and MDA recommended utilizing Natural Resource Conservation Service (NRCS) cost share programs to add cover crops to the farm.**



While it started as means to improve their water quality status, Fitzgerald's goals for using more cover crops now include reducing both weed pressure and tillage passes. With reduced tillage, he knows he can save labor and fuel costs and impact his soil by improving soil structure. **He sees further benefits that cover crops can eventually supplement some of his fertilizer, as nutrient cycling improves in his soil, especially when he increases the diversity of cover crops on his farm.**

Fitzgerald has observed that cover cropping can also reduce weed pressure in the following cash crop. When he planted a cover crop of winter rye and triticale after his soybeans for the first time, he observed less giant ragweed pressure in his corn the following year in the cover-crop planted area compared to areas where no rye/triticale blend had been planted. There was significant giant ragweed pressure that year in most of his fields, so the cover crop planted acres were very noticeable in reducing the weed population.

Fitzgerald has also recently signed up for a Practical Farmers of Iowa (PFI) cost share. For this program, on transition acres of dry yellow peas, he will harvest the crop in late July/early August and then seed winter wheat. In the late winter, he will frost seed clover into the wheat to provide a nitrogen credit in the spring.

Crop Management

TYPICAL ROTATION

Fitzgerald's rotation is most often corn, soybean, and then a specialty crop, either a small grain, canning pea or dry yellow pea. He seeds the cover crop after the shorter season specialty crop.

FIELD OPERATIONS

The disc and chisel are the most used pieces of tillage equipment on the farm. Fitzgerald will moldboard plow occasionally, primarily ahead of a soybean crop, to reduce residue to more successfully rotary hoe or tine weed. Overall, the farm uses a rotary hoe, tine weeder, three shank in-row cultivator, and flame weeder for in-row weed management.

NUTRIENT INPUTS AND TIMING

For fertility, Fitzgerald applies and incorporates chicken or turkey manure in the fall during post-harvest field operations.

SEEDING AND ESTABLISHMENT

The farm typically broadcasts its cover crops. They do have access to a drill, if needed. Covers are terminated in the spring ahead of planting with a field cultivator. Fitzgerald's biggest challenge getting into cover crops is accessing the right tools for managing cover crops. For example, he'd like to experiment with interseeding, but there are not many pieces of this equipment near him, even if he were to hire it out or



borrow a drill. He also acknowledges that he will need to develop rotations around his corn crop. “Corn is still king” and with its harvest dates, it is a challenge to seed a cover late in the season.

Advice to New Cover Croppers

As a beginner himself, Fitzgerald encourages the use of cost share and other incentive programs to reduce financial risk. “If someone else is paying for it, that’s a great incentive to gain more experience with cover crops,” he says. Fitzgerald is open to getting more assistance and perhaps hiring a consultant for professional advice. He appreciates talking with others who are growing cover crops and recommends talking to neighbors or finding others in your area who are growing covers.

Looking to the Future

Fitzgerald views cover crops as taking his farm to the next level. **He describes them as “the next frontier for organics” because of their power to improve soil health through providing fertility and reducing tillage passes, both which save on costs over time.** Covers are an opportunity and also a challenge. He wants to figure out how to balance his ethical stewardship commitment, while also making them consistently economical; to prove how the soil health benefits are making money on his farm.

Fitzgerald sees no-till soybeans into crimped rye as the next low hanging fruit to implement on his farm. He then would like to work on reduced or no-tillage in corn. Fitzgerald is also interested in using flame weeding in a strip till system for reduced to no-till corn. He is excited by the potential of a flame weeder to control weeds without stirring the soil to trigger a new flash of weeds.



Soybeans in no-till field

Overall, Fitzgerald recognizes the value of having different tools and mechanical implements for varying conditions. In five to ten years, he hopes to have two to three tools that provide options, depending on the difference in the weather and soil that year. Different tools provide flexibility for choosing the appropriate tillage pass or even planting method for different species of cover crops at the right timing.

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FOR MORE INFORMATION

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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.

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