

# Seed Early, Seed Often

## Mike Shuter - Frankton, Indiana



Mike Shuter wants to get the most out of the cover crops on his 3,000-acre corn/soybean operation near Frankton, Indiana. He's a big believer in building healthy soils, and he wants to give cover crops every possible day to help him do it. That means seeding cover crops into standing corn and soybeans so the soil-building cover is up and running before harvest.

"A lot of these cover crops—annual ryegrass, especially—need to have good growth in the fall to get good root development. With better root development, we'll get soil organic matter and we're developing soil health," Shuter says. "Part of our evolution in cover crops is getting them seeded earlier every year."

To keep to his ambitious timeline, Shuter designed a high-clearance seeder. After years of trial and modification on his own unit, he's now custom-building them for other farmers eager to seed their cover crops early and often.



Mike Shuter at the helm of his tractor.

## Here Comes the Boom

Shuter started his seeder with what he calls "a bare-bones power plant," a stripped-down Miller sprayer. His original design included a 90-foot boom fed by a Gandy box and venturis; he has since moved to a 120-foot truss boom supplied by a pressurized Salford air seeder tank. Blown through 2.5-inch hoses and a flat fan distributor, cover crop seed ends up propelled through 1.25-inch drop tubes and pings off a plate diffuser to ensure good distribution across the rows and middles.

It's a powerful system, strong enough to blast out 100 pounds of urea per acre at 7 miles per hour, Shuter says—plenty of muscle for moving cover crop seed. He's running his rig across 4,200 to 4,500 acres per year, a combination of 100% of his own acreage and the custom seeding he does for other farmers.

## Organic Opportunities

Building healthy soils with no-till and cover crops has provided Mike Shuter with surprising opportunities on his 3,000-acre Indiana farm, which also includes cattle and hog operations.

"The soil's built up right to the point we can do some organic production with no-till and strip-till," he says. "We're actually to the point now where we've got one field we're going to start transitioning to organic."

Prices for organic corn and soybeans are about double the conventional price, which got Shuter's attention. So did the opportunity to utilize more manure from the livestock side of his operation and reduce his chemical use.

"I'm not an organic advocate," he says. "But if they're willing to pay me more to farm that way, I'm willing to grow for them. We'll get paid a little more for what we're doing with our soils."

## August and September

Shuter likes to have his cover crop seeding done by mid-September to give the plants time to get established in the waning weeks of summer.

"I'd rather be seeding in mid-August if we can, seeding into standing corn, and getting done by mid-September," he says. "Later in the season, the stalk starts getting more brittle. You don't want to be out in that."

"We're trying to get into beans by the time the leaves start turning," he adds. "If you get a lot of leaf drop before you seed, you get a lot of seed on top of the leaves. But if you let the leaves fall on top of the seed, it traps moisture and helps get it germinated."

Both corn and soybeans can be harvested easily as the cover crop forms a low-lying mat well below the level of the header, Shuter notes. Once the cash crops have been combined, the cover crops thrive in the sun.

## Big Benefits

That's what Shuter likes to see. By spring, those cover crops have formed a thick mat of biomass that's building his soil organic matter and making his farm more resilient.

“With the extreme rains and the extreme heat we’re starting to see, the weather cycles we’re in right now, soil health is really helping us,” Shuter says.

If he has enough time to completely kill his cover crop before no-tilling or strip-tilling into the mat, he’ll spray. If time is short, he’d rather plant into living cover rather than wrestling with stiff, half-dead plants.

“We’ve no-tilled for 30 years, done strip-tilt for the past 12 years, and cover crops for the last six years,” he notes. “In the past eight years, we increased our organic matter 2/10 of one percent, averaged across everything we’re farming. That organic matter can release more phosphorus and potassium and a better balance of micronutrients—give us more productivity. I think in the long term, we’ll have less need for some of the fertilizers we’re using.”

Because of his commitment to research, Shuter will be one of the first to know. He is one of 12 farmers around Indiana hosting test plots as part of the Conservation



Shuter’s cover crops get a strong start.

## Killing Covers

Mike Shuter employs a variety of cover crop species on his farm near Frankton, Indiana.

Some, such as radish and some clovers, die naturally over the winter. Shuter also plants annual ryegrass, rapeseed and cereal rye, which overwinter before bulking up on biomass when the weather starts to warm again.

A combination of Sharpen and glyphosate, blended with methylated soybean oil (MSO) and citric acid to bring the pH down to 5.0 or lower, is generally effective at killing grass and crimson clover covers well before planting, he says. Fine mist AIXR nozzles deliver the coverage necessary for a good kill of dense cover crops, he says. And although he packs the most productivity he can in every day, he is sure to wrap up spraying by mid-afternoon.

“We park our sprayer by about 4 o’clock so there’s at least four hours of sunlight when that crop can grow and take up the glyphosate,” he says. “If it starts shutting down, it’s not going to be taking up the herbicide.”

If there’s a delay in spraying, Shuter prefers to plant directly into standing cereal rye cover crops rather than trying to fight his way through tough, dying stems.

Cropping Systems Initiative (CCSI), designed as an in-depth look at the economic and ecological impact of cover crops. He is also cooperating with Purdue University and the Soil Health Partnership on conservation research.

Shuter says adopting cover crops involves adopting a new mindset.

“Get over the mantra that the more, bigger steel you’ve got in the barn lot, the better off you are,” he urges. “Get to thinking about the soil health and get to the idea that we’ve got to leave something for the next generation to farm.”

That’s a year-round pursuit, Shuter says. His overseeding program gives him an early jump off the starting line, but he’s running a marathon.

“Soil is a vital, living system,” he says. “If we can keep it living longer, keep it living 12 months out of the year instead of eight or nine months out of the year, I think we can build the soil organisms in there to help us build up our soil health. I don’t feel it’s a one-year, fix-all deal. We’re looking at this for the long term.”



Mike Shuter’s high-clearance nutrient tool bar allows late-season N applications.

This is part of a series of sheets on the economics of conservation systems developed as part of Indiana’s Conservation Cropping Systems Initiative (CCSI) in cooperation with the Conservation Technology Information Center and Purdue University. For more information on the Conservation Cropping Systems Initiative, visit [ccsin.org](http://ccsin.org).

### CCSI’s Partners in Conservation:

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This material is based upon work supported by the Natural Resources Conservation Service, U.S. Department of Agriculture, under award number 69-3A75-12-215.

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