



Valmar air seeder mounted on corn header.

Combine-Mounted Cover Crop Seeder

No-Till Farmer refers to Ray McCormick as a No-Till Living Legend. The same might be said of his ability to seed a cover crop while combining corn and soybeans. He's been doing so for more than a dozen years (Vol. 36, No. 3).

Even then, McCormick was no stranger to dual-purpose field trips. More than 30 years ago, he mounted a home-built adjustable height spray boom on the back of his no-till drill (Vol. 17, No. 1). He saved a pass, applying burndown while he planted. The same principle holds true with his cover crop seeding. It involves air seeders mounted on his headers. It saves money and time versus seeding with a drill.

When FARM SHOW first interviewed

McCormick, he had one season under his belt with a Gandy air seeder on his (then) 8-row corn head. He had planned on using a Valmar unit at the time, but none were available when he needed one.

"I called Valmar, and they said it would be 6 mos.," he recalls. "I called Gandy, and they said 6 weeks. I told them I needed one in 6 hrs. They said they had one torn apart and sent it to us. We put it together and did 300 acres with it."

He tied electrical and hydraulic connections into excess ports on the quick connect so it disconnected with the header. He ran the air hoses behind the header and under the snapping rollers.

McCormick wanted to compare how the

combine mounted Gandy compared to the no-till drill, find problems, and fix them before the next season. There were no problems, and the drill was retired from cover crops. The only change was to mount deflector plates in front of the hoses, so the seed spread out more evenly.

The plates ensured the seed hit the ground ahead of residue coming through the corn head. The seed gets soil contact, and the residue provides a protective mulch for the seed. McCormick liked the even spread and emergence of the broadcast seed versus the rows on 7 1/2-in. centers.

"It looked like a seeded lawn. It spread so accurately," he says.

To get the most acres out of the Gandy's small hopper, McCormick switched his cover crop mix to small, annual ryegrass and clover seed. When the company sent him a prototype low-profile unit, McCormick mounted it on his Deere bean head. However, when he later went to a MacDon draper header, he outfitted it with a Valmar air seeder instead of the Gandy.

"The Valmar hopper is about four times that of the Gandy," says McCormick. "The Gandy unit is ground driven. The Valmar is hydraulically driven, which gives it better control, and I can adjust it on the go. I can slow down on erodible ground and seed at a heavier rate."

Initially, he mounted the Valmar on the side of the draper, but the weight interfered with the spring-mounted MacDon. He then moved it to dead center with a bracket that scissored up and down when the draper raised and lowered with the contour of the ground.

A few years later, he switched to a Deere draper header and moved the Valmar to its current position on an also upgraded, 12-row corn head. The downside to that move was that when mounted to the side of the corn head, a filled hopper was too much weight. However, even half filled, it carries enough seed that filling it before starting up in the morning and again at noon is usually sufficient.

Mounting two Gandy's on the new Deere draper header made it equally efficient at spreading cover crop seed. Combined, they're equal to the half-hopper Valmar. McCormick has them plumbed to spread seed from one, and when it is empty, switch to the other.

Mounting air seeders on his combines has been a success for McCormick. They have helped turn annual Ohio River flooding from a negative to a positive.

"I pick our corn high, leaving stubble standing high with cover crop anchoring the residue and the soil," he says. "Not only do we not lose soil, but I'm also catching about 30 tons of topsoil per acre with each flood."

His only problem was when he forgot to turn on the air seeder for 35 ft. The next spring, the value of air-seeded cover crop was apparent.

"Where there was no cover crop, the flood scoured away about 7 in. of soil," he says. "Where the cover crop and high stubble were, I picked up 7 in."

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Mike Belben built a multi-purpose tree spear and root digger he mounted on the blade of his dozer.

Dozer-Mounted Spear Also Digs Roots

Mike Belben designed and built a combination tree spear, root rake, and grapple that attaches to the 9-ft. wide, 6-way

blade on his Komatsu D31P-18 dozer.

"I built this attachment because I don't have a skid steer and wanted my dozer to

have the same grappling ability that many skid steer attachments have," Belben says. "I wanted it to work while I was moving forward, backward, and turning either direction sideways."

The 5-ft. wide attachment has a thick horizontal steel bar at the base with six rake blade teeth 12 in. long made of 1-in. by 4-in. steel plate. They're welded to 3 1/2-in. by 3/8-in. square tubing with reinforcing spacers. The uprights and crossbar frame, which form the top portion of the grapple, are made of the same tubing. The frame attaches to the top of the dozer blade with u-shaped brackets and 1-in. pins. A 10-ft. long vertical spear made of 4-in. tubing extends up and away from the frame, anchored by diagonal braces. The spear and grapple are raised and lowered by a hydraulic cylinder plumbed into the dozer blade tilt valve.

Belben says he learned through trial and error that a dozer attachment needs to be really strong. "I was able to lift out big roots and push over small trees, but I broke some

of the welds trying to push and lift a large root ball, so it's coming back to the shop for repairs and reinforcements."

Belben says the attachment works just like he intended when building it. "I'm able to dig out tree roots and stumps and comb the dirt off before piling them where I can push them to the burn pile. I can also use the spear to grab logs I've cut and move them to a pile. The fork works like a grapple when I activate the cylinder that pulls it toward the dozer blade and the grapple securely holds the material."

Belben adds, "Over the years, I've dragged a lot of metal junk home from scrapyards, then cut it apart and made stuff I can use. This way, I don't have to spend a lot of money buying new equipment that's expensive and sometimes doesn't work because it's not exactly built for what I need."

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New Narrow Row Crop Tracks

Narrow Row Crop (NRC) tracks from Mattracks feature a footprint a hair wider than 9 1/2 in. Like other Mattracks rubber track conversions used the world over, the NRC track units slip on wheel hubs. They even use the same lug nuts. The new track units are designed to spread out the load and reduce ground pressure for high-wheeled sprayers, large applicators, and other equipment traversing narrow row spacing. However, the company won't be surprised if other uses are found.

"We make tracks for a wide variety of equipment and industries and export to more than 100 countries," says Dan Laux, Mattracks. "There are always customer applications that come up that we didn't think of."

Mattracks makes 170 different track conversion models using 44 different molded rubber tracks. All of it is made in-house.

Applications include every type imaginable, from 3-in. wide tracks for bomb disposal robots to 30-in. wide tracks for combines.

Designing the rubber tread for the NRC track units was the biggest challenge the company faced. It was a big step down from the previous narrowest track in the ag market, which was 15 in. wide.

"We had to design a tread that could handle the narrower road wheels and still carry the load," says Laux. "A lot goes into creating a rubber tread. Just like a tire, it has different materials, including steel and fabric."

Installing the track units is easy, notes Laux. "Anyone who can change a tire can install our tracks," he says. "Of course, just like with tires, the bigger they get, the bigger the challenge to move them around."

Pricing of the new NRC track units varies with the size of the equipment being converted. "A 100-hp. tractor would cost



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around \$80,000 to \$90,000, while a larger machine could run \$150,000 and up," estimates Laux.

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