Stalk Chopper Makes Great Crop Roller

Steve Groff turned his Buffalo Rolling Stalk Chopper into a super cover crop roller. Only slightly modified, the chopper makes fast work of heavy cover crops, crimping and pushing them down in a solid mat.

“I added parallel linkage to each roller so they float independently,” says Groff. “The linkage lets them flex over small variations in ground contour. I also put bearing protectors on the rollers to eliminate wrapping. It’s fast and economical. I can run it at 8 to 10 mph.”

Groff didn’t make any changes to the rollers themselves. The machine has parallel 7 by 7-in. toolbars, each with a set of four rollers. Each roller is slightly offset from the next to ensure complete coverage of the 10-ft. width. Rollers can be angled for more aggressive chopping action.

Groff is a nationally known advocate of cover crops and has advised countless farmers on how to best use them. Even with his chopper/roller, timing is important.

“It works best when cereal rye is headed out and 3 to 4 ft. high or hairy vetch and crimson clover are starting to flower,” says Groff. “If too early and plants are young and succulent, it can cut them, and they’ll regrow.”

Until cover crops are fully headed out or in full bloom, Groff doesn’t plan on a 100 percent kill with his chopper/roller. For that reason, he usually hits the rolled crop with a little herbicide as he goes.

“A little herbicide goes a long way when you can’t wait to plant,” he says. “With a little herbicide you can be sure the cover crop is dead and won’t be sucking out moisture.”

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Cover crop rollers for big tractors, compact tractors and even walk-behind tractors from USDA engineers provide better than 90 percent kill of cover crops without the use of herbicides.

“These rollers are not yet available from commercial sources,” says Ted Kornecki, at the National Soil Dynamics Lab in Auburn, Ala. “We’re looking for partners to license the technology from us and start producing them.”

Kornecki has worked with both smooth rollers and rollers with straight and curved bars. While all can be effective at terminating a cover crop, the rollers with crimpers are more adjustable for soil and plant conditions. “Our design has been designed for both conventional fields and elevated beds,” Kornecki says. “Kornecki also developed apto-powered roller/crimper for small farmers with walk-behind tractors. It can provide 99 percent kill of cereal rye cover crops as early as 14 days after rolling/crimping.

“We used lifters and cams mounted on a camshaft to lift the crimper bar against springs,” explains Kornecki. “When they are disengaged, the springs produce downward force for effective crimping. This means the machine can be lighter than traditional roller/ crimper and requires less horsepower. It’s also easier to handle during operation and transport.”

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Roller crimper fits onto a walk-behind tractor (above left). Crimping bed roller crimps both furrows and two beds in a single pass (above right). Smooth roller uses a 24-in. dia. smooth drum with an oscillating crimping bar (lower left).

Two-stage roller uses a large roller followed by a spring-loaded smaller roller with crimping bars (lower right).