Billboard Tarps Used To Make Machine Shed

When Ted Carlson needed a shelter for his grass seed farming equipment, he called Damon Carson at Repurposed Materials (www.repurposedmaterialsinc.com) and ordered a few billboard tarps. Using a "seed sack sewer", Carlson sewed two of the 40-ft. plastic sheets together lengthwise. Stretched over trusses made from old highway signposts, he soon had a watertight roof overhead. Bales stacked along the side act as sidewalls.

"Jerry Chadwick, my full-time employee, came up with the design," says Carlson. "He is a real good rigger and built trusses and a framework to keep the tarps stable."

The two used the standard 1 3/4-in. wide signposts and the 2-in. wide sleeves that are normally pushed into the ground to anchor the posts. Carlson compares the posts, with their holes every inch, to erector set material. The posts are highway department rejects and are up to 10 ft. long. Some may be shorter or have twists or bends in them.

"I get them from the state highway department for a dollar apiece," says Carlson. "We cut off the straight parts to use and splice them with 2-in. sleeves to make longer lengths."

Chadwick designed the trusses to match the billboard tarps. They stand at 6-ft. intervals. Each truss includes two 6-ft. uprights with 10-ft. rafters bolted to them and reinforced with knee braces at the joints. The rafters are bolted together to form a peak. A length of signpost bolted to each rafter about a foot below the peak, with a second piece tying it directly to the peak, serves as a collar brace.

Three more purlins are bolted to the rafters with the lower one just above the joint of the upright and the rafter. A fourth 2 by 4 purlin is bolted to the truss uprights at the joint and a fifth at the 3-ft. height, running the length of the upright legs of the trusses.

The purlins at the joints of uprights and rafters and ridgepole stabilize the trusses, but also provide a rounded angle for the tarps. To mount the billboard material, Carlson and Chadwick pulled one side up and over the top so the center seam ran down the ridge. Edges are well anchored to the bottom purlins on the sidewalls. The bale walls help protect the anchored edges from wind stress.

Carlson has found another use for old billboard tarps. A grass seed producer, he commonly harvests the grass seed at high moisture to prevent shattering. Normally, he uses homemade wagon driers (covered wagons with air pumped through 3-in. drain tile in their bottoms). If he has a lot of excess seed, he lays drain tile on a billboard sheet on the ground and piles grain over it.

"I cover the pile with black plastic and pump air through it," says Carlson. "If the piles are only a few inches deep, I just pull the top off and turn it over with a shovel."

To make this machine shed, Ted Carlson sewed two 40-ft. plastic billboard tarps together and then stretched them over wooden trusses to make a watertight roof.

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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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Modified stalk chopper makes fast work of heavy cover crops, crimping and pushing them down in a solid mat.

Crimping Cover Crop Rollers Ready For Market

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. Rollers have been designed for both conventional fields and elevated beds.

Kornecki also developed a pto-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/crimpers 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).