



Barlage added a gravity fed interseeder to his cultivator, allowing him to drop cover seed on freshly tilled soil.

Cultivator Interseeds Cover Crops

Ben Barlage gets dual use out of his 4-row cultivator with a gravity-fed interseeding attachment. He stacked a pair of Gandy silage inoculant hoppers on the toolbar and drops seed behind each set of cultivator shanks.

The combo unit is ideal for his 50 acres of organic corn in fields that average around 12 acres each.

"The seed lands on freshly cultivated ground and takes off," says Barlage. "We

don't even have to use a drag chain, as we try to cultivate ahead of a rain."

He used salvaged angle iron for a frame and bolted it to the toolbar. The first year he attached clear plastic tubing to the hopper outlets and let the seed flow down behind the cultivator shanks."

Barlage calibrated the flow by simply opening the outlets and comparing the flow rates at different settings on the applicator dials. Setting the smaller model 903JR with its two outlets at 45 and the larger model 902JR with three outlets at 55 gave him matching flowrates. He can cover about 5 acres per fill at 12 lbs. per acre.

However, the clear tubing gave him a problem. "The first year I used it, I discovered the clear plastic had a problem with condensation," says Barlage. "I switched to 1 3/4-in. green and black ribbed tubing. Works much better."

Barlage has used the new tubing for the past 2 years with good results. The combination of 36-in. wide rows and seed dropping on freshly tilled soil gives him improved weed suppression in-season and excellent biomass production.

"We plant a cover crop mix from Albert Lea Seed that includes radish, turnip, annual

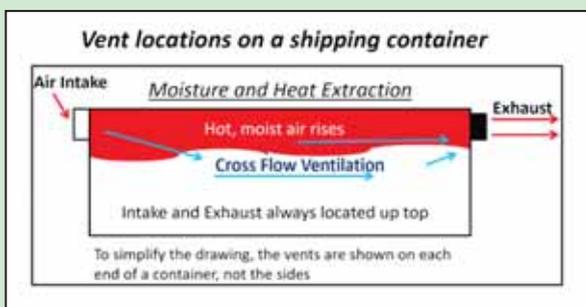
rye and clover seed," says Barlage. "Two years ago, we had foot-long field radish and softball-size turnips between the rows at the end of the season. They all died back, but the clover came back the next spring."

Barlage likes the results he sees, as well as the low cost for his system. Keeping inputs down on his diversified, organic operation is key. In addition to organic corn, he also grows soybeans and garlic, produces maple syrup and raises pastured lamb and beef.

"The interseeder does a great job for a very low investment," he says. "The only thing we had to buy was the plastic hose."

He notes that used Gandy systems are readily available. He points FARM SHOW readers to Daily Bread Machinery, Mora, Minn. A farmer himself, owner Paul Belkholm buys and sells Gandy and Valmar seeders. He mechanically refurbishes units to field ready conditions. In some cases, he sandblasts and repaints units to like new condition (www.dailybreadmachinery.com; ph 320 679-8483).

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Drawing shows how the 360 tunnel system moves air through a shipping container.

had worked in the RV industry for 35 years. He recognized the potential of the venting system and, with Greg, took on distribution.

Contact with an owner of a shipping container used for storage took the company in a new direction. "Shipping containers are water and airtight for ocean transport," says Cravens. "When the outside temperature drops at night, condensation occurs inside. It's called container rain."

Perry came up with the 360 Tunnel design to respond to the interest. One of the early customers for it was trying to store grain in large totes in a shipping container in Texas.

He set the 1-ton totes on a layer of pallets that ran the length of the container and still lost as much as 30 percent of the grain to mold - until he tried the new design.

"After installing our vents, he told us the last handful was as dry as the first," says Cravens, who sent him a moisture sensor to track effectiveness. "Our vent system kept humidity constant at 14 percent throughout the year."

The simplicity of how the system operates is matched by how easy it is to install. Installation requires no screws, rivets or welding. Cut holes with an angle grinder at opposite ends of the container for the intake and the exhaust. Adapter plates are needed when installing on side or rear walls, but not



The 360 Tunnel system uses an intake port and exhaust port on shipping containers to move air, even in low wind.

on the doors.

"We recommend 1 exhaust (\$108) and 1 intake (\$59) on a 20-ft. container and 2 exhausts and 1 intake on a 40-ft. container," says Cravens. "Install the exhausts at floor level for fumes and gas extraction or ceiling height for moisture and heat control."

He recommends the 360 venting system for residential use as well. "I replaced a powered fan with louvers in my garage," he says. "The airflow is powerful enough to pull air even through a furnace filter."

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Passive Vent Keeps Containers Dry

No powered fan is needed to vent shipping containers with the passive system from 360 Products North America. The company is applying the same technology it first developed for RV holding tanks.

"The 360 Tunnel system includes an intake port and an exhaust port with a specially curved cover," says Greg Cravens, 360 Products North America. "As ambient air moves across the cover, it creates a low-pressure area behind the cover that draws air through the intake port."

Cravens likens it to the curve of an airplane wing that provides lift. Based on the Venturi effect, it pulls air through a shipping

container, even in low wind situations.

"Anything over a mile an hour works, but 4 to 5 miles per hour is ideal," says Cravens. "Even spraying a hose past the exhaust pulls air out."

He credits Ron Perry, an engineer and inventor from Canada, for coming up with the concept. An RV owner, Perry was seeking a chemical-free solution for holding tank odor. After several tries, he came up with the 360 passive system. The design for holding tanks for RVs, boats and even home septic systems uses a siphon effect to draw odors from near the surface up and through the exhaust vent.

Perry contacted Cravens' brother Bob, who

Tiny Harrow Ideal For Small Fields

The Dutch company Treffler makes precision harrows up to 60-ft. wide but their tiny 4-ft. harrow developed for greenhouses and market gardens is a real eye-catcher. It can be pulled through the field by hand, by horse, or by a small tractor.

"The Tiny Treffler has the same top-of-the-line components as our full-size harrows," says Ana Pelgröm at Treffler. "It is equipped with Combi Springs for a wide range of harrowing pressure and tines with carbide tips for better penetration and longer life."

The Combi Spring is really a spring inside of another spring. It can apply as little as 7 oz. of pressure on early stage, fragile crops. The roll-up bar can increase tine pressure to as much as 11 lbs. for more aggressive harrowing in maturing crops. The design follows the contour of the field with constant downward pressure. The carbide teeth are set at an angle of 120 degrees, with a 1-in. distance between tines to ensure the surface is evenly harrowed.

"The Tiny Treffler also is available in 2

larger models with working widths of 3 ft., 4 in. and 4 ft., 3 in.," says Pelgröm. "All 3 units are available with a 3-pt. hitch for use with a tractor or with a draft hitch for use with a horse."

Pelgröm notes that while the larger Tiny Treffler can be hand drawn, the tow bar is designed for 2 people.

The harrows come standard in steel. They can be ordered in lighter weight aluminum, but at a higher price. The change reduces the 187-lb. weight of the smaller model by 77 lbs.

A self-propelled version with a Honda engine is also available as a special order. Pelgröm reports that the company is working on a solar-powered unit.

Base prices on the Tiny Treffler's 3 models range from nearly \$2,736 to \$3,770. Sales are direct from the company.

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The 4-ft. wide Tiny Treffler harrow can be pulled by hand, horse, or tractor. The pressure can be adjusted from 7 oz. to 11 lbs. depending on crop needs.