

Low-Cost Compost Turner Great For Small Farmers

By Bill Gergen, Senior Editor

When market gardener Joe Calvert went looking for a compost turner a few years ago, he found the price tag of more than \$16,000 for a small machine hard to justify. So he asked his brother Paul to help him build a 3-pt. mounted, pto-driven unit. They went to Paul's shop and welded together a bunch of old parts, coming up with a simple machine which Joe used to produce about 75 tons of compost that first season.

After Paul saw how well the machine worked, he asked his friend, Tim Snow, to help him manufacture and market a compost turner affordable for a typical market gardener. After testing 3 different prototypes over 2 years, they recently introduced the Eco-Mixer 84.

"It's a cost effective way of turning compost to improve the organic matter in your soil," says Paul. "It sells for \$10,000, with free shipping anywhere in the lower 48 states. That's about 40 percent less than any other commercially available machine on the market of comparable size."

The machine is made from hot-dipped galvanized steel to resist corrosive manure, and will mix 75 tons in 20 to 30 min. depending on how dense the compost is, says

Paul. "A tractor with as little as 16 hp. will handle the EcoMixer 84, as long as it has a hydrostatic transmission so you can drive very slowly."

The compost turner can handle a windrow of manure/compost about 3 ft. high by 6 to 7 ft. wide. It's equipped with a tubular agitator shaft fitted with 9-in. paddles, which rotate against the direction of travel at about 180 rpm's. A long, double-jointed pto shaft connects to a gearbox that drives the shaft. A pair of side guards keep the compost in a clean row.

The machine comes with an overhead tongue that couples to a ball hitch welded to a 3-pt. mounted frame. The tongue is offset to one side, allowing the operator to drive beside the compost windrow.

"The tongue manually pivots to the center, allowing the machine to track directly behind the tractor for transport," says Paul. "It attaches to the machine's frame with 3 bolts. You remove the two outside bolts and then push the tongue in and bolt it back down."

The tongue can also be adjusted for height by changing the position of a pin.

A gravity-flow water application kit (optional) is used to add water while turning



Compost turner is equipped with a tubular agitator shaft fitted with 9-in. paddles, and can handle a windrow about 3 ft. high by 6 ft. wide.

the windrow. The kit comes with a tank-mounting rack (tank not supplied) and a hose with a series of holes in it. "To keep the cost down we recommend using an inexpensive used IBC tank with a capacity of about 275 gal.," says Snow. "However, the tank-mounting rack can be adjusted to hold almost any size tank."

The water application kit sells for \$600. Paul says the EcoMixer can also be used to process manure on livestock farms. "It's a big

enough machine that you can mix 75 tons in 20 to 30 minutes, depending on how dense the compost is."

You can watch the EcoMixer in action at farmshow.com.

Contact: FARM SHOW Followup, Tim Snow, 292 Arkavally Rd., Greenbrier, Ark. 72058 (ph 501 253-3036; Bluebirds145@gmail.com; www.ecomixercompostturner.com).

Gordon Mariner built his "pipe bucket" from the frame of an old Deere 3-pt. bale spear. Pipes are U-bolted to a steel floor welded onto bale spear frame.



Loader-Mounted Bale Spear Converted To "Pipe Bucket"

"It works like a loader bucket to quickly scoop up rocks or chunks of wood and load them into a trailer or truck. The pipe floor allows dirt to fall through," says Gordon Mariner, about the "pipe bucket" he built from the frame of an old Deere 3-pt. bale spear.

The pipe bucket consists of a series of 6-ft. long, 2-in. dia. pipes that mount on a home-built frame bolted to both sides of the quick-tach bale spear frame. Mariner removed both spears, then welded a 2-ft. wide steel plate under a length of 8 by 3-in. steel tubing. He drilled a series of 2-in. dia. holes in the tubing, inserted the pipes in them, and then U-bolted them to the plate. Channel iron brackets were then welded to both ends of the tubing and bolted to the sides of the bale spear frame.

Mariner used a 50-ton press to flatten the last 3 in. of the pipes, making it easy to slide

them under the load.

"It works even better than I expected. I already had most of the materials used to build it," says Mariner, who operates a machine fabrication shop. "If I want to use the bale spear again, I just unbolt the carrier's brackets and reinsert the spears. I came up with the idea because I had to cut up a big pile of logs into 12 to 18-in. long pieces, and load them onto a trailer for a neighbor who uses the wood to heat his home."

"One time I used the carrier to dump about 12,000 12-in. long by 5-in. wide bricks into a big wash-out along our road. The bricks came from an old building that I had torn down years ago."

Contact: FARM SHOW Followup, Gordon Mariner, 1102 Cartwright Cr N, Goodlettsville, Tenn. 37072 (ph 615 477-8099; gmar501@aol.com).

Channel iron brackets bolt pipe bucket to both sides of frame.



"It does a good job without knocking off too many branches," says Mark Hoover about his hemp stripper. It's available with either a gas engine or electric motor.

Hemp Stripper Speeds Process, Boosts Quality

"Hemp is getting to be a popular crop here in Kentucky, and I realized that my son-in-law and a renter on my farm both needed a good practical stripper for processing the crop," says Mark Hoover, Leitchfield, Ky. "The machine I built works 20 times faster than stripping the plants by hand."

"Other machines on the market require breaking off the branches and feeding them in. They use rubber fingers or brushes, which may work but are slow and have a hard time getting to the center of bushy plants. My machine runs at a fairly low speed and has curved tines. It does a good job without knocking off too many branches if the moisture content is right. It strips a plant in 10 to 30 sec."

"Two people can strip an acre of hemp in about 4 hrs., with one person feeding the machine and the other picking out the twigs

that get knocked off. The crop is carried out the back on a slow-moving conveyor belt."

"The strippers are available with either a gas engine, which allows speed to be varied on the go, or an electric motor, which is set at the optimum speed."

"Some growers have been experimenting with combines and other big equipment to strip hemp, but they often seem to damage the value of the crop and make it unacceptable to buyers. Because of the plant's big woody stems and spreading branches, it's difficult to design a machine that's totally automatic or self-feeding. But I could build bigger machines if there's a market for them."

"My current units sell for \$4,500."

Contact: FARM SHOW Followup, Mark Hoover, Handyman Fabrications, 7220 Brandenburg Rd., Leitchfield, Ky. 42754 (ph 270 945-4547).

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