Tom Herlihy has one of the longest worm composting operations in the U.S. Workers care for millions of red wrigglers in 21 160-ft. long compost beds inside buildings.

More than 10 million pounds of manure is composted yearly on Herlihy's New York farm.

Separated dairy manure solids are put through a screw-type press. "Finished" compost is crated, ready for shipping to buyers.

50 Million Worms Turn His Manure Into Compost

Tom Herlihy's 50 million head of "livestock" produce a high value product and solve a huge problem for a neighboring dairy operation. The Avon, N.Y., entrepreneur has one of the longest worm composting operations in the country.

Three full-time and one part-time workers care for the millions of red wrigglers in 21 160-ft. long compost beds inside nearly 100,000 sq. ft. of buildings. Tractors load in separated manure solids from a neighboring dairy farm. Mixers and conveyors help automate the process, which consumes about 10 million lbs. of manure annually.

Herlihy's facility allows the neighboring dairy farmer to dispose of about half of the manure from the 1,000-cow herd. Though the dairy isn't organic, the composting process creates an organic fertilizer.

Air blows through the composting manure, which generates temperatures up to 170 degrees to kill disease organisms, deactivate weed seeds and enrich food value for the earthworms. The compost is fed to worms in the digester beds. They excrete castings, which drop to the bottom and are removed after 40 days.

"We are trying to make a Cadillac product that is consistent, uniform and repeatable," Herlihy says. "We want to ensure our end product is the best it can be and the same every time."

A 1,000-lb. bag of Worm Power's vermicompost can sell for as much as $400, but most is sold at bulk rates to blenders who create potting mixes for greenhouses. Vineyard and turf farms also use the organic fertilizer. About 10 percent of Worm Power vermicompost is packaged for home gardeners.

Herlihy, an experienced engineer, has spent nine years fine-tuning the process at the Worm Power facility.

"There's a lot of science behind what we are doing," he says. "It's not just a good idea anymore. We are linking animal agriculture with plant agriculture, and creating a new agricultural business."

While Worm Power is the largest agricultural vermicomposting operation in the western hemisphere, Herlihy emphasizes that it can be sustainable on many scales. He expects his operation to continue to grow, but notes that dairy farmers with 100 cows can run a profitable side business by windrowing manure and adding worms.

Marketing, educating and figuring out optimum timing and application rates are Herlihy's current challenges, in addition to his work as an organic waste management consultant.

Part of the marketing includes developing new products, such as bulk liquid fertilizer for hydroponics operations and drip lines in high tunnels. For retail consumers, Worm Power sells "brew bags" to slip into a watering can. Products can be purchased through the Worm Power website.

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He Taps Walnut Trees To Make "Super Syrup"

"Black walnut syrup is liquid gold," says Michael Jaeb, owner of Simple Gourmet Syrups in Millersburg, Ohio. He sells the rare syrup for $15.75 per 8-oz. bottle and never has enough.

Jaeb has been tapping the maple trees on his 55-acre Ohio farm for 25 years but didn't start his syrup business until 4 years ago.

"I have a fair number of black walnut trees, so 3 years ago I tried tapping them and got just a small amount of syrup. This year I had 175 to 200 walnut taps and made five cases of 4 and 8-oz. bottles of syrup," Jaeb says.

"It looks like a Grade B, dark maple syrup on steroids," he says. "It has a robust, earthy flavor that's a little smoky. People buy it because of the flavor and because it's so rare."

Black walnut syrup demands a premium price partly because black walnut trees only produce about one-third of the sap maple trees produce. The sugar content of the sap is about the same – it takes about 40 gal. of sap to make 1 gal. of syrup.

The biggest challenge to tapping walnut trees is the thick bark with deep ridges. Jaeb flattens an area with an ax before tapping the tree so the tap stays in place.

One advantage of black walnut trees is that they can be tapped at a smaller size (8 in. dia.) and at a younger age (10 to 15 years) than sugar maple trees, which must have a 10 to 12-in. dia. that can take 25 years to achieve.

Most of Jaeb's walnut trees are only big enough for one or two taps each, but he has one monster walnut big enough for four taps.

One consideration in making black walnut syrup is that the trees are often highly prized for their lumber value, and tapping could detract from the commercial value of the logs.

Balck walnut trees produce only about 1/3 as much syrup as maple trees.

"If you are have large, high quality black walnut trees and are hoping to sell them for saw timber, you shouldn't drill holes in them for syrup production," recommends Michael Farrell, director of The Uihlein Forest – Cornell University's Sugar Maple Research and Extension Field Station in Lake Placid, N.Y.

He discusses the finer points of producing syrup from black walnut and other trees in a new book coming out this fall entitled *"The Sugarmaker's Companion",* through Chelsea Green Publishing. It's the first publication explaining how to create a profitable business from the sap of maple, birch and walnut trees.

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Self-Propelled Deere BBQ Grill!

When the mower deck and spindles wore out on his 1989 Deere LT 133 garden tractor, Mark Thomas of Jennings, Fla., converted it into a portable grill that runs under its own power.

The tractor's fiberglass hood was broken so he replaced it with one he made out of galvanized sheet metal, pop riveting the hood to the tractor's frame. Then he converted a 60-gal. air compressor tank into a grill and mounted it on top of the hood. A propane bottle mounts on back of the tractor and is attached by a 3/8-in. dia. hose to the grill.

He cut a hinged door into the compressor tank and added an exhaust stack on top that he made out of the driveshaft off a semi truck. A 4-in. length of pipe sticks out one end of the tank and is covered by a bolt-on flapper plate, which is used to adjust the grill's air intake.

A modified 60-gal. air compressor tank mounts on top of Deere LT 133 tractor.

There's storage space under the hood. Access is provided by removing a pin on front and pulling down a hinged door. "I use the space to store lighter fluid, tongs, wood chips, and various other grill items," says Thomas.

A 4-ft. long, 18-in. wide oak shelf attaches on front of the tank to an angle iron frame that bolts onto the tractor's hood.

"I built it because I wanted something a little bigger than the gas and charcoal grills I already had," says Thomas. "I also use coals with it. For example, when cooking Boston butts I start by using coals for 10 to 11 hours and then when the coals start to die down I switch over to the gas burner. I've had a lot of offers to buy it but it's not for sale.

"I keep the grill in my barn, but when I have friends over for a cookout I fire up the tractor and drive closer to my house where I can watch it better. The only limitation is that it's hard to see over the big 60-gal. tank. I have to look around the sides of it to see anything in front of me that's less than 5 ft. tall."

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