



Compost heat is captured by building a compost pile over plastic water lines, which then extract heat from the decomposing plant material.

They're Using Compost To Heat Their Homes

Instead of burning wood for heat, some Europeans now build a compost pile over plastic water lines that extract heat from the decomposing plant material. Temperatures can get as high as 149 degrees. With a circulating pump as the only moving part, the compost heater lasts an average of 12 to 16 mos. – and occasionally up to 24 mos. – providing heat and up to 80 percent of the hot water for a 1,500 sq. ft. home.

Homeowners interested in compost heat attend seminars to learn the method, says Heiner Cuhls, who conducts workshops through his business, Native Power. So far, he has helped set up 25 systems.

Typical compost mounds are 16 ft. in diameter and 8 ft. tall. The primary plant material is deciduous brush and scrub wood chipped no finer than 1 1/2 by 1/2-in. Only about 15 percent can be pine, since the needles and wax are too sour for the microbes to digest in the compost process.

The materials required are basic: 1,300 to 3,500 cubic ft. of shredded green wood, heat exchange pipe, a pump and construction steel fencing or galvanized steel fencing. Once the wood is shredded, it can take as few as 6 hrs. to build with a skid steer or tractor loader.

There are a few design options, but they all have common elements. First, heavy black plastic (used in ponds) is spread on the ground to prevent tannic acid from concentrating and seeping into the ground water. The plastic also holds the water during the first four days of watering to prevent the bacteria needed for composting from washing away.

Next comes a layer of chipped wood, topped by pipe in concentric circles, plasticized on construction steel to stay in form. Repeat the process for four layers of pipe and five layers of chipped wood. Wood chips are heaped up inside upright steel fencing.

Another design wraps the water lines



With a circulating pump as the only moving part, the compost heater can last up to 24 months, providing heat and up to 80 percent of the hot water for a 1,500 sq. ft. home.

around upright fencing and piles the wood inside and outside to bury the water lines. Finally, an even simpler version uses chipped wood in sacks. Eight men can fill and stack 1,000 sacks for a 1,300 cu. ft. compost heater in about 6 hrs., Cuhls says.

He emphasized a few points. First, the wood must be green and not chipped too small, because small chips pack too tight to let in enough oxygen to compost.

“The second secret of success is to water the green cut for the first four days, so that it’s well soaked and at up to 70 percent moisture. As much as 8,000 gal. of water will be used,” Cuhls says. “The most common mistake is not enough water and wood that’s not green enough.”

The beauty of the system is that the materials (fencing and pipes) can be reused for 10 to 15 years if the compost pile is carefully disassembled. And, Cuhls adds, after the heat is out of the compost it makes

good fertilizer.

Colder climates require bigger compost heaps. If the pile is too small, the temperature of the heap might fall when the outside temperatures drop.

In the U.S., where hot air systems are more common, you can use 5-in. dia. plastic drain tile to carry hot air into the house.

Prices for the initial investment of materials in the U.S. run between \$800 to \$1,500, Cuhls estimates, based on material for air circulation systems.

For more information, check out his Native Power website, which includes videos of the building process.

Contact: FARM SHOW Followup, Heiner Cuhls, Native Power Ltd., 88 Hurstbourne Rd., London, SE23 2AQ, United Kingdom (ph 0049 152 51 400 400; www.native-power.de).



Angle iron, held in place by special clamps, is used to keep thieves from pulling copper wire out of center pivot irrigation systems.

Clamps Deter Irrigation Thieves

High copper prices have created a new challenge for center pivot irrigation owners – copper wire thieves. It can cost upwards of \$25,000 to rewire a system that has had its wiring stripped out.

In Maryland, Paul Yiannakis, his brother, Dennis, and stepbrother, Ed McDowell, developed a set of clamps and angle iron to help out a farmer who had wiring stolen several times.

“The clamps hold the angle iron in place over the wiring,” Yiannakis says.

The men made their own clamp-making press out of cylinders off old farm equipment. The patent-pending clamps are made with 1/8 by 1 1/2-in. flat iron and carriage bolts. The angle iron is placed over the wiring and clamped down every 7 to 8 ft. so wiring can’t be pulled.

Yiannakis and his partners started the company, Pivot Protection, to install their anti-theft system. They take a bandsaw to the field to cut the angle iron to length, and

it takes 45 min. to an hour per tower section.

At the request of the first farmer, they painted the angle iron yellow and continue to do so.

“He said paint it as bright as you can so thieves see there’s no reason to stop,” Yiannakis says.

Customers have told him many horror stories of multiple thefts and insurance companies dropping coverage because of it. Alarms and other efforts have failed as thieves can pull electric wire in 20 min. or less. So far the angle iron system has been an effective deterrent.

Yiannakis and his partners charge \$4.50/foot to install the system and will travel outside their Maryland base. They are also considering selling their clamps to irrigators in other regions of the country.

Contact: FARM SHOW Followup, Paul Yiannakis, 25782 Goldsboro Rd., Goldsboro, Md. 21636 (ph 410 482-9028).



Art Linsenmeyer uses an old riding mower to push a 6 cu. ft. wheelbarrow tub on a tricycle-style frame. Barrel tips toward the front for easy unloading.

Powered Wheelbarrow Makes Sweet Corn Harvest Easier

Art Linsenmeyer says his 1-acre sweet corn patch is a lot easier to harvest thanks to the powered wheelbarrow he built. At 74, and with arthritic knees, it was getting more difficult for the Nebraska market gardener to push a wheelbarrow to pick corn for his vegetable stand.

He used an old lawn mower to push a new 6 cu. ft. wheelbarrow tub on a tricycle-style frame. Linsenmeyer sits on a seat on top of the lawn mower’s engine and controls the speed with a hydrostatic rear end.

“I wanted a hydrostatic rear end because it has a foot control that adjusts the speed and it stops automatically (when you take your foot off),” he says.

Though the 11 hp engine is more than he needed, it’s what he had available and works well. The mower is 32 in. wide so it fits easily

between the rows. In order to irrigate two rows at once, Linsenmeyer plants double corn rows, 12 in. apart, on 4-ft. centers.

“The corn pollinates better. It lets more light in and I get lots of corn on a 1-acre patch,” Linsenmeyer says.

The wheelbarrow holds up to 10 dozen ears, and Linsenmeyer takes his load right to his vegetable stand, where he can tilt the tub and dump it.

“It’s pretty handy, and now I use it for a lot of other jobs around here,” he adds.

The powered wheelbarrow cost about \$300 to build. He’s willing to offer tips to anyone who wants to build one.

Contact: FARM SHOW Followup, Art Linsenmeyer, 907 East G, Wymore, Neb. 68466 (ph 402 228-6089).