

# She Uses Compost To Heat Her Greenhouse

Why burn propane or fuel oil to heat a greenhouse if you can get the heat for free? Herb grower Katherine Brooks heats a 12 by 16-ft. greenhouse at virtually no cost using a compost pile.

"The entire system cost less than \$200 for materials, and operating costs are about 30 cents per day," says Brooks. "If I was using propane, the heater would have cost \$1,400 and daily operating costs would be more than \$7.00."

After 30 years of composting, Brooks knew an active pile produces plenty of heat. She also knew that the most efficient way to heat plants in a greenhouse is to heat the beds, not the air. She combined those two facts with information that adding wood chips to a compost pile slowed the breakdown, producing more heat over time.

At one end of the greenhouse, she built a 5-ft. dia. compost pile using a wire mesh frame reinforced with steel pipes. Polyethylene sheeting lines the sides and covers the top to hold in heat and retain moisture. The pile itself consists of harvested cover crop, wood chips and a small amount of manure. A 5-gal. metal reservoir, partially filled with water and containing a sump pump, is buried deep within the pile. Black plastic pipe coiled through the pile is connected at one end to the sump pump. At the other end, it exits the pile and connects to a length of insulated hose that runs to growing tables in the greenhouse.

"The hose is installed in a zigzag pattern within the tables," says Brooks. "Water heated in the compost pile is pumped through the hose to warm the plant containers that rest on wire mesh over the hose."

After water has been pumped through the tables, it returns to the reservoir to be reheated and recirculated. The key to the successful program is an active compost pile to provide the heat in the first place.



To supply heat, Katherine Brooks ran pipe through a 5-ft. dia. compost pile at one end of her greenhouse. Compost pile is contained by a wire mesh frame.

"I carefully construct the pile," she says. "I add 3 to 4-in. layers about twice a week as the material breaks down and settles."

Initially Brooks heaps the compost pile about a foot or so above the frame. She says a compost pile takes about a week to build up and maintains heat in the 140 degree range for about two weeks. The wood chips extend the heat production. After the initial burst of heat, the pile sustains a temperature range around 115 degrees. While cooler, it's still enough to heat the greenhouse sufficiently for herbs and other vegetables she markets in her business, Misty Morning Herbs and More.

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Compost-heated water runs through lengths of insulated hose under growing tables in greenhouse.

## Perfume Your Moles Away

Ross Hingston discovered that the sweet smell of cheap perfume can drive moles out of his family's farm yard. He got the idea after buying \$90 mole bait that didn't work.

"We recently discovered huge mole tunnels and hills," says Hingston. "I tried the bait and then remembered there were discount outlets for perfume and cologne in Toronto where I live most of the year."

On his next trip to the farm, Hingston brought along several bottles of cheap perfume. He found that an average bottle could be mixed with 2 to 3 gal. of water and still have a potent smell.

"I pour a little over each hole, then go back and repeat like you do when watering plants," he says. "You want it in the holes not around the sides."

Hingston finds warm soil works best at

absorbing the perfume and spreading the smell. After a couple of applications, the moles retreated out of the lawn.

"Gasoline and warm motor oil mixed together might work just as well," he says.

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