

## "BREAKTHROUGH" CUBER SETS THE STAGE FOR AUTOMATED HOME-HEATING

# Look What He's Doing With Peat

By Jon Holten

**Esko, Minn.:** Donald Solwold says he's satisfied that he proved his point: Minnesotans can heat with peat using a modern, automated heating system.

Europeans have long burned peat in space-heating stoves. But not until he tested it in his own home, Solwold said, has peat been used to fuel a central heating system. And it's all because of peat cubes that Solwold produces.

He started doing research on peat for heating fuel "when the price of heating a home started skyrocketing." He quickly recognized that Americans are "spoiled by the convenience of gas and oil heating," simply setting a thermostat and enjoying the warmth.

People won't switch to burning peat, he concluded, "if you tell them they'll have to go out and shovel some more peat in every half-hour."

Peat is decaying vegetation that Solwold said is probably a couple thousand years shy of becoming coal. The question, he said, was how to make peat compatible with a mass-produced central heating system. The answer, he said, is cubes.

In 1977, Solwold, a lieutenant colonel with the Air National Guard in Duluth, used a modified forage cuber to process milled peat.

"I lay claim to cubing the first peat (in Minnesota)," he said.

Since then he's studied mass production of the cubes, moisture content and other factors. Today he has a system that he said is capable of manufacturing 10 tons of peat cubes per hour.



**"I lay claim to cubing the first peat in Minnesota," says Solwold.**

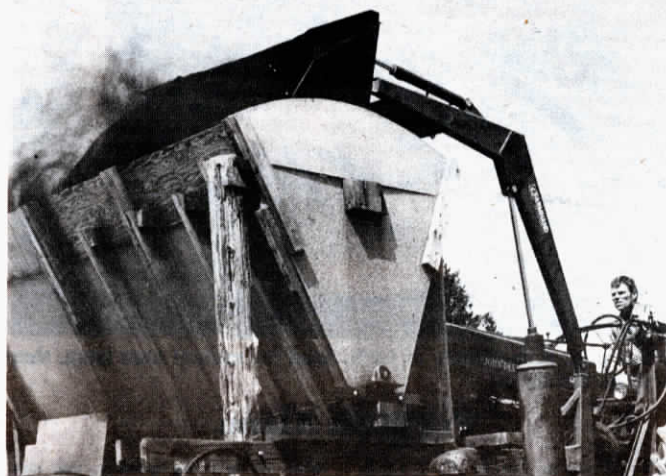
After milling peat from a 20-acre bog on his farm near Esko and letting it dry in the air, Solwold loads the ground peat into the cuber. As a 220-horsepower diesel engine powers the cuber, it compresses the peat into deep brown one-inch-square bricks of varying lengths.

After drying, a generous supply of cubes is dumped into a bin next to a furnace, designed to burn lignite coal, that Solwold placed next to his house.

An auger in the self-stoking system gradually forces crumbled chunks into the flame.

Solwold has been heating his home with peat since April with no problems.

"I had a lot of faith in it, but not



**Solwold's cuber presses peat into 1 in. sq. bricks of varying length.**

Minneapolis Star Tribune photos

enough to shut down my oil heater," he said.

Reluctant to call his work a breakthrough, Solwold said it does remove two of the four barriers to marketing peat for fuel.

He's found a practical way to process peat. Cubing, he said, aids in the drying of peat. It also compacts milled peat to about one-tenth of its original volume. Eventually that could be important to transporting peat.

And Solwold said he's shown that peat can be burned in an automated heating system.

"We need some pioneers to shake out the territory to determine the potential for peat, and Don's one of them," said Dennis Asmussen, manager of the peat program of the Minnesota Department of Natural Resources.

Cubing peat "is not an unknown or a difficult thing to do," Asmussen said. But peat cubes made in some European countries, for example, are too large to consider using them in conventional American heating systems.

But before peat becomes economically attractive to consumers, Solwold said, advances are needed in extracting it from bogs and reducing its water content.

Many homeowners now pay about \$70 per ton for coal, which produces as much as one-third more energy than peat, according to Solwold. The cost of simply harvesting a ton of peat with current technology is about \$60, he said.

Solwold said he plans to concentrate next on finding more efficient ways to extract peat.

Reducing its water content, from about 90 percent in the bog, is a monumental problem that has yet to be conquered. Even the hard cubes that Solwold makes are 10 to 20 percent water, he said.

Solwold said he sees a great potential for peat, especially in heating houses and possibly powering small industrial plants.

"I wouldn't have invested all this money and time into something that isn't going to pay off," he said.

**(Reprinted from Minneapolis Star Tribune.)**

## NEW TAILGATE ATTACHMENT

# Spread Liquid Manure With Your Grain Truck

A new attachment from Lloyd's Mfg., Ltd., Wadena, Sask., lets you spread liquid manure with a standard grain truck.

The fan-type spreader bolts into the center panel of the truck endgate in minutes and runs off the truck's pto and hydraulic system. Fan blades spread in a 30-ft. swath, depending on ground speed, emptying an average-sized grain truck load in about 10 minutes.

The manufacturer says the spreader can handle manure with straw, but that if the manure is too thick, water should be added. Most

units sold so far have gone to hog farms.

The only modification to the truck, other than the rear spreader, are baffles inside the box that keep the load from sloshing. Farmers who have used the system say they have not had trouble with manure spilling out during road travel.

The truck box spreader kit sells for \$2,210.

For more information, contact: FARM SHOW Followup, Lloyd's Mfg., Ltd., Box 850, Wadena, Sask. SOA 4J0 (ph 306 338-2480).

