



Waffle-Crete panels are 50% lighter than conventional 8-in. concrete walls.

BEING USED FOR FARM HOMES, HOG BARN, FEEDING FLOORS AND MANURE PITS

New Waffle-Crete Catching On Fast

by C. F. Marley

"In just 3 years time since we have been working with Waffle-Crete, it has developed to the point where now it is 85% of our business, and in another year it could be 100%."

That's the way Bob Huttes, partner in Huttes Brothers Construction, Moweaqua, Ill., sums up their experience with a new prefabricated aggregate concrete that is poured in 8 ft. by 12 ft. panels at their plant in Moweaqua, then delivered and erected on location for both farm and non-farming uses.

Being more than 50% lighter in weight than conventional 8-in. concrete walls makes all the difference. An 8 x 12 ft. panel weighs about 3,300 lbs.

Bob Huttes, who is in business with his two brothers, John and Jerry, is amazed at this turn in events for them. "Usually, you hear these stories of some new product coming on like wildfire, but it's always happening to somebody else. It looks like this time we've got the product. It's never happened before," Bob told FARM SHOW.

The Huttes Brothers are both resourceful and aggressive. While Waffle-Crete is new, they, in turn, have done spade work in establishing new and unusual uses for it.

Waffle-Crete has been used in several geothermal (earth sheltered) buildings by the Huttes Brothers.

"Our first geothermal building was for a hog finishing operation. The precast Waffle-Crete walls can take the pressure of the earth, so the owner decided to throw a berm of earth against all four sides," Bob says.

"It's so new we haven't had any chance to get any experience information, but you know it has to help since the earth maintains a temperature of about 56°. That is going to help



Waffle-Crete is available from 38 dealers throughout the U.S. and Canada.

both in heating and cooling," Bob points out.

Where do you get the earth to fill around the sides when you build on flat ground? This farmer used the dirt he excavated for a manure lagoon.

A second avant-garde building going up, also constructed by the Huttes Brothers, is a completely underground home being built by a dry wall contractor Keith Pinkerton. It's located in a scenic area just west of Moweaqua, Ill.

The Pinkerton home is earth sheltered on three sides and is covered with 2½ feet of earth.

Cave-type homes really have caught on in the past few years. Most are of poured concrete. This applies to the roof as well as the sidewalls. Pouring such roofs requires tremendous interior support. By contrast, Waffle-Crete roofs are poured in the same size panels, and are the same in every way except that the panels have been thickened by 2 in.

The result of Waffle-Crete technology has been the reduction of on-site labor costs. Once footings are in, the building goes up in a hurry. For a

BURNS STRAW, CORNSTALKS AND OTHER CROP RESIDUES

Canadian Farm Testing New Residue Burner

Straw, corn stover, sawdust, wood chips and other crop residues can be converted to heat for crop drying or space heating with burners available from Biomass Combustion Ltd., Canning, N.S.

These burners, said to be the first of their kind to be commercially available in North America, were developed by a German manufacturer and the Agricultural Engineering Institute Weihenstephan at Munich, West Germany.

While the combustion systems are standard, fuel supply systems and heat exchangers are engineered to suit the specific requirements according to fuel use, amount of heat required, and heat utilization. Straw and corn stover may be in square or large, round bales or stacks. A mechanized fuel rack and automatic stoker can provide continuous feeding of some models. Others are loaded through a hatch on top with large round bales via an air lock using an electric hoist.

At Lyndhurst Farms Ltd., Canning, N.S., a top loaded burner having a capacity of 4 million BTU's per hour was installed in 1978. For the past two seasons, it has been the sole heat source for drying approximately 80,000 bu. of corn, and 70,000 bu. of wheat and other small grains.

In winter, the unit is used to heat a 240-sow farrow to finish operation, and the herdsman's residence. Burning 3 or 4 large, round bales of straw in 3 to 4 hours provides enough heat to warm the hog buildings and home for 24 hrs. Heated water is stored in a used 14,000 gal. insulated tank, and is then pumped through the

heating systems as needed. Heated air and the exhaust gases are used to dry grain.

Lyndhurst's records show that approximately 0.4 lbs. was burned for each lb. of water removed, when drying corn or grain.

Straw contains approximately 6,100 BTU/lb.; corn stover about 7,750 BTU/lb. Sawdust contains roughly 8,550 BTU/lb. compared to 20,000 BTU/lb., or 140,000 BTU per gallon for No. 2 fuel oil.

At Lyndhurst Farms, baled straw which was left uncovered outside had absorbed enough moisture by January to make burning difficult and inefficient. Consequently, inside or tarp covered storage is recommended for residue to be used as fuel. Also, because straw or stover is usually too high in moisture content to burn when harvesting starts, the farm's manager suggests storing enough bales from the previous crop inside so that drying can be started as soon as harvest begins. Straw can be stockpiled as fuel for the corn; corn stover stockpiled for drying small grains, etc. The point is, maximum heat recovery is obtained when moisture content of residues used for fuel is lowest.

Because of the bulky size of the burners, and accompanying shipping problems, Biomass Combustion Ltd. is seeking fabricators/distributors for the system in other parts of Canada and the United States.

For more information, contact: FARM SHOW Followup, Biomass Combustion Ltd., Canning, N. S. BOP 1HO, Canada (ph 902 582-3345).

home, it is just a matter of hours.

Waffle-Crete was developed by Dave Van Doren, Van Doren Industries, Hays, Kan. The Huttes Brothers are the authorized distributor for a 40-mile radius ranging outward from Moweaqua. It is a territory that is heavily agricultural but which also includes the city of Decatur, well known as the soybean capital of the U.S.

Since taking on Waffle-Crete, the Huttes Brothers have used it for basements of houses, foundations, hog buildings, feeder floor platforms, manure pits, commercial buildings, homes, offices, and lodge buildings. The latest use of the building material is for the Christian County Agricultural Extension Service.

Here are some of the features of Waffle-Crete as related to poured concrete: An 8 by 12 ft. solid panel of normal concrete would weigh 9,600 lbs. A Waffle-Crete panel of this size,

made of lightweight concrete, weighs just 3,300 lbs. At the same time, it is engineered to have the same strength. (In some areas, conventional concrete, not lightweight concrete, is used in Waffle-Crete panels.)

Waffle-Crete is available from 38 authorized producers in 22 states and 3 Canadian provinces, according to Dwight Nelson, sales services manager, Van Doren Industries. They also have one producer in Venezuela.

Nelson says the set-in-place cost on someone else's footing runs from \$3.00 to \$3.50 per square foot of panel space. (An 8 ft. by 12 ft. panel would be 96 square ft.) Costs will vary somewhat with distances traveled for installation. Nelson says they have hauled some panels as far as 300 miles from the plant.

For more details, contact: FARM SHOW Followup, Van Doren Industries, P.O. Box 1088, Hays, Kan. 67601.