

The Lundell Cuber, a key part of Fritz's energy system, makes 1¼-in. dia. "cubes" from mixtures of waste materials.

### "PACKAGED" SYSTEM PROVIDES ENERGY INDEPENDENCE

## They're Turning Waste Into On-Farm Energy

A Nebraska innovator has brought together several different manufacturers of farm furnaces, automatic stokers and cubers to put together what may be the first viable on-farm energy package that makes use of "waste" crop residues.

Bill Fritz, of Columbus, who sold his interest in Middle State Manufacturing last summer — a firm he founded in 1963 — has already sold several of his new on-farm energy packages which produce "cube fuel" from combinations of cornstalks, wheat straw, waste cardboard and other material which can then be handled by automated stokers. There are a variety of furnaces available, some of which Fritz designed himself.

"Other inventors have come up with systems for on-farm use but, so far as we know, we're the first company to offer a complete package for using crop residues on the farm," Fritz told FARM SHOW.

One of the first systems is owned by two neighboring farmers, Gerald Hopwood and Delmer Rathje, of Shelby, Neb. They hope to fill not only their own energy needs but to sell the cube fuel they're producing to owners of wood-burning stoves. Both men have sons who want to stay on the farm and they hope their energy business will provide enough work to keep them employed.

Here's what the Hopwood-Rathje energy system, as purchased from Fritz, consists of:

The first machine is a standard hammer mill grinder-mixer which chops waste corn, milo and bean residue, as well as wood chips and cardboard, into uniform size particles. Once the material is chopped up, it's moved to a mixer wagon to be blended, passed over a magnet to remove stray metal and then fed into

the cuber. Fritz sells the Lundell Cuber (featured in FARM SHOWS Vol. 6, No. 6 issue) which makes 1¼ in. dia. "cubes" 4 to 6 in. in length. The cubes are then loaded into trucks or wagons ready for use.

Hopwood has installed one of Fritz's own biomass burners to dry grain. He spends about \$28,000 a year to dry grain off his 1,500 acres and hopes to cut that cost by two-thirds this fall. He also plans to install a 500 to 1,000 gal. cube-fed hot water system this fall to heat his home and shop. All furnaces and crop dryers sold by Fritz are fed by automatic stokers, including the popular outside Bryan Furnace which has been featured several times in FARM SHOW.

"The advantage of using crop residues is that you can bale them up, or leave them in the field until you've got time to convert them to a useable cube fuel," says Fritz. "One acre of cornstalks produces as much heat as 364 gal. of propane."

In addition to on-farm use, Fritz, Hopwood and Rathje are going ahead with plans to market their cubes in 50-lb. boxes to consumers. The cubes will sell for around \$4.00 a box. They're busy readying packaging for next winter's heating season.

The cost of a total crop residue-burning system as purchased by Rathje and Hopwood — not including a grinder-mixer and tractors to power it — is in the range of \$75,000, depending on the equipment selected. "That's less than the cost of a new combine and it'll pay for itself in a couple short seasons," says Fritz.

For more information, contact: FARM SHOW Followup, Bill Fritz, Multiple Energy Corporation, 2070 E. 11th Ave., Box 1304, Columbus, Neb. 68601 (ph 402 564-9437).



A stop/start switch automatically starts the auger as grain is dumped into the pit.

### LETS YOU UNLOAD AND GO

## No Harvest Logjams With Grain "Dumpit"

You'll like "Dumpit", a new all-steel unloading pit that eliminates harvest "logjams" of trucks and wagons waiting to unload while combines wait in the fields.

Manufactured by H.F. Johnson, Inc., Litchfield, Minn., Dumpit is moisture tight when installed properly, according to Rick Johnson, marketing representative. "Unlike concrete pits, Dumpit can be moved to other areas when your grain handling plans change, and the pit can be installed in about 4 hrs. It's compatible with most grain handling systems, including augers, legs, vacuum and air."

Dumpit features a pressure-sensitive stop/start switch at the bottom of the pit which automatically starts the auger as grain is dumped into the pit. Once the pit is empty, the auger automatically shuts off.

Johnson says Dumpits are prefabricated and strong enough to withstand 100,000 lbs. of weight. The outside surface is asphalt coated for extra sealing and to rustproof the steel.

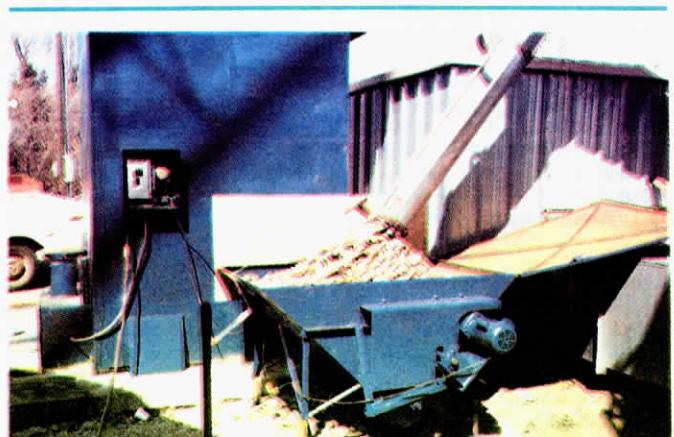
To install, dig a hole large enough for the Dumpit, and then lower it in with a loader or backhoe. Once in place, you can pour a concrete pad around it, if desired.

Dumpit comes with an 8-in. auger but 10 in. augers are available. The auger slides into the Dumpit tube so all service work can be handled from outside the pit.

Another pressure sensitive switch can be mounted outside the auger to automatically shut the auger off if another part of the conveying system breaks down.

A 250 bu. Dumpit sells for \$3,695 which includes an 8-in. by 17-ft. auger, rain cover, belts, sheaves, and the automatic stop/start switch. The 500 bu. model sells for \$4,795 and has a 20 ft. long auger. A medium sized 400 bu. model is also available as well as a small 22 bu. transfer pit.

For more information, contact: FARM SHOW Followup, H.F. Johnson, Inc., Route 3, Box 189, Litchfield, Minn. 55355 (ph 612 693-7554 or 693-2793).



This stoker automatically feeds cubes into Hopwood's crop-drying furnace.