

Thermostatically controlled Super Furnace loads itself with logs up to 4 ft. long and 12 in. in diameter.

The "Super Furnace"

One of the biggest all-purpose outside wood burners on the market is the just-introduced self-feeding "Super Furnace" from United Farm Tools, Fitzgerald, Ga.

The first prototype of the king-sized furnace was used continuously last fall to provide heat to tobacco curing "barns" near Fitzgerald. It's designed to provide up to 1,000,000 btu's per hour to buildings or dryers located as much as 1,000 ft. away. What's more, the big furnace automatically feeds itself with logs up to 4 ft. long and 12 in. in diameter, and is entirely thermostatically controlled.

Developed by Ron Paulk and Harry Lott of UFT's Paulk division, the unit was designed not only for Georgia's tobacco operations but for everything from corn drying to home heating to livestock barns. UFT plans to market the furnace through its dealers across the U.S.

The furnace consists of a firebox completely immersed in 3,000 gal. of water. The air-tight firebox is forced by a small fan through a submerged air vent. Temperature of the water in the boiler is controlled by the rate of burn in the firebox. Paulk says

water temperature is maintained at 200°. The water runs out to radiating units in the barns or dryers being supplied with heat and returns at about 160°, depending on the distance traveled and the number of radiators being used.

Wood is fed automatically into the firebox by an ingenious automatic feeding conveyor that can be loaded with a continuous supply of wood. Because wood burns at different rates and is irregular in size, Paulk says they designed scale-controlled grates for the firebox. As wood burns down and the load on the grates lightens, it automatically triggers the feeder to drop more wood. The rate of burn of the fire is controlled with oxygen to maintain the required temperature of water.

The new furnace, along with the automatic feeder, sells for \$16,600. Heating kits for barns and dryers run extra, with price depending on the application.

For more information, contact: FARM SHOW Followup, United Farm Tools, Inc., Ron Paulk, P.O. Box 967, Fitzgerald, Ga. 31750 (ph 912 423-9371).

The "Burn-All"

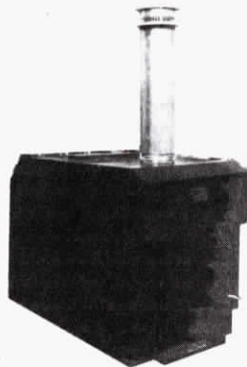
The new "Burn-All" outside heater and crop dryer burns trash, asphalt shingles, hay, corn cobs, railroad ties and just about anything else you can feed into it — even waste crankcase oil.

The farmer-designed furnace was first built for drying corn in small or medium sized lots, and was later adapted to heat farm buildings. It comes with a 3-pt. hitch for easy transport by tractor between grain dryers, barns or other farm buildings.

The Burn-All is built of heavy steel to withstand the intense heat created by burning petroleum-based products and other high heat fuels. It has an oversized 25 by 36-in. door for easy loading of large items and removal of ashes. The plenum adapts to blowers and fans up to 24-in. in dia.

The heater also has an oil-burning attachment for burning waste oil, or for firing up high moisture fuels such as hay and corn cobs.

The standard unit has a 500,000 btu capacity and carries a price tag of \$2,495. A larger 1,000,000 btu unit



Burn-All, burns wood, trash, asphalt shingles, corn cobs, railroad ties and waste oil.

sells for \$6,495. The 3-pt. hitch attachment is an additional \$150.

For more information, contact: FARM SHOW Followup, Box 329, Albert Lea, Minn. 56007 (ph 507 373-4919).



Ross Olson's home-built outdoor furnace stores enough heat to last 2 days in his 2,800 sq. ft. house.

Home-Made Outside Wood-Fired Furnace

"Works great," says Kansas farmer-banker Ross Olson, of Concordia, who designed and built his own outdoor wood-burning furnace for heating his 2,800 sq. ft. country home.

"A slick idea would be for a farmer to build one of these furnaces in the center of his farmstead and duct the heat underground to several buildings — such as a pig nursery and a shop," Olson told FARM SHOW. "You might have to upscale the size some if you put several buildings on it."

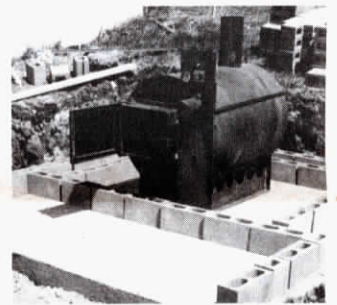
Olson, who raises wheat and milo, says he burns about a pickup load of wood a week to heat his house. He loads wood into the furnace firebox mornings and evenings in severe weather, once a day normally. Ashes have to be removed only once every three weeks.

Asked if the firebox gets hot enough to incinerate a dead pig, without damaging the furnace, he said he thought it would work, and that the furnace could easily be sized to do that job.

"The most important part of the furnace is the thermostatically-controlled damper which admits air into the firebox," explains Olson. "Without it, the fire would burn uncontrolled. The damper is controlled by the temperature in the heat storage chamber, containing the firebricks which surround the firebox. When temperature in the chamber drops below 200°F, the damper opens and lets oxygen into the fire, increasing the burn rate enough to maintain the desired heat in the storage chamber."

The spring-type thermostat was purchased from a wood stove manufacturer, and is the type used to control burn rate, via the damper, which lets air into the stove.

Insulated ducts (6 in. of insulation) above ground carry cool air from the house to the furnace, and warm air to



Olson's furnace was constructed inside a 9 by 9 ft. concrete block building, shown here under construction.

the house. The ducts tie into the duct work of a standard LP-gas furnace inside the house. The LP furnace still is used, but only as backup to the outside wood burner when the Olsons go on a trip.

The small building is made of concrete blocks and insulation, and measures 9 by 9 ft., plus the curved steel roof extends out 3 ft. from the front of the building. The round firebox is 4 ft. long, 3 ft. high, and is made of 1/4 in. and 3/16 in. steel obtained from a local foundry. There are 18 in. of insulation in the coiling of the small building, and the chimney also is insulated. Thermostats prevent the outdoor furnace's air system from operating after the wood fire goes out and all stored heat is used up.

Olson reports that the outdoor furnace keeps his 2,800-sq. ft. house toasty warm in the coldest part of winter.

Total cost was about \$2,500. Olson expects it to pay for itself from LP-gas savings in about four years.

For additional information, contact: FARM SHOW Followup, Ross Olson, Rt. 3, Box 657, Concordia, Kan. 66901 (ph 913 243-4612).