

Labor-Saving Firewood Trailers

"I built 8 different roofed trailers out of old pickup rear ends. It keeps me from having to handle firewood as often," says Ted Slaght, Putney, Vt.

Each trailer holds one cord of wood and has a wood or metal roof to keep rain and snow off.

"In the fall, I tow a trailer up to my house and park it, without having to unload it anywhere," says Slaght. "Another advantage is the trailers keep the wood up off the ground."

He used heavy angle iron to build the frames and welded pipes onto the front and back ends, and then mounted boards on the pipes to contain the wood. The floor is made from loose 4-ft. long boards.

The wheels are off old 1/2-ton pickups. To reinforce the pickup wheels, he cuts the

centers out of the wheels and welds them into heavy-duty wheels that do a better job of carrying the load.

"Each trailer costs less than \$20 to build. I get the heavy-duty tires and wheels at junk yards for \$5 apiece," notes Slaght.

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"It reduces the labor needed to handle firewood," says Ted Slaght, who built 8 roofed trailers out of old pickup rear ends. Each trailer holds one cord.



ATV-Pulled Firewood Trailers

Lloyd Elliott hauls a lot of firewood out of the woods near his Mindemoya, Ont., home. To make the job easier, he and his dad, Bill, built a pair of ATV-pulled trailers designed to haul logs one behind the other. Both trailers were made from a single 200-gal. fuel oil tank.

"The trailers cost us almost nothing to build, and they have a light foot print in our woods," says Lloyd. "Each trailer is 5 ft. long, 32 in. wide and has 8-in. high sides. We cut logs 16-in. long so we can stack them two wide."

They cut the tank in half and mounted each half tank on axles off old 2-wheeled cutting torch carts that were no longer usable. The cut tank sides were bent to make each trailer wider and lower, making loading and unloading an easier job. The back end of each trailer is open.

"Each trailer holds 1/3 of a face cord of wood, and if the wood is light we can load a half cord," says Elliott. "Last year we hauled about 80 face cords out of the woods. We use

a 1997 Kawasaki Prairie 400 4-wheeler to pull both trailers fully loaded, and it handles the weight with no problem. We do have to be careful going downhill, as the ATV has just enough braking power.

"At first we pulled each trailer individually, but we wanted to reduce the number of trips so we added a trailer ball hitch on back of one trailer. We thought we'd have trouble pulling the two trailers together through the woods, but wherever our 4-wheeler goes the trailers follow."

The Elliotts make maple syrup during the spring. "We're only taking out dead or dying trees. The trailers go through the woods without destroying healthy, growing trees and are a lot less destructive than a skidder," notes Lloyd.

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ATV-pulled trailers are designed to haul logs one behind the other. Both trailers were made from a single 200-gal. fuel oil tank.

Biomass Furnace "Burns Anything"

If you need to dry crops or large amounts of other materials, a biomass furnace from King Coal could save you big bucks. Company president Mike Robb cites one customer who cut his propane bill by 90 percent.

"He switched from propane to burning green wood chips," says Robb. "There are vast opportunities for using alternative fuels that are readily available. For example, an average sunflower producer can capture enough screenings to dry all of his crop."

The new furnace is designed specifically as a combustion unit for use with driers. The company is making a variety of furnaces producing one million btu's on up. Smaller units are skid-mounted with larger ones permanently installed.

"Our smallest unit has a footprint of only 8 ft. by 12 ft.," says Robb. "That size unit can produce up to three million btu's. Height will vary depending on output desired."

Key features to the design are the stoker and the computerized controls. The stoker brings anything an inch or less in diameter into the fire bed. Once there, the material ignites and burns, with the ash falling off to be augered away for later use as a soil additive.

The controls monitor combustion and adjust flow of feedstock into the fire chamber as well as airflow for an ideal air/fuel ratio. The controls maintain required heat production regardless of the type of feedstock or external temperatures.

"There is no babysitting the system," explains Robb. "With its computer controls,

an operator can check the system from a laptop at a remote location. His only responsibility is to see that the fuel level is properly maintained."

The prototype unit developed for demonstration at the factory has a steam boiler on it to pull off heat. Robb sees most units for agricultural applications transferring the heat directly to driers using heat exchangers mounted in the driers. Even the stack gasses are cleaned and routed back through the system to capture the heat.

Corn producers can use cobs from the crop to dry the grain. Cobs would simply have to be ground to size. Screenings from sunflowers wouldn't even have to be ground, he notes.

While Robb estimates a farm-size furnace would run from \$80,000 up to \$300,000, depending on output. While propane burners cost much less, he points to fuel costs as more than making up the difference over time. At \$1.50/gal. propane, a million btu's costs \$16.37. Sunflower screenings selling for \$30/ton produce a million btu's for about \$1.65.

Robb says the company is also working on adapting the unit to produce syngas for on-farm energy production using farm-produced biomass.

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King Coal biomass furnace is designed as a combustion unit for use with grain driers. The company makes a variety of furnaces, producing one million btu's on up.

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