Wood chips in cast iron pots fill the chamber with smoke. The chest freezer lets Al Franzen smoke up to 80 sticks of deer sausage or 24 chickens at once.

"No Hassle" Electric Smoker

Since successful meat smoking requires relatively low temperatures, it's only fitting that Al Franzen made his smoker out of an old chest freezer standing on end.

For a heat source, Franzen avoided the hassle of charcoal that has to be kept lit. He also avoided using propane, where the flame can go out and you end up with a box full of gas waiting for a spark. Instead he used components from an electric stove.

He got the freezer and stove free for hauling them away. "I mounted the stove burners at the bottom of the smoker," explains Franzen. "Then I mounted the oven thermostat in the smoke chamber and the control panel on the outside."

All Franzen has to do is set the temperature where he wants it for successful smoking and walk away. Wood chips set in cast iron pots on the burner fill the chamber with smoke. If the temperature gets too high, the burners turn off until the temperature falls. Franzen keeps the thermostat set at about 120° for about six hours and then cranks it up to about 220° until the meat reaches the recommended internal temperature for the meat being smoked.

"The thermostat isn't exact," explains Franzen. "It may go 10° over when heating and then go 10° under before it turns back on. The cast iron containers hold their temperature, however, and that tempers the fluctuation."

The chest freezer lets him smoke 80 sticks of deer sausage or 24 chickens at once. He figures it will hold up to 240 lbs. of meat at a time.

For the smoke, Franzen cuts 1/4-in. slices from branches pruned from his small apple orchard, as well as from local cherry and hickory trees. He mixes them with sawdust which smokes faster. Lids on his iron pots keep the wood from flaming, and vents he cut in the top and the bottom of the smoker maintain adequate airflow to keep the smoke fresh.

A friend cut the steel rods that the meat hangs from, and the hangers themselves were free, too. "The meat hangers are heavy duty coat hangers a store was throwing away," says Franzen, who admits to an ability to find a use for almost anything.

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Hauler consists of a two-wheeled trailer that hooks up behind the tractor and a dolly that holds the back end of the log.

Homemade Hauler Handles Half-Ton Logs

When Pete Christenson needed to move some logs from the street to his backyard sawmill, he simply built a hauler out of scraps that hitches to his 16 hp Yard Machines lawn tractor.

The hauler consists of a two-wheeled trailer that hooks up behind the tractor and a dolly that holds the back end of the log.

Christenson built the trailer out of parts from an old WWII bomb hauler. The dolly is made from a piece of scrap I-beam and two rear auto spindles.

After loading the log onto the trailer and dolly, Christensen wraps a chain around the log and dolly to hold them together.

"The longest log I've hauled to date is an 18-ft. by 20-in. log and that is plenty of weight for the tractor, at about 1/2 ton or better. The trailer alone with side boards will haul about 1,000 lbs. of sand or gravel or nearly 1/4 cord of firewood. Not too bad for a lowly lawn tractor," he says.

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Trailer has an 8-ft. long, 5-ft. wide expanded metal deck that moves forward or backward up to 7 ft.

"No-Hydraulics" Rollback Trailer

"Every time I use it, it draws a crowd," says Doug Brown, Columbia, Tenn., about the "no hydraulics" rollback trailer he built out of an old boat trailer.

The trailer is equipped with an 8-ft. long, 5-ft. wide expanded metal deck that moves forward or backward up to 7 ft. Power is provided by a battery-powered, two-way winch. He used heavy angle iron to build a frame for the deck. The track and rollers came from an old barn door.

"I use it to transport my racing lawn mower to races. It's really handy," says Brown. "I've used it for three years with no problems. All I do is push a button and the bed rolls all the way back to the ground. I built it because I didn't want to spend the money for a hydraulic-operated rollback trailer. I don't like trailers that have a big ramp on back that sticks up and rattles around and looks terrible."

Brown says he's willing to custom build the winch rollback system for anyone who already has a trailer for about $1,000.

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It's powered by a battery-powered, two-way winch. "All I do is push a button and the bed rolls all the way back to the ground," says inventor Doug Brown.

Do-It-Yourself Oil-Fired Boiler

Joseph Leihgeber doesn't worry about high heating bills since he began heating with his homemade oil-fired boiler. After 12 years of steady heat and low bills, he's sure it's the most economical hot water boiler around. Best of all, it cost him a fraction of a store-bought model.

"It cost less than $500 to build and it's more efficient than a new $2,600 boiler," says Leihgeber. "If a guy can weld, he can build one just like it."

To make his furnace, Leihgeber started out with a 55-gal. metal drum and lined the interior with 3 in. of refractory cement. At the bottom of the combustion chamber, he installed a commercial #2 fuel oil burner with a ceramic brick in front of the burner.

"The brick gets cherry red and makes for almost 100 percent combustion," explains Leihgeber. "The inside of the combustion chamber can reach up to 2,000° and the lining holds that heat."

It is the welded boiler that really sets Leihgeber's oil furnace apart. The 8-gal. water tank rests on a fiberglass rope at the top of the combustion chamber. Sixteen "water" legs extend down from the tank down into the combustion chamber to heat the water. Not only do the legs and the base of the tank provide more than 18 sq. ft. of heat absorbing surface, but the design also reduces maintenance.

"I have put in a lot of burners that are hard to clean, but these pipes hang straight down. If they get a few flakes on them, they fall off and into the chamber," says Leihgeber. "To clean or inspect the boiler, just unscrew two pipe unions and lift the boiler straight up out of the combustion chamber. It takes about two minutes."

While Leihgeber did the welding, he relied on a nearby metal working shop to use plasma cutters to cut out all the water legs. He also bought a commercial grade expansion tank and relief valve as well as all controls.

"This is a low pressure boiler controlled by an automatic water fill," says Leihgeber. Leihgeber built a small boiler house 20 ft. away from his home to reduce insurance costs. Insulated pipes carry water to and from the boiler. All pipes are foam wrapped and an in-house thermostat controls water circulation. Leihgeber commonly keeps his boiler at 180°, though he can go as high as 220° since it is under pressure.

"It cost less than $500 to build yet it's more efficient than a new $2,600 boiler," says Joseph Q. Leihgeber, whose boiler is in a small building separate from his house.

"My boiler can easily heat a 2,000 sq. ft. building," says Leihgeber. "The unit can be made bigger for larger homes or even apartment buildings just by enlarging the heat absorbing surface and increasing the burner oil nozzle size and the air flow."

Leihgeber can make plans available for a fee.

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