

Monster Wood Furnace Burns A Dump Truck Load At A Time

By Jim Ruen, Contributing Editor

Steve Krue doesn't bother splitting firewood for his monster furnace. Instead, he fills it with his skid steer, adding a dump truck load of 4 to 5-ft. long chunks every three to four days.

"We got tired of paying for LP gas," says Krue. "Now I pull logs and branches out of the woods, cut them to length, and load my dump truck with a skidsteer. Last year I used 48 dump truck loads to heat a 12,000-sq. ft. greenhouse, my house and an apartment building."

To handle wood in such large amounts and heat so much space, Krue needed an industrial-sized furnace. Unable to locate one large enough, he built his own. The firebox is big enough to drive right into at 8 ft. wide, 14 ft. long and 10 ft. high. The water jacket, insulation, and exterior dimensions are 14 ft. wide by 24 ft. long and 14 ft. high. A ramp allows Krue to load the firebox from the top with his skid steer.

"There is no shortage of free wood between cleaning up after loggers and people from Chicago who buy some land and want it cleaned up," explains Krue. "I also have a guy down the road with a sawmill who will give me all the slabs I want."

The big furnace wasn't cheap as Krue used all new steel. He figures today's cost would probably be twice the \$12,000 to \$14,000 he spent two years ago.

Krue designed the exhaust system to get the most out of the wood he burns. The flue exits the firebox at the rear, running forward through the water jacket nearly to the front of the furnace and then doubling back to the rear before exiting through the exhaust stacks.



Photo by David Krier

Tired of paying for LP gas, Steve Krue decided to build his own monster furnace. He drives up a ramp to fill it with his skid steer loader, adding a truck load of 4 to 5-ft. chunks every three to four days. Propane tank on top of furnace acts as pressure relief chamber for the 18,000 gal. hot water jacket.

The 18,000-gal. water jacket itself is insulated with foam. The hot water pipes were wrapped with a bubble wrap-type insulation before being inserted in drain tile and buried in the ground.

"The longest run is 300 ft. to the house, and it is plenty hot when it hits the heat exchanger," says Krue. "I don't know what temperature it gets to in the firebox, but I figure it would melt if it wasn't for the water jacket."

Snaking the flue back and forth means the smoke cools considerably before exiting. That can result in a carbon buildup in the flues, something that might cause a dangerous chimney fire in other furnaces. With the monster furnace, that is a positive.

"I did have it plug up on me once when I was burning slabs of soft wood," recalls Krue. "Cleaning it out was easy. I just opened it up at the rear, put in a torch and set the plug on fire. It burned right out."

Contact: FARM SHOW Followup, Steve Krue, Hillside Greenhouse and Land Shaping, 15111 Hwy. 61 S., Boscobel, Wis. 53805 (ph 608 375-4202; email: hillside.greenhouse@outbound3.mail.tds.net).

There are two sizes of flanges, for larger or small animals, and two sizes of bottles - 8 and 16 oz. Sells for \$129.95. Contact: FARM SHOW Followup, Buck Wheeler, Wheeler Enterprises, 33032 795th Ave., Ellendale, Minn. 56026 (ph 866 507-7773, 800 287-4791 or 507 256-7738; email: buck@thestabelizer.com; website: www.thestabelizer.com).

Hand-Pumped "Milking Machine"

An inventor known for a unique training device he developed for horses has done it again. This time he's created a hand-pumped milker for mares that makes it easy to milk out colostrum for newborn foals.

What's more, the innovative little "milk machine", which has been in development for over 5 years, can also be used on sheep and goats.

Inventor Buck Wheeler also invented "The Stableizer", a unique rope-type training device for horses that has caught on all over the world (featured in Best of FARM SHOW 2005). Through his work with horsemen, Wheeler became aware of the need for a better way to get nutrition to newborn foals.

His mare milker is a trigger-operated pump that fits onto a flanged plastic cylinder that's lined with soft plastic where it fits over the teat. The pump screws onto a clear plastic bottle. The pump is "primed" with a few pulls of the trigger to create a vacuum, then the milk flows into the bottle. If the flow slows down, you just give it another pump or two. When the bottle's full, it easily detaches from the pump.

Kentucky veterinarian Mike Cavey has been using the new mare milker and likes the way it works. "I've used it on about 20 mares so far. I hand-feed the initial colostrum. When

a mare foals, we milk her and feed the foal with a bottle to make sure it gets adequate colostrum before he gets up. This prevents a lot of sickness and other problems down the road. Also, if we have a mare that has a lot of extra colostrum, we milk about 8 to 12 oz. Extra and freeze it for our colostrum bank. It gets used with mares that don't have enough.

"The milker also comes in handy if we have a weak or sick foal that has difficulty standing to nurse."

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Hand-powered milker makes it easy to gather colostrum for newborn foals. It can also be used to milk sheep and goats.



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