



Dale Huneke's sprayer is fitted with a 750-gal. spherical tank, which makes it easy to clean out.



With a 120-in. tread width and 118-in. wheelbase, sprayer is stable on side hills.

## Eye-Catching Round Tank Sprayer

After 25 years of running a Big A sprayer, Dale Huneke was tired of the hassle of emptying the spray tank. When he finally built his own sprayer, he eliminated the problem by going with a 750-gal. round tank.

"With the Big A, it was always hard to run the spray out. I would go up a side hill and end up with 25 gallons left," says Huneke. "With this tank, I can get every bit of spray out. There will be less than a cup left."

Designed around ease of service, Huneke's 4-WD sprayer has the tank in the center, the engine on the back end, and the boom on the front.

The front axle is a 12,000-lb. truck axle that he widened out, while the rear axle is the front hydrostatic drive axle from an IH 715 combine with axle extensions. The extra wide axles have a 120-in. tread width, while the wheelbase is 118 in. long. The combina-

tion makes the sprayer extremely stable.

"I see RoGators sliding down the hill over the crop row," says Huneke. "This sprayer just stays in place like a tractor."

The rigid frame is constructed of 4 by 10-in. steel tubing with 8-in. steel pipe for cross members. The engine, radiator and hydrostatic-drive are from the same IH combine. They were left on their original subframes and bolted in place.

The front axle oscillates about 40° in each direction for increased stability. Huneke built oscillation pivot points at the front axle and on the frame about 4 ft. in front of the axle. Stabilizer bars run back to the axle.

He also retained the hydraulics from the IH 715 and uses the reel drive circuit to power a new Hypro spray pump. All boom controls are electro hydraulic with all the master boom controls and foam controls connected to a

joystick on the hydrostat lever.

As part of his ease of service goal, the 25-gal. foam tank on the front flips up if he needs to service the hydraulic system. The 460 Raven control system makes application easy, too.

The boom is a 52-ft. Top Air that Huneke widened to 60 ft with 10-ft. breakaways and manual fold. "It has about a 4-ft. vertical lift and was simple to mount. It was designed as a 3-pt. boom, but I adapted it to fit on the front end of the sprayer. I just built new brackets and welded them to the frame and bolted the boom in place."

Formerly a custom sprayer, Huneke appreciates the importance of comfort. He rebuilt the IH 715 cab, mounted it on 2590 Case IH cab mounts and installed it behind the boom. The heating system was replaced with an air conditioning system, and the seat was re-

placed with one from Cat Challenger.

"With the older cab, I knew I needed to cut the noise, so I set the engine on the back end," says Huneke.

No longer custom spraying, Huneke says he likes to relax with his spraying, though he can cover 45 to 50 acres per hour if he pushes it. "I can run about 8 mph in second, but I usually run about 6 1/2," he says. "If you throttle back, you cut your fuel use in half."

In the five years since he built the sprayer, he has sprayed around 12,000 acres. "I have about \$21,000 in it," he says. "I bought a lot of new stuff for it and built it to last."

Contact: FARM SHOW Followup, Dale Huneke, 28869 Magnolia Rd., Underwood, Iowa 51576 (ph 712 566-2163; Bigafarm@aol.com).

## Wood Stove Uses Firebrick To Boost Efficiency

Hans Nicolaisen of Waldoboro, Maine is very happy with the new wood stove he designed and built. It's basically a small masonry heater with a steel skin, he says.

"This is something anyone with a small shop can build. All they need to make a very efficient stove is some firebrick, steel plate, steel bar for the grate, a damper, and tubing or pipe for the secondary air tube," he says. Key to the stove's success is that the firebrick inside stores the fire's heat and also allows you to make the fire as hot as possible.

"The main thing is to keep the fire hot, even if it's small. You can't keep the fire or coals hot if the fire is losing its heat," explains Nicolaisen. "This furnace lets you build a short hot fire and then release the heat slowly over time."

He says that building a true masonry furnace requires a high degree of skill that even most ordinary masons don't have. But in his stove, all of the firebrick is "dry-stacked" with no mortar.

"I work in steel because I'm not a mason, but my stove provides many of the advantages of a masonry heater," he says. "To truly appreciate it, it's important to understand the concept of masonry heaters. The main thing is to have the fire burning inside the firebrick firebox. The more firebrick you have, the more heat you can store."

Nicolaisen points out that dampers are really important if you're storing heat in a large mass where it will be radiated to the outside of the firebox. To do this, it's important to stop the heat from escaping out the chimney, he says.

"I put the stove in my house last December and it worked very well," Nicolaisen says.

"It heats more evenly than a regular wood stove and uses less wood. It's designed so it can be easily taken apart to reconfigure the brick. This is important, because once you have built the stove, you learn from it and have new ideas to make it better."

Also, because the stove has 1,100 lbs. of firebrick in it, it has to be assembled after the shell (the steel skin) is in place in the house. The completed stove weighs around 1,400 lbs. Nicolaisen says stove builders should give some thought to whether the floor will support the extra weight.

After a year's use, he says the new stove uses about 20 percent less wood than the wood stove it replaced.

The stove's body is 4 ft. tall and about 2 ft. square. Those dimensions are based on the size of standard firebrick (9 by 4 1/2 by 2 1/2-in.) so that the cutting of firebrick is minimized. The firebrick that does need cutting can be handled with a chop saw using a good abrasive masonry blade, he says.

Nicolaisen has been heating and cooking with wood since 1968 and designing and building stoves for himself and occasionally for friends since 1975.

"I will be putting together plans for my new wood stove. People who are interested can also pick up a book by David Lyle called "The Book of Masonry Stoves," which would give them far more information than I can hope to give."

When asked how long it took him to build the stove, Nicolaisen says, "I suppose, in a way, it took me thirty years to build it, because of all the learning from trial and error that went into it. In reality, it was about two weeks. The cost of the steel, firebrick, and



Efficient wood stove is basically a small masonry heater with a steel skin. Firebrick stores fire's heat and also allows you to make a hotter fire.

odds and ends was about \$700. It was all new steel and firebrick."

Today, Nicolaisen is busy operating his business, "Nick's Welding," where he specializes in making dampers for masonry heat-

ers. Contact: FARM SHOW Followup, Hans Nicolaisen, 3005 Washington Rd., Waldoboro, Maine 04572 (ph 207 832-5350; hansn@adelphia.net).

A patriotic hoop building made its debut at Farmfest near Redwood Falls, Minn., in August. Silver Stream Shelters set up shop at the show in a canvas-topped building featuring a U.S. flag on each side.

SilverStream Shelters is the well-known manufacturer of unique wood hoop and steel truss buildings of all sizes. The patriotic building was set up only for show purposes. It's not available commercially, although the company can provide many different colors of tarps on its buildings.

Contact: FARM SHOW Followup, Darryl Enns or Dave Arnold, Silver Stream Shelters, Box 393, Neche, N. Dak. 85265 (ph 877 547-4738).

