## Feed-Saving "Hay Manager"

"We're feeding 100 beef cows two big round bales a day with absolutely no waste thanks to our homebuilt Hay Manager," says Ted Lacey of Trent, S. Dak. Developed over the last 18 years on the farm, farmers and horse enthusiasts have bought them for 5 years from areas of the Dakotas, Wisconsin and Nebraska with no complaints. "Customers buy the feeders, we do not sell them. Kind of like the saying, it sells itself," says Lacey.

"It was designed because the feeders on the market were poorly built," Lacey says. "The hay would either spoil or be pulled outside the feeder Twenty percent or more of the hay was wasted and the feeders only last a short time."

Lacey's idea was to use the same round metal band configuration, but use stronger metal, 14 ga. steel rather than 20 ga. as found on competitive units. Another distinction is that The Hay Manager holds a bale entirely off the ground to prevent spoilage. Twelve to 18 3/4-in. steel rods hook to the top metal band making the unit infinitely adjustable in restricting the animals intake. "The bale is supported between the rods and doesn't touch the ground as designed to manage the animal's feed in-take," Lacey says, "Thereby putting the waste in the cattle instead of on the ground. They eat the loose hay leaves that fall inside the ring and don't pull it outside on to the ground.

"We built them strong because we've



Hay Manager feeders hold big bales off the ground so livestock don't waste hay. They're made with 14-ga. steel and the cone basket is adjustable. "We have 17 years experience building bale feeders. Our current model saves 10% more hay," says Lacey. Call 605-428-5122 for more information.

got 100 head of cows and we know what animals can do to weak metal," Lacey says. The Hay Manager for cattle weighs about 475 lbs. compared to competitive models that weigh 150 to 250 lbs. "I've used a couple of my Hay Managers for 16 years and they show use but not damage. We move them every day to let the cattle spread the manure in the fields."

The Hay Manager design has been tested on horses and sheep and the customers come back in shock that their animals don't waste any hay. A horse lady was so surprised after buying one in the summer that her complaint was, "I'm concerned that my horses are going to starve when winter comes."

"We've had a lot of experience with our own cattle using the Hay Manager and we're confident we've got a product that reduces waste to less than 2 percent and can stand the abuse of livestock," Lacey says. Prices range from \$815 to \$1600 FOB Trent, S. Dak. Patent Pending

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## **Reader Inquiry No. 133**

## **Deere 4020 Power, Reliability Boosted By EFI Conversion**

David Kepner threw away the carburetor on his Deere 4020 gas tractor and replaced it with an electronic fuel ignition (EFI) system designed for a pickup.

Kepner is a retired 74-year-old Deere mechanic who says he still does a little farming with his 4020. "I came up with the idea because I wanted it to run as well as my pickup. I started looking around for anyone who makes an EFI kit for farm tractors. I couldn't find any, but I did find a company in Memphis, Tenn., that supplies EFI kits for classic cars and pickups and adapted one of their kits (www.fuelairspark.com; ph 901 260-3278). I made changes to the tractor's intake manifold and to the throttle body that controls the air system."

He replaced the tractor's rusty steel fuel tank with a polyurethane tank. "These tractors are almost 50 years old and many of them haven't been used for years, so their fuel tanks are often contaminated," he notes.

An air intake hose leads from the air cleaner to the throttle body, which controls the air flow when you accelerate the tractor. "You want to maintain a 14:1 air-to-fuel ratio, so that when the tractor slows down it doesn't suck as much air in," says Kepner.

A fuel rail leads from the pump at the bottom of the tank, and then to a fuel pressure-regulating valve that regulates the fuel pressure to the injectors.

After he equipped his 4020 with EFI, it didn't take long for neighbors to start asking Kepner if he would convert their tractors. He plans to do that for about a half dozen local farmers. "When people ask me about the cost, I tell them it's less than what it would cost to have a body shop paint their tractor. It'll cost at least \$3,500 but not more than \$5,000. I tell them I'm so confident in EFI that if they don't like how their tractor runs



David Kepner equipped his Deere 4020 gas tractor with electronic fuel ignition to make it run better. "It's all about using today's technology to improve an already great tractor," he says.

when I'm done with it, I'll buy the tractor from them."

Kepner says he plans to make a kit available some day.

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