To keep his hay inverter from plugging up, Barry Woods fitted it with paddles that grab hay coming off conveyor belt and pushes it through.

Paddle reel is mounted over throat of inverter at end of conveyor. A variable speed hydraulic control on tractor is used to adjust paddle speed.

Paddles Push Big Windrows Through Inverter

Barry Woods doesn't worry about hay getting hung up in his inverter after he upgraded it with hay pushing paddles. The paddles grab the hay coming off the conveyor belt and push it through.

"Hay inverters are great tools, turning the windrow over to dry, but they tend to plug up, especially with long grassy hay," says Woods. "When I went from a 9-ft. haybine to a 10-ft., I knew the inverter wouldn't be able to handle the big windrows."

Woods worked on a solution using 2 snapper heads from a New Holland 770E cornhead. "My neighbor, Rolly Pegg, used his lathe to extend the shaft on one of the snapper heads," says Woods. "He also machined a Lovejoy coupling from an old manure pump to fit the shaft and a hydraulic motor."

Woods welded the second snapper head to the first and mounted them in place on the inverter. The paddle reel is mounted over the throat of the inverter at the end of the conveyor. A variable speed hydraulic control on the tractor lets him adjust the paddle speed to match the speed of the conveyor belt.

He had previously added a hydraulic cylinder to raise and lower the inverter pickup bed. The extra weight of the paddle reel required that Woods add a pickup wheel to that end of the inverter.

"I used an old plastic pto cover shield over the back to prevent wrapping," says Woods. "It works fine."

There's a video of Woods' inverter upgrade in action at www.farmshow.com.

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Exterminator Uses Smoke, Oil To Kill Pest Animals

"Our new Gopher X exterminator uses carbon monoxide and special oils to kill gophers, ground squirrels, moles and other burrowing rodents quickly and safely. It's the fastest, easiest and most effective system on the market," says Peter Kinnally, Quality Mfg. and Distributing, Inc., El Cajon, Calif.

The 2-wheeled machine rides on 10-in. pneumatic tires and is about the size of a small power washer. It makes use of a special mixture of oils which the company sells with the system. Heat from the engine enters the manifold, which gets hot enough to burn the oil and create smoke. The heated smoke, along with carbon monoxide, is pushed through the animals' tunnels and nesting areas.

"The smoke provides a visual indication of where the carbon monoxide is traveling and shows any additional openings that can be covered to increase effectiveness. It also provides peace of mind if the gas is approaching homes, buildings or going into your neighbor's yard," says Kinally.

The exterminator is powered by a small Briggs & Stratton rope-start engine and comes with a removable handle, a tube-shaped manifold covered by a ceramic-coated heat shield, and a 3-ft. long "high heat" silicone exhaust hose with nozzle.

To operate, find a rodent tunnel using the probe provided, insert the hose nozzle into the ground, and cover with soil. Pour a metered cup full of oil into the manifold and then close the valve. Start the engine and let it run for 2 to 3 min. If you see smoke escaping, that means the carbon monoxide is escaping, too, so cover up any holes where the smoke is escaping.

"It doesn't use poisons that can kill other animals and pets; it doesn't cause explosions that can disturb large areas of land and even start fires, and it doesn't use traps that can be time consuming to place correctly," says Kinnally. "Also, although the smoke is produced by hot exhaust, it's cool enough at the tunnel exit that it's impossible to start a fire.

"We developed the first prototype about 12 years ago but didn't hammer down the final model design until 1 1/2 years ago."

Gopher X exterminator uses carbon monoxide and special oils to quickly kill gophers and other pest animals.

A hose extension that stores on the rig's handle can be attached to the 3-ft. hose so if you need to treat tunnels in an embankment or hillside, you can keep the machine on level ground and still reach the active tunnels.

The company offers 3 models. The 2 smallest models weigh 55 and 63 lbs., respectively, and sell for $1,495 plus S&H. A commercial unit that weighs 67 lbs. sells for $1,795 plus S&H.

The smoke oil is sold in pint, quart and gallon sizes and sells for $10.95, $16.95 and $64.95, respectively.

Hose extensions are available up to 24 ft. long.

A wheel kit to is also available to replace the standard 10-in. pneumatic tires with 13-in. tires.

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Testing Windrow Moisture Content

By Michael Thomas

Today many large balers have on-board moisture testing equipment and have various moisture testers or can apply preservatives to the hay to maximize leaf retention and still maintain storage quality. Despite all these tools, a producer is still faced with the dilemma of determining the stem moisture of hay in the windrow across the entire field.

The age-old method of twisting a handful of alfalfa until it breaks is a good way to know the hay is dry enough to bale, but unfortunately by the time the hay is dry enough to break by this method it's too dry for good leaf retention. Some producers today insert an electronic moisture probe into a handful of alfalfa from the underside of sample windrows to get an idea of the moisture. While this is a step up from the twist test, the probe will tend to provide data suggesting the hay is dryer than it actually may be. Other methods use ovens to test hay, but they can be awkward and slow.

Now two University of Idaho researchers, Ron Thaemert and Glenn Shewmaker, have developed an inexpensive moisture testing tool that can be made with a few simple supplies from the local hardware store. It replicates the compaction and density of hay in a bale.

Here are the materials needed for the windrow sampling tool:

2 ft. of 2-in. ABS pipe
3 ft. of 1 1/4-in. PVC pipe
2 1 1/4-in. PVC pipe caps
2-in. ABS cleanout adapter
2-in. ABS cleanout plug

Assemble the tool by gluing the end caps on the 1 1/4-in. pipe, forming a simulated plunger. Next glue the cleanout adapter on one end of the 2-in. ABS pipe. Screw the 2-in. ABS cleanout plug into the adapter, forming a simulation of a bale chamber, and you're ready to moisture test alfalfa in a windrow.

Thaemert and Shewmaker say you should take at least 20 random samples per 200 tons of hay across the whole field.

Once a sample location is selected, turn a portion of the windrow over and feel for the dampest hay in the sample area. Insert this hay into the sampling tool a handful at a time until the tube is full. Place the collection chamber on the ground with the capped end down and use the smaller tube, or plunger, to compress the hay in the collection chamber, simulating the compaction of baled hay.

University of Idaho researchers have developed an inexpensive moisture testing tool that can be made with common hardware parts.

Hay is inserted into sampling tool a handful at a time until tube is full, then a plunger is used to compress the hay.

Electronic moisture readings are recorded from 4 levels in collection chamber and then averaged.

Record electronic moisture readings from four levels of the collection chamber and average the readings at 4, 8, 12, and 16-in. depth. Continue the process across the remainder of the field and average the data from all of the samples. "You have now gathered ample moisture samples on which you can confidently base your baling readiness decision," report Thaemert and Shewmaker.

Care should be taken to clean the electronic probe after a few samples have been collected. As residue builds up on the probe it begins to reduce the accuracy of the reading. Also, probe readings should be compared to oven samples periodically to make sure the probe is calibrated correctly.