



Rusty Inskeep and his nephew Paul rebuilt two 15-ft. Deere 1590 no-till grain drills into a single machine equipped with 6-ft. folding wings.



Wings were made by cutting apart one of the drills and removing the rear frame and wheels. Wings pivot 180 degrees forward for road travel.

By Lorn Manthey, Contributing Editor

## They Built A 25-Ft. Wide Folding No-Till Drill

Virginia grain and hay farmer Rusty Inskeep is always looking for ways to work more efficiently. Last winter he and his nephew Paul rebuilt two 15-ft. Deere 1590 no-till grain drills into a single machine equipped with 6-ft. wings.

Inskeep says they decided to build their own drill after finding that other machines wouldn't work in their operation. "Deere makes a 20-ft. wide 1590, but the transport width is too wide for the roads we travel," says Rusty. "We also looked at another brand that had folding wings, but the depth control and covering wheels were too far in the back. We wanted a machine that we knew would perform with the crops and conditions we have."

With new machines out of the picture, Rusty and Paul turned their attention to building their own. They started by purchasing two Deere 1590 drills that had planted less than 1,000 acres each. Rusty had the rough idea on how to merge them together and turned

his sketches over to Paul, who built the plans on 3D CAD.

"Without those CAD skills I don't think we'd have been able to do this project," says Rusty. "Paul's able to design parts to exact specifications and then we transfer those plans to a local machine shop where they're made." Rusty says their main concern was strengthening the hitch to carry the extra weight and figuring out how to attach each of the wing sections to the main frame.

"We finalized all the plans before we took anything apart or had any parts made," says Rusty.

To pull the machine, they designed a tongue truss out of 8 in. by 8-in. tube steel and extended it in an arc back through the grain box to the wheel frame. Two additional wheels were added on the back to support the extra weight of the wings. The center section was reinforced with tube steel, channel and angle iron to provide support for the wing pivots on each side. They made the wings by

cutting apart one of the drills and removing the rear frame and wheels. Parts from the hitch were used to build a new frame that supports the wings and pivots them 180 degrees forward for road travel. The wings pivot on an 8 in. long pin that connects parts with a tolerance of 0.002. Rusty says when they welded the pivots in place they allowed for heat expansion by using shims with a thickness of 0.001, then removed the shims and reinstalled the pivot pin. Each wing has a crazy wheel that turns 360 degrees, a feature that allows them to back the machine into field corners.

The drill has 4-in. cylinders with a 2-in. ram shaft and a 40-in. stroke to fold the wings. In its folded position, the machine is just over 16 ft. wide. Fully raised for road travel, there's 24 in. of clearance under the machine. "Having it lift that high sure makes it easy to work on the openers," says Rusty.

Inskeep pulls the drill with a Deere 7430 tractor. He says weight on the 2 pt. hitch is

close to 5,000 lbs, so his tractor has a full set of suitcase weights on the front. The drill holds 115 bu. of seed in 3 sections, which gives them capacity to plant 100 acres or more in one fill. In the spring of 2014 they used the drill to seed soybeans and will use it in the fall to seed barley and wheat. They'll also use it for orchard grass and timothy. In addition, Rusty plans to seed tillage radishes for cover crops that will help break up hardpan areas.

"Building this machine took us most of the winter," says Inskeep, "but now we've got something that we know will work, a machine that gives us a much more efficient planting operation. This summer we're going to install four section shut offs and a very precise seed monitor to make it even more efficient."

Contact: FARM SHOW Followup, Rusty Inskeep, 22502 Mt. Pony Farms Drive, Culpeper, Va. 22701 (ph 540 937-0958).

## "Box Trap" Bags More Gophers

"It's easy to use, easy to set, and catches lots of gophers," says Caysi Mendoza, Wilco Distributors, Inc., about her company's new pocket gopher trap.

Called the Box Trap, it's a wooden box measuring 6 3/4 in. long by 3 3/4 in. wide by 3 in. high, with the bottom portion and back end of the trap left completely open.

To set the trap, you press a spring bar into the trap, place a hold-down bar across the spring bar, and then slide the trigger wire over the hold-down bar.

To use the trap, find a fresh gopher mound and find an entrance to the tunnel. Dig a large enough area to place the trap below the ground surface (about 4 in., or as close as you can get to the main tunnel). You should only

be able to see the label on the trap from the surface.

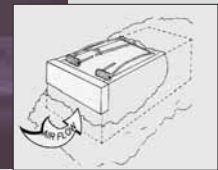
"Pocket gophers don't like air flowing through their tunnel. As soon as the gopher senses the airflow, it'll quickly go to the area to backfill," says Mendoza. "Air flows in through a vent on the upper end and into the tunnel. As the gopher comes to backfill the airflow, it trips a trigger which releases 2 springs that catch the gopher, no matter how big or small it is."

The Box Trap sells for \$16.63 plus tax and S&H.

Contact: FARM SHOW Followup, Wilco Distributors, Inc., P.O. Box 291, Lompoc, Calif. 93438 (ph 800 769-5040; williewilc@aol.com; www.wilcodistributors.com).



Air flows in through a vent on end of trap. As the gopher backfills to stop air flow, it trips the trigger.



## Tree Trays Cut Costs, Speed Growth

Tray-Tech plant trays can speed growth of young trees by 20 to 30 percent. Hillel Goren, Goren Trade Inc., says the plastic trays can also cut irrigation costs by 50 percent and reduce fertilizer needs as well.

"The main benefit is growth acceleration," says Goren. "They surround the young trunk to catch moisture and create greenhouse conditions for the root system. The tray covers the ground, seals it from all sides, and protects the roots from extreme temperatures."

The Tray-Tech plant trays were developed in Israel, birthplace of many of the water-saving technologies used in agriculture around the world.

"Christmas tree growers really benefit from the trays," says Goren, North American distributor for Tray-Tech. "They can cut the normal 7 to 10-year time it takes to grow a Christmas tree by at least 2 to 3 years."

Goren says the trays can also reduce loss of young seedlings. He points to use of the trays on small pine trees planted in an arid

mountainous area in Israel. Seedling loss went from 36 percent to zero.

The 2 by 2 1/2-ft. plastic trays fit around the seedling stem. Edges seal tight to the ground shading out competitive grass and weed growth. The slope of the tray directs rainfall, irrigation water and even dew directly to the stem base and developing roots. The same slope on the underside gathers condensation and carries it to the stem.

Goren says the insulating effect of the plastic tray reduces plant shut down from heat and extends the growing season in cold areas. It also reduces potential for mid-winter thaw and refreeze damage.

Reflection of light from the trays back to the seedling is another reason for accelerated growth. It supports increased photosynthesis.

While the tray was developed for use in arid areas, Goren suggests that the water concentrating effect of its shape is beneficial in higher rainfall areas as well. "You don't have the savings from reduced irrigation, but



Tray-Tech plant tray surrounds young tree trunk to catch moisture and protect the root system from extreme temperatures.



growth acceleration is maintained as more nutrients are available. With fruit trees, you get higher quality fruit," he says.

Currently the trays sell for \$4 to \$5 each, depending on quantity ordered. Goren says the trays have a life expectancy of at least 10

years, but could last 15 to 20 if not abused.

Contact: FARM SHOW Followup, Goren Trade Inc., 383 Oak Ave., River Edge, N.J. 07661 (ph 201 225-9297; cell ph 551 404-8521; hillel@gorentradeinc.com; www.gorentradeinc.com).