

# Build it — or buy it



**CORN-ROW STRADDLERS:** This setup drills cover-crop seeds in corn up to 30 inches tall, plus applies nitrogen and postemergence herbicide in one pass.

By **JOHN VOGEL**

**H**AVE a heated farm shop and a mechanical mindset? Then we've got an environmentally correct, money-saving winter project for you.

Consider buying or building a multipurpose cover-crop interseeder that can also apply liquid fertilizer and postemergence herbicides in the same pass. The accompanying photos illustrate key design details of Penn State University's Version 3 interseeder — one of the first product roll-outs of the college's new Entrepreneurship and Innovation Program.

The college has applied for a patent (see cover story). You may be able to buy a basic model from the startup company named Interseeder Technologies. Or you might modify an older planter to use next spring before your corn reaches knee-high.

Corey Dillon, key collaborator and builder of the machine, walks *American Agriculturist* through the crucial details of the four-row interseeder, which can also be converted to a 10-foot drill with extra drill units. While any semi-mounted tool bar could be used, the researchers chose to build on a 10-foot bar to make it easy to haul on the road and power with a 90-hp tractor.

The seed tank on top and the



**3-WAY TOOL:** Dillon shows how cover crops can be no-tilled between corn rows with this machine.

## Key Points

- This cover-crop interseeder can apply N plus herbicide in the same pass.
- It's an early product in Penn State's Entrepreneurship and Innovation Program.
- With a few extra row units, interseeder can do double duty as a no-till drill.

planter row units were made by Esch Manufacturing of Lancaster, Pa. The double-disk row units are set up on 7.5-inch drill spacings, allowing a 15-inch gap for the already emerged 30-inch-row corn.

As designed, seed from the tank can be

placed at any depth. With a second seed tank and seed hose, a legume seed, for instance, that requires a shallower planting depth could be placed just ahead of the packing wheel on these row units (see circled seed tube in photo). The packing wheel adjusts to help control seed depth also.

Using a narrow-fluted Turbo-Till coulters to cut through crop residues minimizes disturbance of no-till surface residues, according to Dillon.

## Plumb 2 drop-nozzle sets

This is where money-saving kicks in. Add one set of drop nozzles to apply preemergence or postemergence herbicides be-



**3-WAY TOOL:** The upright tube on top of the planter unit would allow shallower placement of another seed after the disk opener passes.

neath the corn canopy. Nozzles on the interseeder's outside edge should be set so you don't double-dose on the next pass.

Set a separate set of high-pressure UAN drop nozzles 4 inches off the corn rows and 4 inches above the soil surface to apply liquid nitrogen in a 3/4-inch band.

This setup also requires mounted nitrogen and herbicide tanks. Dillon wired the electric pump for herbicide application and the PTO-driven pump for nitrogen.

The goal, he says, is to interseed cover crops four to six weeks after corn emergence. "You don't want to seed any cover crop during that critical weed-free period after planting.

"We want the cover crop to just survive until the corn is done. You don't want to seed a tillage radish, for instance, too early."

What cover crops? Dillon's preferences are crimson clover, red clovers, hairy vetch, annual ryegrass and mixtures thereof. Tillage radishes have worked well in the mix, too. "You don't want to put too much green material through older combines," he explains.

The on-farm interseeder trials have also included planting cover crops in soybeans. But cover-crop height at soybean harvest may pose problems for older combines, concedes Dillon.



**3-POINT-HITCHED TO FLOW:** Front-mounted nitrogen and herbicide tanks are powered by a PTO pump and electric pump, respectively.

## 'Tis the season to deck the tractor

By **ALISON KOSAKOWSKI CONANT**

**B**ETWEEN all you do to get your machinery, facilities and animals ready for the colder temperatures, you may be as busy as Santa himself. But that doesn't mean you shouldn't slow down and enjoy the holidays.

Decorating your tractor is a great way to celebrate the season! But be forewarned: It's not as easy as you think.

We park a lesser-used rig on the front lawn and dress it up for the holidays. What a hit it has been among neighbors and friends, especially kids!



**HOT-WIRED FOR THE HOLIDAYS:** Decorating a tractor for Christmas isn't as simple as it looks, but Alison Conant says it brings a lot of enjoyment.