

To plant no-till use the old rows

NEWARK, DE — Farmers who want to plant no-till into row crop residues often ask if they should plant directly over old rows or in the row middles.

A second year of research at the University of Delaware Agricultural Experiment Station confirms that row placement can have important effects on no-till corn planted after soybeans, especially on sandy soil such as Evesboro loamy sand.

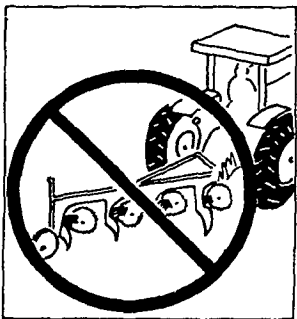
Cheryl Stevens, master's degree candidate in the department of plant science, has been working on this project with her advisor, agronomist William H. Mitchell. She recently reported on their findings.

The seed placement study was conducted at the university's Georgetown substation. It was undertaken because soybeans in a reduced tillage program are rarely followed by cover crops on Delmarva, and this can lead to compacted soil. Additional compaction results from wheel traffic—especially between rows.

Compaction in the wheel tracks can extend well below the soil surface, reducing water infiltration and restricting root growth, Stevens said. Recent samples taken in a chisel-plowed field showed that water infiltration rates were 9/16-inch per hour over the row versus a much slower 1/4-inch per hour in row middles compacted by the tractor at planting.

Also, no-tillage soil is usually colder than plowed and disked soil. For this reason, no-tillage plantings are often delayed until soil warms.

"With these factors in mind," Stevens said, "we have been comparing no-till corn planted



directly over the previous year's soybean rows with corn planted in soybean row middles. In 1981, and again this year, we observed a real advantage to planting right over those soybean rows into a seedbed that had not been compacted by wheel traffic for two cropping seasons." Decomposing soybean roots, besides providing nitrogen, may leave channels in the soil and so contribute to this on-row advantage.

At Georgetown, no-tillage planting on the row produced corn plants that were taller in the early part of the season, with larger leaf areas. Where banded diammonium phosphate was used as a planter fertilizer, on-row plantings had less visible symptoms of manganese deficiency than those in row middles. These results were most apparent in early plantings (April 7, 1981, and March 31, 1982) when soil temperatures were relatively low at planting, Stevens said.

In both years, mid-silking occurred two to five days earlier in plots planted on the row. Though 1982 yields won't be available until later in September, 1981 results showed better yields for on-row placement than for plots planted in row middles (152 versus 113 bushels per acre).

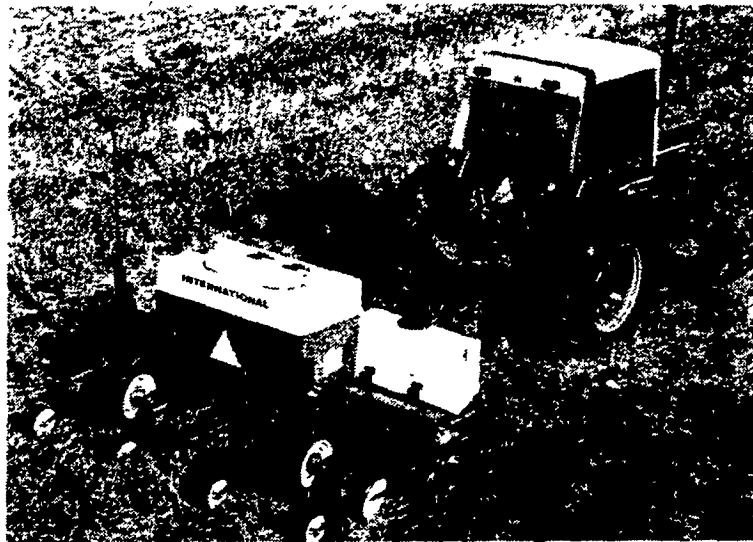
Stevens said some type of row modifications may also benefit no-till corn.

"Farmers who are sold on the moisture saving, soil building advantages of a no-tillage cover crop are sharing their ideas on how to improve corn seedling emergence," she said. "This year, for example, the Ross brothers in Laurel, Del., observed faster seedling emergence and growth in areas where the vetch mulch was pulled slightly away from the seed slot. They're now experimenting with a device placed between the fluted coulter and double disk openers that will accomplish this for their 1983 plantings."

Their experience suggests that some type of row modification of the no-tillage seedbed may be the key to improved soil moisture/temperature conditions under a cover crop mulch, Stevens said. This may be especially important as farmers shoot for high yields by planting no-till corn early.

Stevens and Mitchell's row placement experiments have included plots where the soil directly over the row was worked into a ridge using hillers attached to the planter unit. Though this type of ridge planting has not yet led to significant improvements in no-tillage stands, they feel it is a step toward achieving the desired results.

More ideas are needed from farmers, researchers and the farm machinery industry, Stevens said, to perfect a method of row modification that improves no-tillage performance under a wider range of planting conditions.



International Harvester 800 Series Early Riser planters are ideal for conservation planting practices, as well as conventional methods.

IH develops planter

CHICAGO, Ill. — Conservation tillage or no-till planters in a number of ways. One way is to add a coulter (a sharp cutting disk) in front of the seed furrow opener and weight and strength to the planter framing so it penetrates tough soil and withstands the roughness of trashy fields.

"International Harvester took a different approach," Neville said.

"Many farmers are likely to change their tillage practices from time to time to control weeds, insect or disease problems that could develop under surface residue preserving practices. That's one reason International Harvester developed a planter that is ideal for conservation planting practices as well as the more traditional planting methods," he said.

"Reduced tillage and no-till planting presents several major challenges for a planter," said Neville. The planter has to cut through surface trash, open the seed trench, achieve good seed-soil contact, maintain uniform depth control and adequately cover the seed.

Major farm equipment manufacturers are meeting the challenge of producing minimum

tillage or no-till planters in a number of ways. One way is to add a coulter (a sharp cutting disk) in front of the seed furrow opener and weight and strength to the planter framing so it penetrates tough soil and withstands the roughness of trashy fields.

"International Harvester took a different approach," Neville said.

"Many farmers are likely to change their tillage practices from time to time to control weeds, insect or disease problems that could develop under surface residue preserving practices. That's one reason International Harvester developed a planter that is ideal for conservation planting practices as well as the more traditional planting methods," he said.



Fertilizer...Bag or Bulk!



See Us At The
**MID-ATLANTIC
NO-TILL
CONFERENCE**

Dec. 16, 1982 York, Pa.
• Booth No. 33



Stop By And Pickup Your
No-Till Conference
Commemorative Pin!

Only Banvel® herbicide offers so many ways to control weeds.

You can use Banvel herbicide at more different times in the corn production cycle than many other herbicides.

Pre-emergence: Tank-mixed with *Lasso®

Early layby: In corn up to 5 inches, Banvel as an overlay.

Later post-emergence: Banvel gets rid of tough-to-kill weeds that 2,4-D misses

Fall treatment: Air application knocks down hemp dogbane, permitting easier harvest.

Tough-to-get weeds: On the Banvel label, the stubborn species.

Rescue: When weeds threaten a takeover Banvel can help save your crop.

For your supply of Banvel herbicide the Big Plus from Velsicol, call us now.

Before using any pesticide, read the label.

*Lasso® is a registered trademark of Monsanto Company. The Lasso + Banvel tank mix is cleared for use in Colorado, Illinois, Indiana, Iowa, Kansas, Kentucky, Michigan, Minnesota, Missouri, Montana, Nebraska, New York, North Dakota, Ohio, Pennsylvania, South Dakota, Utah and Wisconsin.

**Registered in Nebraska and Iowa only



FERTILIZER MATERIALS BAG OR BULK

46-0-0 UREA

33½-0-0 AMMONIUM NITRATE

30-0-0 NITROGEN SOLUTION

21-0-0 AMMONIUM SULFATE

38-0-0 NITRO-FORM

18-46-0 DAP

13-52-0 MAP

0-46-0 TRIPLE

0-0-50 SULFATE OF POTASH

0-0-60 MURIATE OF POTASH

0-0-22 K-MAG

20% ZINC

90% SULPHUR

32% BORATE

37-0-0 SULPHUR COATED UREA

0-20-0 SUPER

MICRO-MIX

CALCIUM NITRATE

NITRATE OF SODA-POTASH

R/K AGRI SERVICE, INC.

500 Running Pump Rd., Box 6177
Lancaster, Pa. 17603

In Pa. 1-800-732-0398

Outside Pa. 1-800-233-3822

LANCASTER, PA.
717-299-2541

RICHLAND, PA.
717-866-5701

DANVILLE, PA.
717-275-4850

CHARLOTTE HALL, MD.
301-884-4604
301-932-6527

UPPER MARLBORO, MD.
Three M Farm Service
301-627-8700
301-627-3300

JAMES H. McKENNY
Sales Representative
Southern Maryland