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NO-TILL +

No-till farming is great—it protects soils from erosion, builds organic matter and saves the lives of millions of earthworms every year. But weed management depends on herbicides—which are prohibited in organic farming, cost money and can harm the environment.

Jeff Moyer, farm manager at The Rodale Institute, teamed up with neighboring farmer John Brubaker in 2002 to build a front-mounted roller-crimper that can kill cover crops mechanically. To provide organic farmers a giant step forward, we are focusing on a one-pass system doing the rolling and planting at the same time.

Northeast Sustainable Agriculture Research and Education program (NE SARE) and the USDA Natural Resources Conservation Service (NRCS) are funding the Institute to lead a project that evaluates the potential of this tool to save time, lower costs and improve sustainability. This page describes the work of researchers and farmers here on our research farm and seven other regions around the country to learn how the roller might fit in their farming systems.

roller gallery

May 11, 2005: A collection of photos of cover crop crimper/roller tools from around the United States—and beyond.

One step closer to production

June 21, 2005. Auto-CAD drawings of the cover crop roller nearing completion.

WHERE IT ALL BEGAN ...

New Tools for Organic No-Till

SEE THE NO-TILL ROLLER IN ACTION!



Questions? Visit our [No-Till FAQs for answers to frequently asked questions.](#)

Organic no-till leads to updating of Farming Systems Trial

May 29, 2008: Rodale Institute combines two groundbreaking projects to push the envelope on how agriculture done right can curtail climate change.

No Till + quick wrap

March 15, 2007: Where we've been and where we're going.

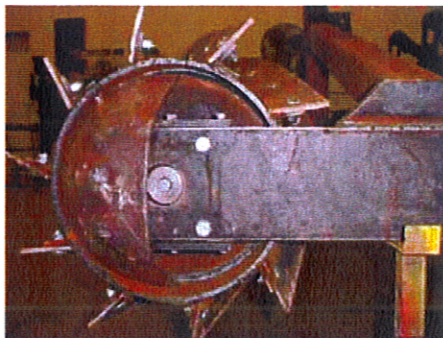
Researchers roll out the details of 2006 no-till organic corn numbers

March 15, 2007: In this above-average rainfall year, using a rolled-down cover crop worked better than tilling organic plots or non-organic comparison fields.

NE-SARE roller research newsletter debuts

March 15, 2007: Regional farmers and Penn State researchers are working with The Rodale Institute to develop best management

Introducing a cover crop roller without all the drawbacks of a stalk chopper



November 28, 2003: Here's the story of how good neighbors designed and constructed a front-mounted cover-crop roller that allows you to knock down a weed-suppressing mat and plant through it, all in one quick pass!

SLIDESHOW: The long road to no-till

A pictorial history of building and using a tool that makes organic no-till a reality

ONLINE NO-TILL RESOURCES

Key publications from ATTRA's National Sustainable Ag Info Service

- Pursuing Conservation Tillage Systems for Organic Crop Production
- Conservation Tillage

Conservation System Research Team

Maintained by the USDA-ARS National Soil Dynamics Lab this site has lots of no-till info, including research on alternative kill strategies for cover crops.

Conservation Tillage Information Center

A non-profit info clearinghouse based at Purdue University.

European Conservation Agriculture Federation

A European conservation tillage site, including many additional links.

No-Tillage & Sustainable Agriculture in the New Millennium

An extensive website maintained by South American no-till & sustainable ag researcher Rolf Derpsch. Includes publications, statistical profiles, equipment and cover cropping info.

No-till.com This site features active links to no-till organizations from around the world, including Australia, Canada, and the U.S. Great Plains.

No-till Farmer The online home of the monthly no-till newspaper from Lessiter Publications. Includes a discussion board, a directory of no-till equipment suppliers and details on the annual National No-Till Conference.

No-Till on the Plains

Includes a section on working with cover crops.

Southern Conservation Agricultural Systems Conference

A project of the Southern Extension and Research Information Exchange Group 20, the SCTCSA hosts an annual conference on

practices for use of the no-till cover-crop roller in the Northeast. This regional focus is funded by the USDA's Northeast SARE program. Details in **a new newsletter**.

dr paul's research perspectives

Year 2006 is breakthrough for organic no-till corn yield; tops standard organic for first time at Rodale Institute

January 12, 2007: Roller system creates moisture-saving mulch from cover crop to suppress weeds and build soil as it slashes fuel and labor inputs.

No-Till Plus Project first cropping season wraps up

December 14, 2006: Farmer and researcher collaborators take stock of what worked and what didn't and prepare for improvement in 2007.

Get to know the no-tillers

December 14, 2006: A regional guide to the participants in The Rodale Institute's No-Till Plus project.

Get your roller plans!

Plans for no-till roller free for the downloading

Greg Bowman

Rugged yet elegant design lets crafters turn metal into dynamic tool for saving fuel, cutting chemicals and applying crop rotations.

Farmers gear up cover-killing rollers for spring no-till planting season

February 16, 2006: Interest in chemical-free crop systems lead more farmers to seek high-value alternatives.

Pennsylvania farmer links organic, conventional farming communities

November 10, 2005: No-Till+ project cooperator Kirby Reichert grows no-till corn, organic hay and specialty rye straw, among other crops—and keeps an open mind.

Choosing cover crops for no-till organic soybeans

October 13, 2005. The more biomass the better for weed suppression—but you do have to be able to plant through the stuff. Of the three cover crops used rye, shown above, provided the most biomass.

Organic no-till research spreading across the Midwest

June 2, 2005: From Pennsylvania to Michigan to Illinois, organic no-till is gaining ground as part of a revolution in weed management research and extension.

It's planting time—do you know where your earthworms are?

May 11, 2005: Pennsylvania no-till farmer Steve Groff counts the many, wriggling

conservation tillage in the South.

THANK YOU

We'd like to thank the following organizations for their generous support to the No-Till Plus initiative:

- **Northeast Sustainable Agriculture Research and Education**
- **USDA's Natural Resources Conservation Service**
- **Wallace Genetic Foundation, Inc.**
- **Toward Sustainability Foundation**
- **Organic Valley**
- **Campbell's Soup**
- **I&J Manufacturing**
- **Other private funders**

benefits of no-till.

talking shop

Emerging trends surface at national no-till conference

April 19, 2005 Cover crops were among the hot topics under discussion at the 13th annual National No-Tillage Conference, reports No-Till Farmer editor Ron Perszewski.

STAY CONNECTED

Visit the **New Farm No-Till + Forum** to share questions, ideas and insights about reduced-input no-tillage systems.

global no-till

Frontiers in conservation tillage

April 19, 2005 International no-till expert Rolf Derpsch shares his views on the current state and future possibilities of reduced tillage systems worldwide.

Getting started with cover crops

April 19, 2005 Cover crops can build tilth, stem erosion and deliver nutrients to primary crops. TRI research agronomist Dave Wilson shares selection and establishment tips for on-farm cover crop research.

one farm to another

These are exciting times!

March 17, 2005: Those were the sentiments of a group of researchers and farmers who met during the first week of March at The Rodale Institute's farm in southeastern Pennsylvania to initiate plans for further research into organic no-till.

Planting soybeans into rye, round two

November 23, 2004: In northwestern Minnesota, Robin Brekken, Lee and Noreen Thomas and other organic farmers are working to perfect a system for no-till planting soybeans into a standing rye cover. Despite ongoing unpredictable weather, the strategy is showing promise.

Perfecting organic no-till systems nationwide

September 28, 2004: The Rodale Institute Experimental Farm receives NRCS Conservation Innovation Grant to build, distribute and test 10 organic no-till assemblies tailored to regional production needs.

Choosing the best cover crops for your organic no-till vegetable system

January 29, 2004: A detailed guide to using 29 species

Organic no-till for vegetable production?

January 12, 2004: It can be done--Virginia Tech professor Ron Morse has been trialing a wide range of cover crop species for no-till planting of organic brassicas, cucurbits,

solanaceae and more.

**Rye lessons learned here
at The Rodale Institute**

September 12, 2003: We describe our own variation on planting soybeans into rye cover.

Weed FREE! An ode to rye

September 12, 2003: Minnesota researcher Paul Porter is working with five farmers to figure out the best way to use a rye cover crop as an effective weed suppressant for soybeans. No-till planting in rye is looking really strong as a strategy.

Let's talk about soil

January 6, 2003: We want soil to work for us, says soil scientist Ray Weil. We want it to hold water, recycle nutrients and keep diseases at bay. But we pulverize it with plows and expose it to evaporation and erosion. Now, does that make sense?

dr don research update

Organic no-till with cover crop roll-down is viable in Kentucky research

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