

Roller Study News

Project Goals:

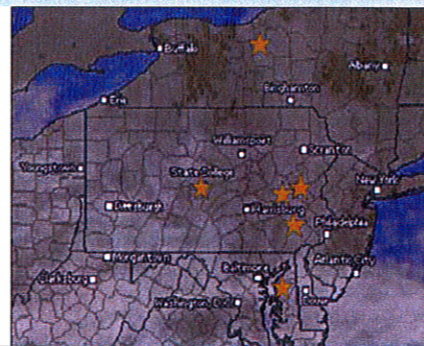
- Expanding cover crop options in the northeastern United States
- Managing cover crops w/o tillage using a roller/crimper
- Reducing herbicide and nitrogen inputs
- Promoting sustainable and environmentally friendly practices that offer benefits to farmers

Roller Study Spreads Across the Region

The cover crop roller/crimper study is a multi-regional, on-farm research collaboration that includes the Rodale Institute, Penn State University, and farmer cooperators. Managing cover crops with a roller/crimper is what unites the research across the various sites.

In this project, small grain cover crops and/or leguminous cover crops will be rolled in the spring and

then planted to corn or soybeans. We will study weed control and timing of cover crop rolling for proper cover crop termination. Ruth Mick is pursuing an M.S. degree in Agronomy from Penn State University and is coordinating the efforts. She will keep records on the status of research at the different sites, collect and analyze data and help draw conclusions as part of her thesis research.



The picture above shows the study region, each of the project locations is marked by a star.

Meet the People Involved with the Roller Project

Dr. Bill Curran	Penn State
Dr. Sjoerd Duiker	Penn State
Mr. Ron Hoover	PSU On-Farm Coordinator
Mr. Bill Mason	On-Farm Cooperator
Ms. Ruth Mick	Graduate Student
Mr. Jeff Moyer	The Rodale Institute
Mr. Kirby Reichert	On-Farm Cooperator
Mr. Peter Schuster	On-Farm Cooperator
Mr. Dave Wilson	The Rodale Institute

Penn State Studies Hairy Vetch and Rye

At the Russell E. Larson Agricultural Research Center at Rock Springs and the Southeastern Field Research Lab at Landisville, a cover crop mixture of hairy vetch and oats was established in the fall of 2006. The treatments include rolling hairy vetch at four intervals in the spring/early sum-

mer. Following each rolling event, corn will be no-till drilled into the hairy vetch residue. The primary objective of these trials is to determine the optimum growth stage to kill hairy vetch with the roller. Additional trials, replicated at Rock Springs and Landisville, were initiated with a fall 2006



Hairy vetch/oats (above) illustrates growth one and a half months after establishment on 9/30/06.

planting of cereal rye. Experimental treatments are cover crop termination date (early and late) and post-emergence herbicide/no spray. All plots receive a half rate burn-down glyphosate application prior to rolling. Our goal is to observe if rolled rye residue provide adequate weed control without a post emergent herbicide.



Bill Mason shares his cover crop experience with the Penn State group and Dave Wilson from Rodale.

“The whole thing [rolling a rye cover crop] worked good. I’m pleased this year and if its going to be this good next year, I’ll be tickled.”
- Bill Mason



PSU “Orange Crush” Roller/Crimper

Keeping Maryland Covered

Dave Wilson, Sjoerd Duiker, Ron Hoover, and Ruth Mick met with Bill Mason at his farm in Centreville, Maryland in December. The Mason’s have a beautiful, flat, expansive, 730 acre farm with 240 acres in the last year of transition to certified organic. Part of their motivation for transitioning to organic has been prompted by an interest in cutting back on using mineral fertilizers and pesticides.

The farm uses a small-grain, corn, soybean rotation and last year added a rye cover crop. The rye cover was rolled down with an I&J (717-442-9451) 15ft. roller/crimper and soybeans were no-till drilled on Oct. 26th into the cover crop mat. Bill noted that the feel of the roller was a little bouncy, but that it was the first implement to be front-mounted on his tractor. Good rye control was achieved with the roller/crimper method and Bill was pleased with soy-

bean yields from this irrigated field (56 bu/A).

This year he is interested in using leguminous cover crops for their fertility and weed suppressive benefits. Two different cover crop experiments have been planted on his farm. one trial compares drilling crimson clover to aerial seeding in order to evaluate cover crop establishment. In the second trial, two varieties of rye and triticale were planted to determine their suitability to his organic system.

Cover Crops at Kirby’s

On October 23rd Dave Wilson, Sjoerd Duiker, and Ruth Mick met Kirby Reichert to see the cover crops that were established on Kirby’s farm. Kirby farms about 800 acres of small parceled land in Grantville, Pennsylvania. 300 acres are certified organic and some

acres are in transition to organic. Different parcels of land are under various tillage operations, from conventional tillage to no-till. Kirby has tried a hairy vetch/wheat cover crop in the past but due to hot weather in August stand establishment was poor. This year he has planted a

field with five different types of cover crops including vetch and crimson clover to compare their winter hardiness.

A second field was seeded with various small grain cover crops, rye, from three different origins, along with triticale, and spelt. This experiment will evaluate the various small grain cover crops for their suitability to the region.

A message from Ruth: Looking Towards the Future

The spring-time rush will soon be upon us, so right now is an excellent time for all of us to plan ahead. We should keep an eye on our cover crops, having done all we can to make sure we got the best stand possible. As my advisor told me, a good cover crop is the key to success in this roller system. Communication is also important for this project. The regional component can make that difficult, since we

are geographically far apart. However, a multi-regional approach will aid our understanding of how the roller/crimper works in different conditions.

I would like you all to know that I am available for any questions, comments and concerns and am excited to learn along-side each of you. I am interested to see the possibilities that rolling cover crops have to offer! It will

certainly be fascinating to see how each of these trials turns out. I want to thank everyone for taking the time and effort to work towards making this project a success. It has and continues to be a great learning process for me.

It is a pleasure working with you all,

Ruth Mick
 PSU Graduate Student
 ram428@psu.edu



Dave, Kirby and Ruth look at the cover crops planted on Kirby’s farm.