WIU Cover Crop Innovator Project

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Hailing from small vegetable farms, large grain and livestock farms and even larger ranches, the 60 producers profiled in *The New American Farmer*, have embraced new approaches to agriculture.

They are renewing profits, enhancing environmental stewardship and improving the lives of their families as well as their communities.
Assignment for Soil and Water Conservation class  
Spring 2007

Read and comment on *one* of the following articles depending on your interests:

Profile of Ralph Upton in “The New American Farmer”  
http://www.sare.org/publications/naf2/upton.htm

Describe in a paragraph your reaction to this profile. Include answers to the following:

Which ideas did you find most interesting? Comment on the relationship between Upton and Extension Agent Mike Plumer. Comment on how the practices used by Upton compare with the practices used on your family’s farm or other farms with which you are familiar.
During the Fall of 2008, students in AGRN 378 (Soil Fertility and Plant Nutrition) at Western Illinois University interviewed 45 farmers in 5 states in the Midwest region who regularly use cover crops in agronomic cropping systems.

Contact information for potential interview candidates was obtained through the internet and extensive networking with farmers, USDA/university specialists, cover crop seed vendors and other ag professionals.

Interviews were conducted primarily by email and phone and information gathered through the interviews was presented in 1-3 page cover crop innovator profiles.
200 – 8000+ ac (avg. = 1630)

4 livestock producers (cattle and hogs)

7 wheat producers

5 long-term no-tillers

4 mixed organic/conventional
250 – 4000 ac (avg. = 2230)

All no-tillers with most committed to long term 100% no-till

3 livestock producers (hogs, turkeys, chickens and cattle)
130 – 2500 ac (avg. = 1140)

All but 2 raise livestock (cattle, hogs and sheep)

3 long-term no-tillers
300 – 1800 ac (avg. = 830)

3 wheat producers

2 no-tillers
Ohio Cover Crop Innovators
Farm Locations

900 – 3200 ac
(avg. = 2130)
+ 300,000 ac
Farm management company

All long-term no-tillers

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<tr>
<td>4</td>
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adopt ≠ adapt
The WIU Cover Crop Innovator project provided students with insights about cover cropping directly from innovative farmers maximizing 1) the credibility of the information and 2) student awareness that integration of cover crops within cropping systems can be beneficial but nearly always involves on-farm innovation.

Collaborating farmers shared information in a comfortable context (“talking shop” with young men and women who mostly grew up on farms) and gained access to information about and contact information for other cover crop innovators.
Drilling annual ryegrass into double crop soybean stubble – Winkle Farm
Phillips harrow equipped with a Valmar air seeder on DeSutter Farm
Preparing for aerial seeding annual ryegrass in OH
Aerial Seeding Turnips, Oats and Rye on Cliff Schuete’s farm in S. Illinois
Custom-built row cleaner – Hathaway farm in Veedersburg, IN
Students received CDs containing all of the CC Innovator profiles and quite a bit more!!!
A cover crop worth a look

By TOM J. BECHMAN

The Chattoos are known for their natural beauty, but what if you could add even more to that beauty? That's where cover crops come in. Cover crops are a type of crop that is grown between the seasons of annual crops, providing numerous benefits to the soil and the environment.

**Key Points**
- For annual vegetable use, maximize nitrogen uptake by planting cover crops.
- Cover crops can help prevent erosion.
- Cover crops can improve soil structure.

**Try covers again**

This season, the Chattoos are again experimenting with cover crops. They found that cover crops can help improve soil health and fertility, leading to better yields and more sustainable farming practices.

**Annual Ryegrass Cover Crop Reaches Depths To Aid Yields**

By RAY PENNIS

Cover crops are a key component of sustainable agriculture. They help to build soil health, increase biodiversity, and reduce erosion. One type of cover crop that is gaining popularity is the annual ryegrass cover crop.

The benefits of ryegrass cover crops are numerous. They help to feed the soil, improve water infiltration, and reduce the need for fertilizers. Additionally, they can help to reduce the impact of winter storms and heavy machinery on the soil.

Ryegrass cover crops are easy to grow and can be planted at any time of the year. They are also relatively inexpensive, making them a cost-effective option for farmers.

The annual ryegrass cover crop is a versatile crop that can be used in a variety of ways. It is particularly useful for improving soil health and fertility, and can be used as a forage crop for livestock.

In conclusion, cover crops like annual ryegrass can help improve soil health, increase biodiversity, and reduce the impact of winter storms and heavy machinery on the soil. They are an effective and cost-effective way to improve the health of your farm.

As the Chattoos continue to experiment with cover crops, they are finding new ways to improve their soil health and create a more sustainable future for their farm.
Oilseed Radish Cover Crop

Alan Sundermeier, Ohio State University Extension, Wood County, Ohio

Overview

Oilseed radish is a unique cover crop that farmers are planting to improve their soil quality for economic crop production. It has the ability to recycle soil nutrients, suppress weeds and pathogens, break up compaction, reduce soil erosion, and produce large amounts of biomass. Freezing temperatures of 20 to 25 degrees will kill oilseed radish which allows for successful no-till spring planting of subsequent crops. As a fast growing, cool season cover crop, oilseed radish is best utilized when planted after small grain (e.g., wheat) or corn silage harvest. Excess nutrients in manure amended soil are rapidly absorbed by this cover crop, thus preventing leaching or runoff of nutrients into water systems.

Description

Oilseed radish (Raphanus sativus L. var. oleiferus), belongs in the Brassicaceae plant family, commonly called mustards. The Daikon type of oilseed radish has a large, fleshy taproot that can grow 2 to 3 inches in diameter and one foot or more in length (Fig. 1), not including the fine root hairs that spread from the main taproot. Above ground growth consists of wide leaves that are soft, moist, and fast growing. The foliage reaches one to two feet in height in a semi-erect stature. Leaf stems easily break from the main root, therefore traffic or grazing will destroy plant growth (Fig. 2).

Fig. 1. Oilseed radish taproot compared to one foot ruler.

Planting Recommendations

As a cool season cover crop, oilseed radish is best suited for early fall growth. When given 60 days or more of plant development, maximum return on seed investment can be realized. Opportunities for planting oilseed radish in a cropping system would include:

- After small grain harvest (e.g., wheat)
- After vegetable or sweet corn harvest
- After corn silage harvest
- After early maturity soybean harvest

Seed is planted to a depth of one-half inch. Seed size is similar to alfalfa; therefore, when using a drill, a small seeder attachment is necessary. Broadcast seeding of oilseed radish can be done successfully if followed by light tillage incorporation. Having the soil level after cover crop potential for nitrogen leaching to ground water and gaseous losses. Nitrogen from an organic source such as cover crop residues or release fertilizer that can be closely controlled to crop demand for nitrogen, particularly cover crop is incorporated when it

Fig. 2. Succulent broad leaves on oilseed radish grow rapidly by utilizing excess nutrients in soil.

Fig. 3. Succulent broad leaves on oilseed radish grow rapidly by utilizing excess nutrients in soil.

potentially reduce wind and maintaining ground cover water and early spring drastically

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INNOVATOR PROFILES

Midwest Cover Crop Innovators
2008
All Sites
The Innovators page on the MCCC website was accessed 137 times during the first 2 weeks after it was created!
16 visits from Canada, 6 from New Zealand, and one each from a handful of other countries within several months.
Website traffic analysis using Google Analytics

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2009 WIU/Allison Organic Farm Field Day
Friday August 7th from noon - 4 pm

The Organic Agriculture Research program at Western Illinois University will be hosting its annual field day on Friday August 7th at the WIU/Allison Organic Farm and the neighboring Kane Farm in south-western Warren County, IL. The theme this year is Cover Crop Innovation. All attendees will receive a CD with profiles of over 40 organic and conventional grain farmers in the Midwest region that are cover crop innovators. Certified organic and conventional cover crop seed will be available for pick up at the field day at discounted prices for farmers that place orders in advance. Contact Andy Clayton (217) 322 2639 for more information about ordering seed.

The field day will start with a free lunch featuring local farm products. After lunch, a cover crop seed industry rep, an aerial applicator and a cover crop researcher will give short presentations and a farmer panel (including organic and conventional farmers) will answer questions about their experiences with cover crops. The field day will conclude with a walking tour of the research and production fields (including lots of cover crops) at the Allison Farm.
> 100 attendees despite a 3 hour deluge
Summary of 2009 Cover Crop Innovators

**States:**
Illinois (13), Iowa (6), Indiana (4), Ohio (3), Michigan (4), Nebraska (6), Wisconsin (3) and Missouri

Organic Production Practices: >10

Number of Women: 5
I now use interview projects in every class… for example, ~ 10 interviews were used to investigate each of the following topics:

Nutrient Management – Spring 2009

   Anhydrous Ammonia - the whole story
   Biosolids - where do the nutrients go when you flush?
   Crop/livestock disconnect - implications for nutrient management
   Finite mineral reserves - implications for nutrient management
   Super plants - how will new genetics change nutrient management?
   Hypoxia - agricultural problems and solutions
   Equipment for nutrient application
   Integrating weather into nutrient management
   Future of soil testing
   Nutrient management for contest winning yields
   Variable rate N
   Nutrient management for residential and commercial landscapes
Acknowledgements

First and foremost, the CC Innovator project would not be possible without the hardworking students of AGRN 378 and the accommodating farmers who have been willing to communicate about their experiences with cover crops, mostly right in the middle of very busy harvest seasons. THANK YOU!

Thank you to everyone that helped track down contact information for potential interview candidates – with special thanks to Dan Towery who provided an extensive list of contacts.

Thank you to Mike Plumer, Barry Fisher and other cover crop specialists/enthusiasts who contributed to the adoption of cover crops by many of the collaborating farmers.

Thank you to GIS specialist extraordinaire Amelia Fox for creating several sets of maps of the farm locations.

Thank you to everyone else that contributed to the CC Innovator project.