Cover Crop Education in Ohio

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ABSTRACT

Grain farming practices in much of Ohio currently leave soil susceptible to erosion and loss of nutrients during fall and winter months. Living plants are needed during this brown cycle of bare soil to sequester carbon, build organic matter, infiltrate rainfall, and stabilize manure and fertilizer nutrients. Improving soil productivity can be accomplished by improving soil quality, which can be done by using cover crops. By incorporating living covers into cropping systems, a more sustainable grain production can be maintained. Information is lacking for Ohio farmers to successfully utilize cover crops. The Ohio State University Extension has organized a team of Educators to focus on creating solutions to production problems associated with cover crop systems. A soil quality test kit (to order, e-mail islam.27@osu.edu) has been developed to measure active organic matter in the soil. This tool will allow farmers to better select cover crop production practices that improve soil quality. Research and demonstration projects which identify successful cover cropping systems are being conducted on-farm and at University research stations. Research results are shared at field days, workshops, seminars, and conferences throughout Ohio and the United States. Information from Ohio cover crop research is also available from Fact Sheets on the internet at http://ohioline.osu.edu and CDs can be purchased at http://estore.osu-extension.org/. Results of these cover crop educational efforts have shown knowledge gained ranging from 0.78 to 0.90 on a Likert Scale of 1 – 5 by 883 participants. Consequently, more Ohio land is being planted with cover crops.

WHY COVER CROPS ARE NEEDED

Cover Crops can prevent soil erosion

Cover Crops can cycle nutrients

MEASURING SOIL QUALITY BENEFITS

Soil Quality Test Kit

A simple test for active organic matter as a measure of soil quality

Poor soil quality	Fair soil quality	Good soil quality	Excellent soil quality
> 0 to 400 AOM lbs/A	> 400 – 800 AOM lbs/A	> 800 – 1600 AOM lbs/A	> 1600 AOM lbs/A
> 0 - 12 lbs available N/A	> 12 - 26 lbs available N/A	> 26 - 40 lbs available N/A	> 40 lbs available N/A

Soil quality, active organic matter (AOM), and available N color chart

Cover Crops Can Improve Soil Quality by Increasing Active Organic Matter.

To order test kit : send e-mail to islam.27@osu.edu

COVER CROP RESEARCH

Long term No-till Continuous Cover

Soil Compaction & Cover Crops

Manure & Cover Crops

Homegrown Nitrogen

Date of Planting

Crop Rotations

Species Screening

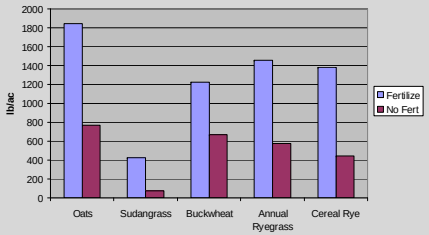
Dave Brandt & Oilseed Radish

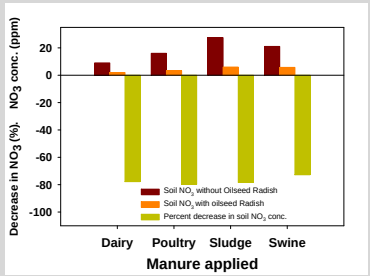
FIELD DAYS DEMONSTRATE COVER CROP BENEFITS

Hands-on activites include:

- Earthworm counts
- Soil compaction reading
- Aggregate stability
- Water infiltration
- Soil nitrate testing
- Chlorophyll tissue test

RESEARCH RESULTS





FACTSHEETS CREATED

http://ohioline.osu.edu/

CD FOR SALE

http://estore.osu-extension.org/

COVER CROP PRESENTATIONS

National No-Till Conference

Ohio No-Till Conference

American Society of Agronomy International Meetings

Soil & Water Conservation Society International Meetings

All Ohio Chapter Soil & Water Conservation Society

Conservation Tillage & Technology Conference

Water Management Association of Ohio

Midwest Cover Crop Council

Numerous Field Days and Crop Production Meetings throughout Ohio

IMPACT

Level of Knowledge Gained

Likert Scale: 1=Disagree, 3=Neutral, 5=Agree

Conservation Tillage and Technology Conference
Ada, Ohio

Cover Crop Topics – 0.9 Knowledge gain
Attendance = 768

Soil Quality Workshops
Bowling Green & Wooster, Ohio

Cover Crop Effects on Soil Quality – 0.78 Knowledge gain
Attendance = 115

CONTACT INFORMATION

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