Global Partnership on Nutrient Management

BMP Case Study

Overview

Name: Great Lakes Cover Crops Initiative
Location/Terrain: Lake Michigan, Lake Erie and Lake Huron basins
Crop(s): Cover Crops
Nutrient(s): Agricultural Pollution
Rationale: Demonstrate the effectiveness of cover crops within conservation tillage systems

Issue(s) of Concern/Challenges:
This project is addressing the concerns surrounding agricultural pollution and runoff as a result from tillage.

Practice Objectives:
The objective of this project is to demonstrate the effectiveness of cover crops within conservation tillage systems. The project aims to decrease agricultural pollution and inform producers about the economic benefit of these systems.

Practice Description:
Funded by the U.S. Environmental Protection Agency’s Great Lakes Restoration Initiative (GLRI), the Great Lakes Cover Crop Initiative will help producers in the Lake Michigan, Lake Erie and Lake Huron basins plant 15,000 acres of cover crops and conservation tillage systems. The Conservation Innovation Technology Center (CTIC) will provide producers technical, educational and social support so they may fully understand the benefits of this system, how to incorporate practices into their operation, how to evaluate the charges and adapt management to optimize yield and resource protection.

This project included 18 workshops and the following activities:
- Crop consultants who helped producers write a conservation agriculture/nutrient management plan and work with them to successfully implement these practices;
- Social support networks through an email list serve;
- Participation in the 2013 National No-Till Conference and CTIC’s Cover Crop Summit, hosted in the Western Lake Erie basin; and the
- CTIC website that features producers’ experiences with cover crops and conservation tillage along with the results of the Cover Crop Survey.

Outcomes:
The end outcome is to reduce agricultural pollution in the Lake Michigan, Lake Erie and Lake Huron basins. The number of meetings where project team members presented totaled 111, reaching 5,524 people. The actual acres planted were 37,000, resulting in a reduction of 73,000 pounds nitrogen, 24,000 pounds phosphorus and sediment reduction of 2,888,000 pounds.

Significance:
This project adopts a multidimensional approach to agricultural conservation and leverages a diverse range of technical and social outlets.
Map Showing Total GLCCI Cover Crop Acres Planted by County

Final STEPL Load Reduction Calculations and Acreage Figures by Year

<table>
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<tr>
<th>Year</th>
<th>Acres</th>
<th>N Reduction</th>
<th>P Reduction</th>
<th>BOD Reduction</th>
<th>Sediment Reduction</th>
<th>%N Reduction</th>
<th>%P Reduction</th>
<th>%BOD Reduction</th>
<th>%Sed Reduction</th>
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<td>2010</td>
<td>6217</td>
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<td>4,808.65</td>
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<td>2011</td>
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<td>2,526.55</td>
<td>743.37</td>
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<td>0.058163%</td>
<td>0.001754%</td>
<td>0.051446%</td>
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<td>2012</td>
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<td>2013</td>
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<td>2,847.76</td>
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<tr>
<td>Totals</td>
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<td>24,126.20</td>
<td>9,243.97</td>
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Load Reduction and Cover Crop Planting Charts

*Figure 14. Cumulative cover crop acres planted through GLCCI.
We Need your Help

Introduction

Best Practice Summary

Initial Key “Hot Spot” Nutrient Management

have increased almost nine times since 1969.1

stressed coastal ecosystems, which is directly linked to “dead zones” of low oxygen. These hypoxic “dead zones”

food by 2050 than currently produced to sustain a world population of 9 billion. There is widespread scientific

caused by nutrient pollution worldwide.

build capacity at the country level which fosters effective

policy and investment interventions to address the threats

Programme recently launched a project entitled, “Global

the purpose of this project is to

management best practices and policies in key “hot spots”

promotion of nutrient

foundations for reducing nutrient enrichment and

oxygen depletion from land based pollution, in

conservation and sustainable management of our soil health and water resources. The Global Environment

studies of successful or unsuccessful practice (in order to draw lessons what needs to be avoided) and project

underlying policy foundation.

farmers in the developing world to scale-up and implement nutrient management best practices and establish an

Global Environment Facility and UN Environment

The 2009 the World Food Summit on Food Security stated that the world must produce 70 percent more

Proper nutrient management best practices must be scaled-up to ensure the long-term stewardship,

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