Yahara Pride Farms 2022 Phosphorus Reduction Report

Yahara Pride Farms Board of Directors

May 30, 2023

Executive Summary

In 2022, there were ten Yahara Pride Farm Cost Share Program practices offered within the watershed. The 2022 conservation practices cost shared were:

1. Planting an over-wintering cover crop (OWCC)
2. Planting a non-over-wintering cover crop (NOWCC)
3. Low disturbance deep tillage and cover crop (LDDT+CC)
4. Low Disturbance Manure Injection (LDMI)
5. Strip tillage
6. No-tillage, planting into soybean stubble, cover crops, or alfalfa only
7. Deferred termination of alfalfa until spring
8. Seeding grass with alfalfa, eligible on highly erodible land only
9. Winter headland stacking of manure
10. Composting manure

Each of these programs offers unique benefits from a phosphorus (P) reduction standpoint as well as educational and confidence and trust building within the Yahara Watershed.

This report provides an update on the number of acres, fields, and farmers involved in each of these Cost Share Program practices. The SnapPlus Water Quality P Trade Report was used to determine the reduction in P loss and the P Trade Report is calculated using the Wisconsin Phosphorus Index (P Index) equation within the SnapPlus computer model.

The P Trade numbers are different than the P Index numbers in that the soil used for the P Trade calculations is the predominant soil rather than the dominant critical soil. The P Trade calculations do not run as a rotation, rather soil loss is calculated for each field in a sequence of years. The P Trade Report provides an estimate of the pounds of P prevented from reaching the nearest waterbody. The nearest waterbody would in most cases be streams and rivers.

This report provides the data and summary information for the 68 farmers, an increase from 63 in 2021, who provided SnapPlus plans to Yahara Pride Farms (YPF) for evaluation of the impact of its Cost Share Program. In 2022, there were eight new farmers in the program as well as a few previous participants who decided not to participate this year.

The information provided in this report is based on the difference in predicted P loss from the adoption of a conservation practice. The 2022 data is based on the plans provided to YPF by the farmers or their crop and nutrient management consultants.

The data presented in this report are derived from the individual farmer's nutrient management plan, which considers tillage, crop rotations, and nutrient applications from manure and fertilizer and crop yields. This is the best representation of what is happening on the farms that participated in the Yahara Pride Farms Cost Share Program. Each farm and field have unique characteristics that influence yields,

the tillage system, and the risks for sediment and nutrient loss. That is why we see such a large variation in losses within this data set.

Additional work should be done to accurately reflect the cost that farmers assume in adopting these conservation systems. Protecting water quality is important to everyone, and everyone needs to be part of the solution.

Introduction

First and foremost, thank you to the farmers who participated in the Yahara Watershed Program and for working with Yahara Pride Farms (YPF) and Yahara Watershed Improvement Network (WINS) to implement practices that reduce the potential for P loss to the streams and rivers that contribute water to the Yahara streams, rivers, and lakes. The farmers in this area continue to be supportive of Yahara Pride Farms and continue to seek alternative farming systems and conservation practices that reduce P and sediment loss.

This report shows how hard every participating farmer works to keep soil and nutrients in their fields and out of our water. Farmers are the heart and soul of the Yahara Pride Farms Cost Share Program, and we are thankful for their efforts.

YPF and the farmers in the Yahara Watershed also are indebted to the Yahara Watershed Improvement Network (Yahara WINs), led by the Madison Metropolitan Sewerage District (MMSD), which started in 2012 as a four-year pilot project to reduce P loads and meet more stringent water quality standards established by the Wisconsin Department of Natural Resources (DNR).

This groundbreaking program employs watershed adaptive management, a strategy in which sources of P pollution in an area work together to meet water quality goals. This strategy is more effective and less expensive than the sources working separately on individual solutions. Partners in Yahara WINs include cities, villages, towns, wastewater treatment plants, agricultural producers, environmental groups, and others.

Also, thank you to the businesses and organizations that provide support, both financial and in-kind, to YPF. It takes people and money to offer this Cost Share Program, provide certification, and commit to outreach and educational events, and we wouldn't be able to do it without sponsorship support.

This farmer-led watershed approach has become a model for others around the state because it has offered programs and hosts events based on sponsorship support. Thank you for being an important part of the Yahara Pride Farms.

Finally, thanks to the members of the YPF Board of Directors and the staff who have worked with them over the years. The guidance and support have shaped this Cost Share Program and we cannot thank you enough for the time you committed to this organization.

Yahara Pride Farms, Inc., Board of Directors

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Programs Offered in 2022

The Yahara Pride Farms Cost Share Program offered 10 practices for farmers to implement farming systems that reduce the risk of P loss to lakes and streams. The purpose of these practices is to increase the implementation of conservation designed to reduce the loss of P within the Yahara Watershed.

The conservation practices cost shared in 2022 were:

1. Planting an over-wintering cover crop (OWCC)
2. Planting a non-over-wintering cover crop (NOWCC)
3. Low disturbance deep tillage and cover crop (LDDT+CC)
4. Low Disturbance Manure Injection (LDMI)
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9. Winter headland stacking of manure
10. Composting manure

Each of these practices offered unique benefits from a P reduction standpoint as well as from an educational and confidence and trust building perspective within the watershed.

Methodology

This report provides an update on the number of acres, fields, and farmers involved in each of these programs. The SnapPlus Water Quality P Trade Report was used to determine the reduction in P loss. The P Trade Report is calculated using the Wisconsin Phosphorus Index (P Index) equation within the SnapPlus computer model.

The P Trade numbers are different than the P Index numbers in that the soil used for the P Trade calculations is the predominant soil rather than the dominant critical soil. The P Trade calculations do not run as a rotation, rather soil loss is calculated for each field in a sequence of years. The P Trade Report provides an estimate of the pounds of P prevented from reaching the nearest waterbody. The nearest waterbody would in most cases be streams and rivers.

What the Data Represents

This report provides the data and summary information for the 68 farmers, an increase from 63 in 2021, who provided SnapPlus plans to YPF staff for evaluation of the impact of its Cost Share Program. Reviewing the past four years, the program has grown from 45

farmers in 2019, 58 farmers in 2020, 63 farmers in 2021, and 68 farmers in 2022. Eight new farmers signed up for the Cost Share Program. Three farmers who participated in past years did not participate in 2022.

The information provided in this report is based on the difference in predicted P loss from the adoption of a conservation practice. The 2022 data is based on the plans provided to YPF staff by farmers or their crop and nutrient management consultants.

In years past, the change in the risk of P loss was calculated using the change in the annual P index. The data was standardized to include the past six years of data. In late 2022, Yahara WINS received directive from the Wisconsin DNR requesting that partners in the Yahara Adaptive Management effort adjust their SnapPlus P accounting methods to use the Water Quality P Trade Report within SnapPlus.

Yahara Pride Farms staff quickly pivoted to meet this need, but with that comes a significant reduction in the pounds of P reduced per practice and per acre. The calculation alone has changed, not the practice nor its conservation impact.

The data presented in this report are derived from the individual farmer's nutrient management plan, which considers tillage, crop rotations, and nutrient applications from manure and fertilizer and crop yields. This is the best representation of what is happening on the farms that participated in the Yahara Pride Farms Cost Share Program. Each farm and field have unique characteristics that influence yields, the tillage system, and the risks for sediment and nutrient loss. That is why we see such a large variation in losses within this data set.

Summary of Phosphorus Reductions for Each Cost Share Program

Overwintering and Non-overwintering Cover Crops

From 2013 though 2019, overwintering and non-overwintering cover crops were combined under one payment. In 2020, the practices were split into two distinct cost share options. For this report, we have combined the two practices into one for the purpose of calculating total P reductions.