

2023 Phosphorus Reduction Report



Yahara Pride Farms Board of Directors
May 17, 2024

Executive Summary

In 2023, there were 10 Yahara Pride Farm Cost Share Program practices offered within the Yahara Watershed. The 2023 conservation practices cost shared were:

1. Planting an over-wintering cover crop
2. Planting a non-over-wintering cover crop
3. Low disturbance deep tillage and cover crop
4. Low disturbance manure injection
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 of manure

Each of these practices offers unique benefits both from a P reduction standpoint as well as from an educational and confidence/trust building perspective within the Yahara Watershed.

This report provides an update on the number of acres, fields, and number of farmers involved in each of these Cost Share Program practices. The SnapPlus Water Quality Phosphorus 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.

This report provides the data and summary information for the **78 farmers, an increase from 68 in 2022**, who provided SnapPlus plans to Yahara Pride Farms for evaluation of the impact of its Cost Share Program. **In 2023, there were 13 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 2023 data is based on the plans provided to Yahara Pride Farms 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 in the Yahara Watershed for working with Yahara Pride Farms and Yahara 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 support 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 one of the participating farmers 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. Thank you.

Yahara Pride Farms 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, which began 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. This program employs watershed adaptive management, a strategy in which all sources of P pollution in an area work together to meet water quality goals. 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 who provide support (financial and in-kind), to Yahara Pride Farms. It takes people and money to offer the cost share and certification programs and the outreach and education activities at events. We wouldn't be able to do it without this support.

This farmer-led watershed approach has become a model for other groups around the state because Yahara Pride Farms has been able to offer programs and events based on your support. Thank you for being an important part of the Yahara Pride Farms program.

Finally, thank you to the members of the Yahara Pride Farms Board of Directors and the staff who have worked with us during the past years. Your guidance and support have shaped this 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 2023

The Yahara Pride Cost Share Program offered 10 opportunities 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 practices designed to reduce the loss of P within the Yahara Watershed.

The conservation practices cost shared in 2023 are:

1. Planting an over-wintering cover crop
2. Planting a non-over-wintering cover crop
3. Low disturbance deep tillage and cover crop
4. Low disturbance manure injection
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 practices offers unique benefits from a P reduction standpoint as well as from an educational and confidence/trust building perspective within the Yahara Watershed.

Methodology

This report provides an update on the number of acres, fields and farmers involved in each of these practices. The SnapPlus Water Quality Phosphorus 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, in most cases, would be streams and rivers.

What the Data Represents

This report provides the data and summary information for the **78 farmers in 2023** who provided SnapPlus plans to Yahara Pride Farms 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 farms in 2020, 63 farms in 2021, 67 farms in 2022, to 78 farms in 2023. **13 new farmers signed up for the Cost Share Program.** 11 farmers who participated in the past years did not participate in 2023. The information provided in this report is based on the difference in predicted P loss from the adoption of a conservation practice. The 2023 data is based on the plans provided to Yahara Pride Farms by farmers or their crop 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 Phosphorus Trade Report within SnapPlus.

Yahara Pride Farms 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 takes into account 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 participate in the Yahara Pride Cost Share Program.

Each farm and field have unique characteristics that influence yields, tillage systems, and risks for sediment and nutrient loss. That is why we see large variations in losses within this data set.

Summary of Phosphorus Reductions for Each Cost Share Practice

In 2023, farmers who participated in the Yahara Pride Farms Cost Share Program implemented **29,034 acres** of conservation practices, reducing the delivery of P to area waters by an estimated **31,217 pounds**.

This represents an approximate **9% increase from 2022** in both acres of conservation and pounds of P kept on the landscape and out of area surface waters.