

PROCEEDINGS OF THE 1993
FERTILIZER, AGLIME AND PEST MANAGEMENT CONFERENCE

19-21 January 1993, Holiday Inn - Madison West
Middleton, Wisconsin

Volume 32

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CREDITS

Appreciation is expressed to the Wisconsin fertilizer industry for the support provided through the Wisconsin Fertilizer Research Fund for research work conducted by staff members in the Departments of Soil Science and Agronomy. Appreciation for the financial support from the Wisconsin Aglime Association through the tonnage fee for research work on aglime is also gratefully expressed.

The professionalism shown by Mary Kay Acker and Carol Duffy in typing portions of this document and in helping organize its preparation is acknowledged and appreciated.

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CASE STUDIES OF WHOLE-FARM NUTRIENT CYCLING

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Abstract

The University of Wisconsin's Nutrient and Pest Management Program began a whole-farm soil nutrient and agrichemical budgeting project in September of 1991 on three dairy farms in Wisconsin. This project, which is funded through the USDA and EPA grants program called Agriculture in Concert with the Environment (ACE), is designed to develop and evaluate a whole-farm systems approach to sustainable agriculture. The objective of this project is to maximize the efficient use of on-farm nutrient resources and pest management principles that will improve farm profits while protecting Wisconsin's soil and water resources. The topic of whole-farm nutrient cycling is one of several issues this project addresses.

The three farms cooperating in this project are the William Thull Farm located near Kewaskum in Washington County, the John and Annette Guttman Farm located near Grafton in Ozaukee County and the Lee and Tammy Montgomery Farm in Lafayette County. These farms range from 96 acres to 1,200 acres, with dairy herds ranging from 30 cows to 240 cows. All three farms have a typical corn, oats, alfalfa rotation.

Intensive collection of baseline data was accomplished from September 1991 to September 1992. (The term baseline is to indicate that no changes have been made to the farm operation prior to this data collection. During the season of 1993, changes to the current farming operation will be made to maximize the use of on-farm nutrient sources.) These data included soils tests on all fields, records on all crop production inputs (farm derived and purchased); equipment used for harvest, tillage, planting, and agrichemical application; time spent on farm operations; forage yields and quality; and grain yields. A complete crop scouting record for all fields was also part of the baseline data collected.

As of the date of this paper, data analysis is in the preliminary stages. We are collecting year end records on milk production, purchased feeds, grain sold off the farm, etc. Once this information has been collected and analyzed, a detailed diagram of whole-farm nutrient cycling will be possible. This detailed diagram will be made available at the conference.

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