RESEARCH ABSTRACT

ENVIRONMENT

Title: Demonstrating Innovative Use of Precision Farming Technologies to Optimize Manure Nutrient Utilization and Reduce Environmental Concerns **- NPB #06-120**

Investigator: Dr. Richard Wolkowski, Soil Scientist

Institution: University of Wisconsin-Madison

Co-Investigator: Mr. James Leverich, On-Farm Research Coordinator

Date Submitted: February 8, 2008

Abstract

The uniform application of manure is difficult and often leads to questions of available nutrient credits. For these reasons farmers and their consultants often discount the value of these nutrients and over-apply nutrients to ensure their crops have adequate nutrients to maximize yields (Nowak et al., 1998). In this research project we have begun to demonstrate and research how Precision Farming Technologies can be used to optimize manure nutrient utilization and reduce environmental impacts. We have linked sampling of manure to manure application and recording with the use of precision agriculture equipment. We have also used GIS controlled steering systems to evaluate how broadcasting or banding swine or dairy manure under or in the middle of the rows effect corn yields.

With this research we have been able to demonstrate how Precision Agriculture Technologies can be linked together to accurately apply manure and more accurately record manure nutrients applied. We can then use this nutrient application information to accurately develop prescription maps for applying additional nutrients to fields to maximize yields and minimize environmental concerns. .