



Great Lakes Protection Fund

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## Funded Project

# A Phosphorus Soil Test Metric for Reducing Dissolved Phosphorus Loads

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Project No.	833
Timeline	2007 – 2016
Award Amount	\$947,000
Team Leader	Heidelberg University
Project Website	<a href="http://lakeeriealgae.com/">http://lakeeriealgae.com/</a>

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Algal blooms

rate, right time, right amount, right place).

This team developed new ways to measure phosphorus levels in soil, helping farmers to limit unnecessary phosphorus additions on fields and save money in the process. They developed and finalized the protocols for stratified soil testing and developed a toolbox of management options that allow farmers to take action on the land based upon detected phosphorus levels. The team worked with hundreds of people representing all members of the ag supply chain to develop the largest soil data sets on the topic of phosphorus stratification (including analysis of 4,270 soil samples). They were among the first to understand that most dissolved reactive phosphorus (DRP) accumulates in the top two inches of soil. Their work resulted in soil stratification being incorporated into the revised Ohio Phosphorus Index and in the ag industry's 4R certification program (right

The team made significant contributions to, and have become important voices on, the topic of phosphorus stratification in soils and on phosphorus transport and its impacts on water quality. The team carefully assessed changes to long-accepted practices – like reduced tillage agriculture – which had been assumed to be beneficial but, which instead, may be contributing to DRP loading to Lake Erie.

Team members were directly involved in the initiation of the Ohio Lake Erie Phosphorus Task Force. They also participated in the deliberations for the Ohio Lake Erie Phosphorus Task Force II and the Great Lakes Water Quality Annex 4 Objectives and Targets Task Force that included calling for a 40% reduction in the DRP target loads to the lake. Through all of these deliberations, the team conveyed the results of the stratified sampling program to task force members. With the 2014 Toledo water crisis and the most extensive algae blooms in 2015, team members were frequently called upon for interviews and for input into phosphorus control programs.

To learn more about phosphorus pollution and the health of Lake Erie visit: <http://lakeeriealgae.com/>.

The team's work on soil stratification can be found at: <http://lakeeriealgae.com/phosphorus-stratification/>.