

# The Vertical Redistribution of Phosphorus Under Five Midwestern Farming Systems. (S02-meyer687082-poster)

## Authors:

- J.M. Meyer\* - *Univ. of Wisconsin*
- M. Avila-Segura - *Univ. of Wisconsin*
- J.L. Posner - *Univ. of Wisconsin*
- P.W. Barak - *Univ. of Wisconsin*

## Abstract:

In recent years, eutrophication of surface waters has brought agricultural phosphorus to the forefront of environmental concerns. The Wisconsin Integrated Cropping System Trials were established in 1989 with various cropping systems, "best management" practices, and purposeful P drawdown, in an effort to lower input levels and reduce environmental impact while maintaining productivity and profitability. At the Arlington, WI site, 1-m soil cores were taken from five cropping systems, including continuous corn, corn/soybean, corn/soybean/wheat and red clover, corn/alfalfa/alfalfa/alfalfa, and pasture, the latter two treatments with manure amendments. Soil cores were sectioned to a resolution of 1-cm and labile P, solution P (including heavy liquid displaced soil solution), and P sorption curves were determined. Analysis of vertical P distribution show considerable trend and nonuniformity in the upper 20-cm, casting doubt on the meaningfulness of average soil test P values. Displaced soil solution P was strongly correlated with  $C_0$  from sorption experiments and the P buffer capacities were inversely related to  $C_0$  and soil solution P. Bray P was loosely correlated with  $C_0$  and soil solution P and inversely correlated with buffer capacity.

**Speaker Information:** Juliane Meyer, Univ. of Wisconsin, 1525 Observatory Drive, Madison, WI 53706-1299; Phone: 608-262-0397; E-mail: julianemeyer@wisc.edu

**Session Information:** Tuesday, November 4, 2003, 4:00 PM-6:00 PM

**Presentation Start:** 4:00 PM (Poster Board Number: 1514)