The Effect of Swine Manure and Biosolid Application on the Interaction of Phosphorus and Molybdenum in Iowa Soils. (S11-hernandez160812-Poster)

Authors:

- J.D.Hernandez - *Iowa State University*
- R.Killorn - *Iowa State University*

Abstract:

There is concern about the possible effects of application of swine manure and biosolids to high P test soils. Increasing P in the soil environment and accumulating metals such as molybdenum may cause molybdenosis in ruminants. The purpose of this study was to determine the effect of swine manure and biosolid applications on the mobility of phosphorus and molybdenum in a plant-soil system. Biosolids, swine manure and triple super phosphate (TSF) were applied to a soil with high STP at three different rates. Soybean and corn were planted and the following year the crops were rotated. Soils (Olsen) plants (Nitric acid/Hydrogen peroxide) and water (0.01 M CaCl2) were analyzed for P. Preliminary data show that the rate of application did not increase measurable P in plants or soils. There were differences due to the P source in both soybean and corn. P was always higher where TSF was applied than in swine manure and biosolid treatments. Dry weight of both crops before formation of reproductive structures was lower in the TSF treatments. Plant yields did not respond to P addition. Molybdenum data will be presented.

Corresponding Author Information:

Randy Killorn
Iowa State University
3208 Agronomy Hall
Ames, IA 50011

phone: 515 294 3433
fax: 515 294 9985
e-mail: rkillorn@iastate.edu

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