Immobilization of soluble phosphorus in wastewater-irrigated soil using water treatment residue and chemical amendments. (S11zvomuya092146-Poster)

Authors:

- F.Zvomuya University of Minnesota
- C.J.Rosen University of Minnesota
- S.C.Gupta University of Minnesota
- P.S.Conklin University of Minnesota

Abstract:

Land application of potato-processing wastewater during the winter when soils are frozen and no crops are growing may result in a build-up of soil phosphorus (P) levels and subsequent pollution of surface and ground waters. This experiment was initiated to investigate the efficacy of chemical amendments (alum, ferric chloride, and calcium carbonate), water treatment residue, and sugar beet lime on the immobilization of soluble P in a soil that had been irrigated with potato-processing wastewater for several years. Different rates of the amendments were mixed with 100 g of soil and incubated in the laboratory for 63 d at 25 C. The soils are being tested for water-extractable P, Bray-1 P, pH, and electrical conductivity after 21, 42, and 63 d of incubation. Results from this study will be used to identify suitable amendments and rates for remediation of P-enriched soils at a wastewater irrigated site in northern Minn., particularly in depression areas where P accumulation is highest.

Corresponding Author Information:

Francis Zvomuya University of Minnesota 439 Borlaug Hall, 1991 Upper Buford Circle St. Paul, MN 55108 phone: (612) 625-1968 fax: (612) 625-2208 e-mail: fzvomuya@soils.umn.edu

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