# Leaching and Runoff of Nitrogen and Phosphorus from a Manured Field Crop Experiment. (S11-toth112203-Poster)

**Authors:**

- J.D.Toth - *University of Pennsylvania*
- Z.Dou - *University of Pennsylvania*
- J.D.Ferguson - *University of Pennsylvania*

## Abstract:

A multi-year field-scale nutrient leaching project was modified in 2002 to include a second soil percolate sampler design and runoff collection subplots. The first phase of the project involved wick lysimeter leacheate collection from replicated plots planted with alfalfa, corn or orchardgrass, receiving nitrogen (N) and phosphorus (P) inputs provided by fertilizers or animal manures. Dairy manure was applied at rates based on crop N or P requirements, with fertilized and no N or P input control plots for comparison. Four-year volume-weighted leachate nitrate-N concentrations did not differ significantly by nutrient treatment for the alfalfa or grass crops, and ranged from 8 to 20 mg/L. In corn, the fertilizer and P-based manure treatments had significantly higher nitrate-N concentrations (15 and 19 mg/L) than the control (9 mg/L). In all crops, after three years of manure applications, soil test P measured in Mehlich-3 extracts increased significantly in the surface 5 cm of soil in the N-based manure treatments, compared to the other three treatments. Initial results collected from the newly installed pan lysimeters and runoff subplots will be reported.

**Corresponding Author Information:**

John Toth
University of Pennsylvania
New Bolton Center
Kennett Square, PA 19348

phone: 610-444-5800
fax: 610-925-8123
e-mail: toth@cahp.vet.upenn.edu

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