

Piketon Swine Manure Leaching Study 2010

Written By:

**James Hoorman, Graduate Student &
Stacey Reno**

Research Assistant
OSU South Centers
1864 Shyville Road
Piketon, OH 45661
(740) 289 - 2071

Research Title: Continuous No-Till & Cover Crop Effect on Reactive Nitrogen and Phosphorus Leaching from Manure Applied Fields under Corn-Soybean Rotation

Soil Sample Collection & Analyses: (Monthly Sampling Schedule)

Experiment Baseline Data: 5/5/2010

- Bulk Density
- Moisture Content
- Active Carbon
- Ec & pH
- Particulate Organic Matter – TC & TN
- Microbial Biomass Carbon
- Nitrate
- Ammonium
- Phosphorus
- Basal Respiration
 - CO₂ Evolution
 - Soil Microbial Carbon, Nitrate, Ammonium & Phosphorus
- Total Carbon & Nitrogen

2nd Sample Set Data: 6/24/2010

- Bulk Density
- Moisture Content
- Soluble Carbon
- Nitrate
- Ammonium
- Phosphorus

3rd Sample Set Data: 7/29/2010

- Bulk Density
- Moisture Content
- Soluble Carbon
- Nitrate

- Ammonium
- Phosphorus

4th Sample Set Data: 8/26/2010

- Bulk Density
- Moisture Content
- Soluble Carbon
- Nitrate
- Ammonium
- Phosphorus

5th Sample Set Data: 9/29/2010 – In Progress

- Bulk Density
- Moisture Content
- Soluble Carbon
- Nitrate
- Ammonium
- Phosphorus

Water Sample Collection & Analyses:

Weekly Sample Collection Dependent on Rainfall:

- Nitrate
- Ammonium
- Phosphorus

Gas Sample Collection & Analyses:

1st Sample Set Data: 7/17/2010

- Nitrous Oxide Determination w/ GC
- Methane Determination w/ GC
- Carbon Dioxide Determination w/ GC

2nd Sample Set Data: 8/17/2010

- Nitrous Oxide Determination w/ GC
- Methane Determination w/ GC
- Carbon Dioxide Determination w/ GC