

## Soil Science Divisions

### Adsorption-Desorption Kinetics of Atrazine on Soil Constituents and Soils. L. TANG\* and D. L. SPARKS, Univ. of Delaware.

Groundwater pollution from agricultural organic chemicals has become an important national and global concern. Adsorption-desorption of pesticides is critical in controlling the concentration of pesticides in the soil solution and thus the amount that will be leached. Equilibrium and kinetic aspects of atrazine adsorption-desorption were investigated on humic acid, montmorillonite, vermiculite, goethite, humic acid-coated samples and two Delaware soils. The equilibrium studies were carried out using a batch technique. Adsorption-desorption kinetic studies were investigated using a stirred-flow technique. Our results indicated that adsorption of atrazine on humic acid was considerably higher than on montmorillonite and vermiculite. Adsorption of atrazine on goethite was negligible. Humic acid coatings significantly increased atrazine adsorption on montmorillonite and goethite. Atrazine adsorption-desorption on montmorillonite was completely reversible and much faster than on humic acid.