Use of the Resin Core Method of Measuring N Mineralization in Whole Farm N Budgets. (S08barry114144-Poster)

Authors:

- D.A.J.Barry* University of Guelph
- S.E.Burr University of Guelph
- M.J.Goss University of Guelph

Abstract:

A major limitation in improving the efficiency of nitrogen use in farm fields is our lack of ability to predict the temporal and spatial distribution of N mineralization from organic N sources such as legume residues and applied manure. Estimates of supplemental N fertilizer requirements may consequently be too high and result in increased risk of N leaching to groundwater. A simple and potentially economical method of measuring N mineralization in farm fields is the resin core method. It is an in-situ incubation of a soil core over a layer of ion exchange resin that captures inorganic N leaching from the core. We will test the usefulness of the resin core method for providing N mineralization data for use in field and whole farm N budgets. Cores will be incubated in various fields during fall 2002 to spring 2003, at farms varying in cropping practice and manure use. The data will be used in N budgets constructed from data collected over the last five years on these farms in a study on N use efficiency. It is hoped that the N budget method and the resin core method can be combined into a practical tool for farmers to use to help them improve N use efficiency on the farm.

Corresponding Author Information:

Dean Barry University of Guelph Department of Land Resource Science Guelph, ON N1G 2W1 Canada phone: 519-824-4120 ext 4263 fax: 519-824-5730 e-mail: dbarry@lrs.uoguelph.ca

Presentation Information:

Presentation Date: Monday, November 11, 2002 Presentation Time: 4:00-6:00 pm Poster Board Number: 1533

Keywords: nitrogen mineralization, resin core method, farm N budget, N leaching