# Scaling-up Estimates of Greenhouse Gas Sinks and Emissions for Canada. (S05-brierley104709-Oral)

#### Authors:

- J.A.Brierley \* Agriculture and Agri-Food Canada
- G.T.Patterson Agriculture and Agri-Food Canada
- B.G.McConkey Agriculture and Agri-Food Canada
- C.M.Monreal Agriculture and Agri-Food Canada

# Abstract:

Estimating soil carbon change and nitrous oxide emissions from Canadian agricultural soils in a transparent and systematic manner is required for the United Nations Framework Convention on Climate Change and the Kyoto Protocol. The level of these Greenhouse Gas (GHG) sinks and emissions are also indicators of environmental health. A multi-disciplinary team of Agriculture and Agri-Food Canada, Natural Resources Canada, Environment Canada, and University scientists are involved in developing a National Carbon and Greenhouse Gas Emission Accounting and Verification System (NCGAVS) for agriculture to address this issue. One of the goals of NCGAVS is to extrapolate site-specific values determined from models, to regional and national levels. Soil Landscapes of Canada (SLC), 1:1 000 000 scale polygons, are the reporting unit for attributes critical to this modeling exercise. Net GHG emission and sequestration values can be determined for each polygon. Because SLC polygons are nested within a National Ecological Framework, it is possible to further generalize the data to create a broader picture of the GHG sink / emission potential for the agricultural land base of Canada.

### **Corresponding Author Information:**

Tony Brierley Agriculture and Agri-Food Canada #206, 7000 - 113 Street Edmonton, AB T6H 5T6 Canada phone: (780) 427-3781 fax: (780) 422-0474 e-mail: tony.brierley@gov.ab.ca

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