

## Graduate Studies (PhD) Opportunity

### **Soil organic carbon storage and deficit as influenced by soil type and depth and farm management regime**

Supervisor: Dr. Derek Lynch, Department of Plant, Food, and Environmental Sciences

**Project Description:** Maintenance of soil organic carbon (SOC) is critical to both climate change mitigation and adaptation, and soil health. The maintenance of SOC levels is particularly critical in the often shallow and sloped agricultural soils of Atlantic Canada where past practices have resulted in a decline in SOC levels, representing a significant limitation to the productivity and sustainability of these soils. Through utilization of long-term research trials and on-farm sites, and across soil types characteristic of the region, the research will examine the potential for SOC storage in both surface and sub-surface soil as influenced by management regime. Through SOC fractionation, C isotopic and other techniques, the research will provide a critical examination of models for prediction of SOC storage capacity, while elucidating the influence of inherent and dynamic soil properties on active SOC pools linked to soil health. On a subset of farm sites varying in intensity of management and forage utilization, soil SOC status and dynamics will be linked to testing and validation of existing whole-farm models characterizing farm level C dynamics. Applicants should hold a Master's degree with a strong background in natural or agricultural sciences. Expertise in agriculture, plant and soil science is desired.

**Start Date:** May, 2017 (preferred) or Sept. 2017

**Stipend:** \$24,000/yr for three years. There are scholarship and teaching assistant opportunities to supplement the stipend above this base level.

**Further information or to apply:** Please contact Dr. Derek Lynch, Department of Plant, Food and Environmental Sciences, Nova Scotia Agricultural College, PO Box 550, Truro, Nova Scotia B2N 5E3, Canada, E-mail: [Derek.lynch@dal.ca](mailto:Derek.lynch@dal.ca) . To apply please send transcripts and a resume, statement of career goals, and the contact information (addresses, email and phone numbers) of at least two references.