



ses

school of environmental sciences

The Research Seminar Presentation by

Inderjot Chahal

will be held on

Tuesday November 3, 2015

At 10:00 am

ALEXANDER HALL 337

Title: Soil health and nitrogen dynamics as influenced by wheat straw management and cover crop residues in the cover crop-tomato rotation in southwestern Ontario

Abstract:

Soil health is an important parameter for assessing the long-term profitability of agriculture. It is highly influenced by different management practices such as retaining and removing wheat straw and adoption of cover crops in the crop rotations. Cover crop treatments for this study include oat (*Avena sativa*), oilseed radish (*Raphanus sativus*), cereal rye (*Secale cereale*), mixture of oilseed radish and oat, and no cover crop control. Cover crops also help in reducing nitrogen losses from soil during the fallow periods and help in providing nitrogen to the subsequent crops. Due to these benefits of cover crops, improvement in soil health is observed. Microbial biomass C, soil respiration, water extractable organic C and N, soil mineral N, wet aggregate stability, tissue N content, and yield of tomato crop will be used as the indicators of soil health in this study. Sampling at 7 different times during the growing season will help to identify the most responsive indicator of soil health from the different indicators tested. Apart from cover crops, wheat straw management also affects the soil health and nitrogen uptake of the next crop in the rotation. However, most of the studies on the effect of wheat straw management have been focused more on yield rather than soil health and nitrogen uptake. Hence, there is a need to study the effect of cover crops and wheat straw management on nitrogen dynamics and soil health in vegetable production system in Ontario.

Everyone is welcome to attend
(Proposal presentation by students for ENVS*6900)