

MSc or PhD Position Announcement
Development of Real Time Quantification Methods for Soy Bean Cyst Nematode in Soil
Soil Ecology Laboratory
University of Manitoba, Canada

The laboratory for the Canada Research Chair in Applied Soil Ecology (<http://soilecology.ca/>) at the University of Manitoba is seeking highly motivated and talented candidates for an MSc/PhD training in Soil Ecology. The student will undertake graduate research in the area of molecular test development for soy bean cyst nematode (*Heterodera glycines*) in soil. Soy bean cyst nematode is present in Ontario and Quebec in Canada, and likely will expand to Manitoba. Current commercial methods of soy bean cyst nematode quantification and identification are not suited to detection of recent introductions of the nematode to soil and can confuse identity with other cyst nematodes not affecting soy bean. Research is on-going with real time PCR primer sets developed with superior performance to identify Ontario populations of the nematode than currently published. The student will take the project to the stage of developing a commercial method that involves relating the PCR method to current observational count methods, accounting for possible soil property effects and scaling procedures to commercial environment. Experience in isolation and manipulation of nematodes, molecular techniques such as PCR and quantitative PCR protocols are an asset. A four-year undergraduate degree in Agroecology, Agronomy, Biochemistry, Biology, Microbiology, Plant Pathology and Soil Science are preferred. The candidate will have excellent oral and writing abilities in English. Salary is a \$18,500/yr (MSc) and \$21,000/yr (PhD) CDN. The position and research is funded by research grants to the laboratory under the Pulse Science Cluster Growing Forward 2 program.

The Canada Research Chair in Applied Soil Ecology is very active nematode and soil ecological research with state-of-the-art facilities and a diverse array of multidisciplinary projects in nutrient management, plant disease management, and ecology. The laboratory employs 4 permanent technicians, and routinely 2-3 Research Associates, 5-10 graduate students, and 10-15 summer students/term technicians. The University of Manitoba is in the City of Winnipeg, with a vibrant metro area of 750,000 people and is less than an hour by car to Prairie, Boreal and Canadian Shield landscapes, and the U.S.A. For more information on this opportunity please send a detailed CV, statement of relevant experience, availability, and list of three referees by email to Dr. Mario Tenuta, Canada Research Chair in Applied Soil Ecology, mario.tenuta@umanitoba.ca. The position is immediately available and closes April 30, 2015 or when a candidate is chosen. Canadian residences and citizens are preferred only because they can start immediately to full-fill funding terms of the project. Qualified international applicants will be considered but a delay in start is taken into account in the assessment because of Visa requirements. In many cases, Visa approval can be in excess of six months preventing consideration.