

UNIVERSITY OF ALBERTA - GRADUATE STUDENT POSITION

Project Title: Nitrous Oxide Emissions and Grain Productivity in Croplands: Effects of Fertilization Timing and Formulation.

Sought degree: PhD

Supervisor: Dr. Guillermo, Hernandez Ramirez (Assistant Professor), Department of Renewable Resources

Timeline for applications: until filled

Desirable timeline for beginning the program: January to May 2016

Project Description:

To quantify and reduce N₂O emissions from recurrently fertilized soils are critical challenges for scientists, farm managers and the broader society. On-going research efforts target a beneficial coordination of time of applications and formulations (slow release and inhibitor additives) of nitrogen fertilization to manage and mitigate N₂O emissions. Simultaneously, there is a need to verify if crop nutrient use-efficiency and grain productivity are maintained, reduced or increased as a function of management choices. Collectively, putative enhancements in agronomic and environmental performance will underpin sustainability of the cropping systems. This project will address these (and others) inquiries via multi-year field experimentation and attempt to identify balanced solutions.

I am seeking for a responsible student interested in the project.

Initial requirements:

Knowledge of soils, plants and nitrogen cycling,

Proactive, flexible, dedicated, well-centered, responsible

Open to undertake scientific approaches and to engage intense numerical analyses, data interpretation and writing up of findings, and publications.

Other assets:

A teamwork aptitude — ability to work independently and with others,

A desire to deliver/present/share results in public,

Computer skills,

A 3.5 GPA or better, and

A valid driver license and clean driving record/abstract.

Field activities will take place in sites planted to annual crops in Alberta. Work will involve instrumentation to quantify fluxes, soil and plant responses. Laboratory work (including incubation procedures) will involve novel approaches to discern soil processes and properties associated with fluxes. In addition to frequent interactions with UofA staff, collaborative work will be also conducted with personnel from provincial and federal research agencies.

Please e-mail transcripts (scanned unofficial copy), CV, a letter describing any research experience and interests (1-page), and three references.

Keywords: Soil, Nitrous oxide, Greenhouse gases, Flux, Fertilizer formulations, Fertilizer additives, Wheat

Annual stipend: CAD 24,000

Contact Information: ghernand@ualberta.ca

Additional Information

University of Alberta is consistently rated as one of the top 5 universities in Canada, and one of the top 100 universities worldwide. Located in Alberta's capital city, Edmonton (population of one million people), University of Alberta provides a dynamic mixture of a large research intensive university, urban culture and recreation. More than 39,000 students from across Canada and 144 other countries participate in nearly 400 programs and 18 faculties. Within the University, the Department of Renewable Resources consists of 30 faculty members, over 200 graduate students, numerous postdoctoral fellows and support staff, and offers significant research support through sophisticated laboratories and multiple field facilities.

Website

<http://www.rr.ualberta.ca/GraduateProgram>

https://sites.google.com/a/ualberta.ca/agroecosystems_group/home