



Call for Papers

62th MSSS Annual General Meeting
February 7-8, 2019 | Holiday Inn Winnipeg
South, 1330 Pembina Hwy

The Manitoba Soil Science Society (MSSS) holds an Annual General Meeting to provide industry professionals and academics a place to share their research findings and network. This year's plenary session theme is "*Management Impacts on Soil Community Structure and Function*". Please visit the MSSS website (mbsoils.ca) for updates on the event program.

Both oral and poster presentation submissions are welcome. Please submit contact information and abstracts to MSSS by **December 14, 2018**. Abstracts are to include the Title, Authors, Author Affiliations, and Abstract Text of less than 300 words. A sample abstract with the required formatting is included on the next page.

Graduate Students: Graduate student presentations are judged with awards for best oral and poster presentations. You must put an asterisk after your name on the submitted abstract to be considered for an award.

Contact & Presentation Information

Name		
Company/Affiliation		
Mailing Address		
Phone		
Email		
Graduate Student	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Presentation Type	<input type="checkbox"/> Oral Presentation	<input type="checkbox"/> Poster Presentation
Presentation Title		

Please note that we will be using email as the primary means of contact. An LCD projector and laptop computer will be provided for oral presentations.

Please send the above information and abstract as a .doc or .docx file to: msss@umanitoba.ca.

SAMPLE ABSTRACT

Nitrogen Uptake by Barley Grown in Chernozemic Soils Amended with Anaerobically Digested Manure

Waraidzo Chiyoka^{1,2*}, Francis Zvomuya¹ and Xiyang Hao²

¹*Department of Soil Science, University of Manitoba, Winnipeg, Manitoba, Canada.*

²*Agriculture and Agri-Food Canada, Lethbridge Research Centre, 5403 1st Ave. S., Lethbridge, Alberta, Canada*

Anaerobically digested manure (ADM) is a nutrient rich substrate co-generated during biogas production from anaerobic digestion of livestock manure. Currently, the separated solid fraction of ADM (SS) is commonly applied to cropland at rates equivalent to those for raw manure. We hypothesize that biophysicochemical changes occurring during anaerobic digestion may result in a digested product with a different N supplying power. We tested this using five, 6-wk cycles of forage barley (*Hordeum Vulgare L.*) grown in a Dark Brown and a Black Chernozem amended with raw beef cattle (*Bos taurus*) feedlot manure, SS, pelletized SS (PSS) and synthetic fertilizer (urea + monoammonium phosphate, UMP). Amendments were applied at rates calculated to supply 400 and 800 mg total N kg⁻¹ soil, with a control included for comparison. At each harvest, plant roots and shoots were harvested separately and analyzed for total N. Amendment-derived N content of total biomass was highest for UMP and manure, and lowest for PSS at both rates. The difference between manure and SS was higher at the higher amendment rate, while both PSS rates depressed N uptake relative to non-amended soils. Amendment-derived N also increased with increasing rate for all amendments except PSS. We conclude that anaerobic digestion does not alter N availability and uptake from beef cattle manure while pelletization of the solid fraction of digested manure can cause N immobilization and depress plant N uptake.