

CONFERENCE PROGRAM

Thursday, February 6, 2020

- 7:30 am Registration and Continental Breakfast
- 8:25 am Conference Commences
Opening Remarks –Timi Ojo, MSSS President
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PLENARY SESSION: SUSTAINING SOIL PRODUCTIVITY IN A CHANGING CLIMATE

Chairperson:

CCA CEUs:

- 8:30am Keynote Presentation: **Soil Conservation: Mitigation and Adaptation to Climate Change**
Caley Gasch
Department of Soil Science, North Dakota State University, Fargo, ND
- 9:15am Keynote Presentation: **Climate, Agriculture, and Soil: The Prairies in 2050**
Brian Amiro
Department of Soil Science, University of Manitoba, Winnipeg, MB
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- 10:00am Nutrition Break and Poster Session
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- 10:30am **Comparing Recent Weather Trends to Climate Normal in MB**
Timi Ojo
Manitoba Agriculture, Winnipeg, MB

GENERAL SESSION: SOIL-WATER MONITORING & MANAGEMENT

Chairperson:

CCA CEUs: 6.5

- 10:50am **Rye Water Use and Biomass Production in Response to Varying Salinity and Water Stress**
Alec A. Deschene* and Caley K. Gasch
Department of Soil Science, North Dakota State University, Fargo, ND
- 11:10am **Thermodynamic Modeling of Phosphorus Species in Amended Flooded Soils**
Chammi Attanayake^{1,2}, Saman Dharmakeerthi^{1,2}, Carolyn Gregory³, Doug Goltz³,
Srimathie Indraratne² and Darshani Kumaragamage²
¹*Department of Soil Science, Faculty of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka,*
²*Department of Environmental Studies and Sciences, The University of Winnipeg, Winnipeg, MB*
³*Department of Chemistry, The University of Winnipeg, Winnipeg, MB, Canada*

- 11:30am **Plot Studies to Characterize the Interaction Effect between Water-induced Channel and Tillage Operation**
Fangzhou Zheng^{1,2*}, Sheng Li² and David Lobb¹
¹Department of Soil Science, University of Manitoba, Winnipeg, Manitoba, Canada.
²Agriculture and Agri-Food Canada, Fredericton Research Centre, Fredericton, New Brunswick, Canada
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- 12:00pm Lunch
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- 1:00pm **Investigating Soil Sedimentary Processes in Cultivated Canadian Prairie Watersheds using Sediment Budgeting**
Brendan Brooks^{1*}, David Lobb¹, Alex Koiter²
¹Department of Soil Science, University of Manitoba, Winnipeg, MB
²Department of Geography and Environment, University of Brandon, Brandon, Manitoba, Canada
- 1:20pm **Patterns of fallout radionuclide concentration distributions of suspended sediment in Hudson Bay**
Masoud Goharrokhi¹, David Lobb¹, and Phil Owens^{1,2}
¹Department of Soil Science, University of Manitoba, Winnipeg, MB
²Department of Environment and Geography, University of Northern British Columbia, Prince George, BC
- 1:40pm **Sorption of a legacy and current-use pesticides by a range of constituents present in rivers: sediments, charcoal, ash and microplastics**
Marufa Fatema^{1*}, Annemieke Farenhorst¹, Claudia Sheedy²
¹Department of Soil Science, University of Manitoba, Winnipeg, MB
²Agriculture and Agri-Food Canada, Lethbridge Research Center, Lethbridge, AB
- GENERAL SESSION: SOIL ECOLOGY AND PRODUCTIVITY**
Chairperson:
- 2:00pm **Assessment of the agronomic and environmental impacts of land rolling in soybean production in Manitoba**
Ehsan Zarrinabadi^{1*}, David Lobb¹, Yvonne Lawly² and Alexander Koiter¹
¹Department of Soil Science, University of Manitoba, Winnipeg, MB
²Department of Plant Science, University of Manitoba, Winnipeg, MB
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- 2:20pm Nutrition Break and Poster Session
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- 2:50pm **Response of root biomass on pipeline disturbed cropland to difference cropping sequences in western North Dakota**

Nicholas Birkhimer¹, Thomas DeSutter¹, Jerry Bergman², Kevin Horsager¹, Kyle Dragseth²,
Meridith Ramsey², Cameron Wahlstrom²

¹*NDSU Department of Soil Science, Fargo, ND*

²*NDSU Williston Research Extension Center, Williston, ND*

3:10pm

The Presence of Soybean Cyst Nematode in Manitoba

Nazanin Ghavami^{1*}, Mario Tenuta¹, Dennis Lange²

¹*Department of Soil Science, University of Manitoba, Winnipeg, MB*

²*Manitoba Agriculture, Food and Rural Development, Altona, MB*

3:30pm

Effect of Salinity on Soil Microbial Community Structure

Mackenzie Ries^{1*}, Caley Gasch¹, Jason Harmon²

¹*Department of Soil Science, North Dakota State University, Fargo, ND*

²*Department of Entomology, North Dakota State University, Fargo, ND*

3:50pm

End of Day 1

Friday, February 7, 2019

8:00 am Registration and Continental Breakfast

GENERAL SESSION: NUTRIENT MANAGEMENT

Chairperson:

CCA CEUs: 2

8:30am **Spring Options for Fertilizer Management following a Wet Fall**
John Heard¹ and Don Flaten²
¹*Manitoba Agriculture and Resource Development, Carman, MB*
²*Department of Soil Science, University of Manitoba, Winnipeg, MB*

8:50am **Evaluation of Fall Versus Spring-Applied Enhanced Efficiency Nitrogen Fertilizers on Crop Nitrogen Use Efficiency**
Ahmed A. Lasisi^{1*}, Olalekan O. Akinremi¹, Qiang Zhang² and Darshani Kumaragamage³
¹*Department of Soil Science, University of Manitoba, Winnipeg, MB*
²*Department of Biosystem Engineering, University of Manitoba, Winnipeg, MB*
³*Department of Environmental Studies and Sciences, University of Winnipeg, MB*

9:10am **Selecting Right Sources and Placement of Fertilizer N to Reduce N₂O emissions from Canola Production in Manitoba**
Xiaopeng Gao¹, Kevin Baron² and Mario Tenuta¹
¹*Department of Soil Science, University of Manitoba, Winnipeg, MB*
²*Solum Valley Biosciences, Winnipeg, MB*

9:30am **Urea fertilizer source and placement effects on soil greenhouse gas fluxes from a loamy sand**
Aaron Glenn¹, Amal Roy^{1,2}, and Clayton Jackson¹
¹*Brandon Research and Development Centre, Agriculture and Agri-Food Canada, Brandon, MB*
²*Resource Management, Crown-Indigenous Relations and Northern Affairs Canada, Iqaluit, NU*

9:50am Nutrition Break and Poster Session

10:20am **Soil amendments for closing urban to rural nutrient cycles in organically managed systems**
Jessica Nicksy^{1*}, Brian Amiro¹ and Martin Entz²
¹*Department of Soil Science, University of Manitoba, Winnipeg, MB*
²*Department of Plant Science, University of Manitoba, Winnipeg, MB*

10:40am **Productivity of alfalfa fertilized with struvite in low-P soils**
Joanne Thiessen Martens^{1*}, Francis Zvomuya¹ and Kim Schneider²
¹*Department of Soil Science, University of Manitoba, Winnipeg, MB*
²*Department of Plant Agriculture, University of Guelph, Guelph, ON*

11:00am **Soil science elements of a report on the Red River Basin / Cold Climate Ag Nutrients BMP**
Mitchell Timmerman
Manitoba Agriculture and Resource Development, Manitoba, Canada

11:20am MSSS Business Meeting

12:00pm Lunch

GENERAL SESSION: SOIL PHYSICAL PROPERTIES AND REMEDIATION

Chairperson:

1:00pm **Constructing a biobed system for rinsate management in Manitoba**
Sarah Johnson^{1*}, Terrance Anseeuw², Evan Derdall³, Jeanette Gaultier⁴, Rob Gulden⁵, Tammy Jones⁶, Alvin Iverson², Claudia Sheedy⁷, Tom Wolf⁸ and Annemieke Farenhorst¹
¹*Department of Soil Science, University of Manitoba, Winnipeg, MB*
²*Department of Plant Science, University of Manitoba, Carman, MB*
³*Agriculture and Agri-Food Canada, Saskatoon, SK*
⁴*BASF, Notre-Dame-de-Lourdes, MB*
⁵*Department of Plant Science, University of Manitoba, Winnipeg, MB*
⁶*Manitoba Agriculture, Winnipeg, MB*
⁷*Agriculture and Agri-Food Canada, Lethbridge, AB*
⁸*Agrimetrix Research and Training, Saskatoon, SK*

1:20pm **Dissipation of Sulfamethoxazole and Trimethoprim in a Wetland vs. Terrestrial System**
Theresa Adesanya^{1*}, Francis Zvomuya¹, Annemieke Farenhorst¹, Tamanna Sultana² and Chris Metcalfe²
¹*Department of Soil Science, University of Manitoba, Winnipeg, MB*
²*Water Quality Centre, Trent University, Peterborough, Ontario, Canada*

1:40pm **Research results from a five-year oil spill study: The secret hope of everyone!**
Tom DeSutter
Department of Soil Science, North Dakota State University, Fargo, ND

2:00pm **Natric Soils of North Dakota: Does characterization legacy data support our taxonomy?**
David Hopkins and Tom DeSutter
Department of Soil Science, North Dakota State University, Fargo, ND

2:20pm **Detailed Soil Survey for the RM of De Salaberry and its Application in Land Use Planning**
Megan Wespthal and Michelle Erb
Manitoba Agriculture and Resource Development, Manitoba, Canada

2:40pm Presentation of Awards and Passing of the Shovel

3:00pm End of Day 2