

30th Annual Spring Workshop & PRSSS Annual General Meeting Detailed Agenda



Pacific Regional Society
of Soil Science

*“Moving From the Lab Bench to a Standard -
Understanding Data Under an Environmental Microscope”*

Saturday, March 15th, 2008
Kwantlen University College
Langley Campus Auditorium

*Hosted by the Kwantlen University College School of Horticulture and
the Institute for Sustainable Horticulture*

Schedule for the day:

8:15-9:00 Registration and Membership Renewal

9:00-9:10 Opening Remarks

9:10-9:40 Presentation 1: Lizanne Meloche *Project Biologist, Golder Associates*

Lizanne Meloche is an environmental consultant with a background in environmental toxicology and chemistry. Ms. Meloche has completed a Master's degree in Resource and Environmental Management, and has taken and facilitated courses in risk assessment, statistical analysis, and field methods. Through her previous employment with the BC Ministry of Environment, she has been involved in the development of provincial risk assessment protocols as well as the updating and derivation of numerical standards for use in contaminated sites regulation. Since joining Golder Associates in 2005, Ms. Meloche has participated in several human and ecological risk assessments for government and industry clients.

Risk Assessment of Contaminated Soils: Risk assessment is a useful approach for evaluating contaminated soils. The process involves assessing whether concentrations of contaminants in soil may negatively impact the health of humans and/or wildlife. Ms. Meloche will provide an overview of the risk assessment framework, and will discuss some of the approaches employed to evaluate contaminated soils, including comparison to numerical guidelines, exposure modeling and toxicity testing. Some of the challenges to estimating exposure will also be highlighted, including the bioavailability of soil-associated chemicals.

9:45-10:15 Presentation 2: Ruth MacDougall *Senior Agrologist, SYLVIS Environmental*

Ruth MacDougall has been extensively involved with regulatory and policy development and the composting and use of various organic residuals and effluent since 1993. Ms. MacDougall has a Bachelor of Science (Agriculture) and a Master of Science from the University of British Columbia, and is a Registered Professional Agrologist. She has worked with various municipalities and residuals generators throughout British Columbia since 1996 to develop and implement land application programs. She has worked with municipalities in the development of effluent recycling programs and has completed Environmental Impact Assessments for new projects. She has extensive knowledge of residuals recycling

regulations in BC and throughout the world and of the science involved in residuals management, as well as experience in stakeholder education and consultation.

Testing Unconventional Matrices- Challenges in Interpreting Results: The various organic residuals and soil amendments that are land applied in BC under the Organic Matter Recycling Regulation and the new Soil Amendment Code of Practice offer some challenges in their analysis and land application. How do you ensure that you are getting reliable data when sending unusual samples to a commercial lab? How do you ensure that reliable soil data is obtained from sites receiving these amendments? Ruth will explore these questions during her presentation.

10:15-10:40 Break and poster session (see details next page)

10:40-11:10 **Presentation 3: Laura MacLean** *Environmental Standards Coordinator, Environment Canada*

Laura MacLean has worked for Environment Canada for the past seven years, most recently as an Environmental Standards Coordinator. Her responsibilities include the coordination of science activities in BC to support the development of a suite of national environmental standards for the agriculture sector. Ms. MacLean holds a Master's degree in Resource Management from Simon Fraser University where she completed a thesis project in environmental toxicology. Her professional interests include aquatic ecology and watershed management.

An Approach to Developing National Environmental Standards for the Agriculture Sector: The National Agri-Environmental Standards Initiative (NAESI) is a four-year (2004-2008) project between Environment Canada (EC) and Agriculture and Agri-Food Canada (AAFC) and is one of many initiatives under the Environment Chapter of AAFC's Agriculture Policy Framework (APF). The goal of the National Agri-Environmental Standards Initiative is to establish non-regulatory national environmental performance standards that define common EC and AAFC goals for the environment. Standards are being developed in four thematic areas - Air, Biodiversity, Pesticides, and Water. Standards may consist of, for example, the maximum concentration of a substance in water, or the minimum amount of a particular habitat type required to sustain healthy and ecologically functional biological communities. One possible end use of the standards would be to guide the development of beneficial management practices required to achieve desired levels of environmental quality in agricultural areas in Canada. The presentation will describe the overall approach to establishing standards, highlight some of the key scientific findings and discuss potential applications.

11:10-11:50 PRSSS Annual General Meeting (non-members please adjourn to the poster area)

11:50-12:50 Tour of Horticulture Greenhouse: Details to be announced

12:50-1:30 Lunch and poster session (see details next page)

1:30-2:00 **Presentation 4: Dr. Grant Kowalenko** *Research Scientist, Agriculture and Agri-Food Canada*

Grant Kowalenko has extensive and wide-ranging experience in soil test issues. He grew up on a mixed grain/beef farm in Saskatchewan. He obtained B.S.A. and M.Sc. degrees at University of Saskatchewan and a PhD at the University of British Columbia, specializing in soil nutrients. He worked as a soil nutrient scientist in Ottawa for four years, before transferring to the Pacific Agri-Food Research Centre in Agassiz in 1978 to continue soil nutrient research. During his time in Agassiz, he also spent one year in Sri Lanka as a soil and agricultural advisor.

Challenges for Developing Soil Tests for British Columbia in a Changing World With increased concern about pollution by crop nutrients (especially nitrogen and phosphorus), soil testing is being used for environmental as well as production purposes. Soil testing in British Columbia has changed from being done by one public (provincial) laboratory to being done by many private laboratories. These private laboratories use different methods of analysis, which makes using, evaluating, promoting, and changing soil tests a challenge.

2:00-3:20 Discussion

Orlando Schmidt will lead a discussion around the topic of whether we should move towards a provincial standard for soil test methods and interpretation. Is a standard needed? Is an organization needed to manage this? The discussion will be within the context of the presentations given in the morning session as well as the results of recent soil nutrient studies.

Poster Session Participants

Recreating a Functioning Forest Soil in Reclaimed Oil Sands in Northern Alberta

Sara Rowland¹, Dr. Cindy Prescott¹, Dr. Sue Grayston¹, Dr. S. Quideau²

¹ University of British Columbia (Forest Sciences)

² University of Alberta

The Pedological Aspect of the Okanagan Agricultural Soil Study

Eryne Croquet, Elizabeth Kenney

National Land and Water Information Service/ Service national d'information sur les terres et le eaux
Agriculture and Agri-Food Canada/ Agriculture et Agroalimentaire Canada

National Land and Water Information Service

Elizabeth Kenney, Eryne Croquet

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Agriculture and Agri-Food Canada/ Agriculture et Agroalimentaire Canada

Grass, Grazing, and Carbon storage: Why Does Grazing Increase Soil Carbon in Some Grasslands?

Brian Wallace, Dr. Reg Newman

BC Ministry of Forests and Range - Kamloops

Development of Health Indicators for Rough Fescue Grasslands in the Southern Interior of British Columbia

Sarah Lamagna¹, Dr. Maja Krzic¹, Dr. Reg Newman²

¹ University of British Columbia (Land and Food Systems)

² BC Ministry of Forests and Range - Kamloops

Maximum Bulk Density of British Columbia Forest Soils: Relationships with Selected Physical and Chemical Properties

Simon Zhao¹, Dr. Maja Krzic¹, Chuck Bulmer²

¹ University of British Columbia (Land and Food Systems)

² BC Ministry of Forests and Range – Vernon

Soil, Urban Agriculture and Community; Soil Quality and Site Assessment for Urban Agricultural Land in the City of Vancouver

Melissa Iverson, Dr. Art Bomke

University of British Columbia (Land and Food Systems)

Biosolids Growing Medium: Formulations and Fabrication

M.D. van Ham, D.B. Vieira, J.S. Hutchinson, G.L. Lemieux

SYLVIS Environmental

Source Management Initiatives and Factors Influencing Biosolids Quality

M.D. van Ham¹, M.A. Teshima¹, and P.R. Plouffe²

¹ SYLVIS Environmental

² Metro Vancouver

