



Pacific Regional Soil Science Society

**31st Annual Spring Workshop
PRSSS Annual General Meeting**

Urban Agriculture *Soil and the City*

Saturday March 7th, 2009, 9:00 AM-3:30 PM

MacMillan Building, 2357 Main Mall, University of
British Columbia, Vancouver, B.C.

Thank you for joining us for this series of presentations, discussions, and short field tours on the topic of urban agriculture and soil. This workshop is open to the public and participation by both professionals and non-professionals alike is welcomed. Come and see how soil and food production exist in an urban setting!



This event is partially sponsored by the Vancouver branch of the
British Columbia Institute of Agrologists.

Schedule for the day:

8:30 – 9:00 **Registration**

MORNING SCHEDULE

9:00 – 9:30 **Urban Farming and Soil Management**

Urban soils can present significant challenges for an urban farmer. Garden soils can be highly variable in type and nutrient status. Soil contaminants are more prevalent in the urban environment as well, making it essential to review the history of the garden site and survey the surroundings for potential contaminants. Soil testing can be useful, but the urban landscape is highly modified, and test results can vary significantly. Ward will share his experiences and insights growing food on urban soils.

Speaker: Ward Teulon, P.Ag.

Ward was raised on a large farm in Saskatchewan. He has a Bachelor of Science in Agriculture with a major in Horticulture. In 1989 he became a Professional Agrologist. Ward has over 20 years experience in agriculture and horticulture and is the owner/operator of City Farm Boy, an organization committed to promoting urban agriculture as well as farming & gardening as a viable and environmentally positive way to enhance landscapes and lifestyles. City Farm Boy also grows food for the local farmers markets on 14 private backyard gardens, including a large 65 raised bed rooftop garden in downtown Vancouver.

9:30 – 10:00 **UBC Farm**

Speaker: Mark Bomford, B.Sc.

Mark is the UBC Farm Program Coordinator and has a B.Sc. in Agroecology from UBC. After working for over 4 years on the UBC Farm as an undergraduate, Mark took over the position of UBC Farm Program Coordinator in 2004. As Program Coordinator, he works for the Faculty of Land and Food Systems at UBC, where he manages the UBC Farm and the Centre for Sustainable Food Systems. In this position he is responsible for fundraising, administration, human resources, and education. Prior to moving to Vancouver, Mark worked with the Life Cycles Project Society in Victoria, where he managed a number of innovative youth empowerment projects focused on urban agriculture. For more information, see the UBC Farm homepage.

10:00 – 10:30

Garden Soil

This presentation will look at the suitability of materials commonly used for urban food production, from commercial topsoil to city compost.

Speaker: Art Bomke, Ph.D.

Dr. Bomke is an Associate Professor of Agroecology in the Faculty of Land and Food Systems at UBC. He is well-known to the soils community and has been active in soil science in BC for more than 35 years. His research builds from a basic concern for sustainable soil management and extends to broader applications of agroecological principles to agricultural systems, including communities. Dr. Bomke is a past president of the PRSSS.

10:30 – 11:00

Coffee Break and Posters

11:00 – 11:30

Growth dilemma: Building sustainable food systems for cities.

How we manage growth and regional settlement patterns is intrinsically connected to food system sustainability. With increasing growth pressures in many areas of BC, agricultural lands, a key element of sustainable food systems, are being eroded. When cities grow out, how do we build in a way that maintains agricultural productivity and supports local food systems? This session will explore agricultural urbanism as one strategy that is being developed to address this issue.

Speaker: Janine de la Salle, B.A., M.A.

Food System Planner/Project Manager.

Janine has unique and extensive experience in the areas of sustainable food systems and urban agriculture. She is a member of the Vancouver Food Policy Council and National Planning for Food and Agriculture Network. In her role as Food Systems Planner at HB Lanarc, Janine works with communities, municipalities, and developers to create sustainable food system strategies, planning and design opportunities, and food policy to support sustainable food systems. She recently worked with one of America's leading architecture and design firms to develop an innovative, agriculture-focused development concept for a high-profile site in the Vancouver area. She recently completed an urban agriculture strategy for a new neighborhood that will be the site of the 2010 Olympics Athletes' Village and a community garden toolkit for local governments in BC. Currently, Janine is developing a BC farm-to-school guide that will connect local food and farmers to schools in BC.

11:30 – 12:00 **Discussion**

Facilitator: Rachel Strivelli, B.A., M.Sc Candidate

Rachel has a B.A. (2001) from the University of North Carolina at Asheville, United States. She is currently pursuing a M.Sc. in soil science at UBC. Rachel and an amazing team created the Land-Use Impacts Tool, an innovative, university-level teaching tool for soil formation and soil quality. Prior to her studies at UBC, Rachel Strivelli spent four years teaching in public schools. Throughout her employment she consistently studied methods for improving teaching, largely through the incorporation of multiple intelligence research and environmental education into the classroom. In addition to teaching, she also worked for several farms and experiential environmental education centres. Rachel hopes to eventually combine her teaching skills with her love of soil science, perhaps working for public outreach and communications for either land conservancy, environmental or agricultural sectors.

12:00 – 12:30 Lunch and Poster Session

12:30 – 1:00 Annual General Meeting

AFTERNOON SCHEDULE
Stream A

1:00 – 1:30

Re-localization from the Ground-Up: the role of soils research in a food shed analysis

The local food movement is enjoying the spotlight with the authors of the *100-Mile Diet* and “*locavores*” nibbling away at our notions of what’s on the plate and why we should care about how it got there.

What do re-localization efforts in an urban context have in common with those found in rural communities?

Healthy soil is often a baseline resource for a healthy community, whether rural or urban in setting. The key objectives of this presentation are to share the experience of soils research in the Bella Coola Valley Foodshed Analysis and to dialogue with workshop participants with respect to lessons learned from this capacity-building initiative.

Speaker: DeLisa Lewis, Ph.D. Candidate

After twelve years of small-scale market farming, DeLisa Lewis set her sights on expanding her knowledge of agroecological systems within the broader context of the global food system. On-farm experience and a keen interest in composting led her headlong into the path of UBC’s soil fertility and composting guru/soil science graduate student advisor,

Art Bomke. Since 2006, DeLisa has been digging into the Bella Coola Valley Foodshed Analysis as the key focus of her graduate work in Integrated Studies of Land and Food Systems at UBC. She is now a PhD candidate and sessional instructor for the online Land, Food and Community II /AGSC350 course. In those blue-sky moments away from the computer screen this spring, you'll find her with dirt under the nails and on the knees, learning what she can about the productive capacity of her own backyard.

DeLisa was a 2008 award winner for her talk at the Canadian Soil Science Society conference in Prince George.

1:30 – 2:00

Permaculture Design for building fertile soil in the urban environment

There are many examples of effective permaculture design in the rural context. The design directives and principles of permaculture are just as successful in the urban landscape. The scale of implementation may differ but the results are the same: healthy, fertile soils which nourish the people who care for them. This brief but informative exploration of permaculture design will look at some effective broad acre implementation and show in-the-ground examples of urban design which successfully implement permaculture principles.

Speaker: Jesse Lemieux, B.Sc.

Jesse Lemieux is a full-time Permaculture Educator and Designer in Western Canada. He has also studied, worked, and taught in Australia and the Middle East. Jesse has earned two Permaculture Design Certificates under the instruction of both Geoff Lawton and Bill Mollison. Along with his wife Tanya, he is co-founder of Pacific Permaculture. Jesse is fully committed to the dissemination of Permaculture and its ethic of Earth care, People care, and Return of Surplus. He and his wife currently reside on Denman Island.

2:00 – 2:30

Climate Modifications in Cities and their Impact on Urban Agriculture

Surface climates in cities are quite different compared to their rural counterparts. The atmosphere immediately above a city is significantly altered in its physical and chemical properties. This is due to additional heat input from combustion processes, emissions of aerosols and air pollutants, a patchy urban land-cover, increased roughness, shading, and a modified urban water cycle.

Cities are known to show higher air and soil temperatures, in particular at night, and hence experience a longer vegetation period, more growing degree days and less frost damage events - an effect referred to as the 'urban heat island'. On the other hand, a high water deficit,

reduced dewfall, and small-scale advection typically require higher irrigation in cities. Finally, micro-scale effects (e.g. shading by buildings, sky view factor, wind-channeling) are superimposed on small scales. Around buildings significant differences in the climate occur within just a few meters.

Dr. Christen will review urban climate modifications on different scales, discuss their impact on urban agriculture and quantify their magnitude and dynamics based on research data from recent field studies in Vancouver, BC.

Speaker: Andreas Christen, Ph.D.

Dr. Christen is currently working with the Department of Geography at UBC, and is a member of the Atmospheric Science Program. He did his doctorate in meteorology at the University of Basel, Switzerland on atmospheric turbulence and surface energy exchange in urban environments. Before he joined UBC Geography in August 2006, he was post-doc at the Department of Ecology, TU Berlin, Germany. Andreas's specializations are land-atmosphere interactions, carbon cycling, and atmospheric turbulence. His research focuses on forest and urban microclimates. Andreas is currently teaching climatology with a focus on microscale processes and field instrumentation.

2:30 – 3:00

Ecological Engagement

Ecological engagement is the key to building livable cities for the future. We will discuss how this can be achieved through practices such as community gardening and guerrilla gardening.

Speaker: David Tracey

David is a community ecologist working to connect people with the land in the Vancouver region. He is Coordinator of the Vancouver Community Agriculture Network (VCAN), a government-funded project helping low-income and other marginalized groups create their own food sovereignty solutions through community gardens. He is Executive Director of Tree City, a non-profit group aiming to "bring people and trees together" by promoting awareness of and involvement in the urban forest. He is also owner-operated of the firm EcoUrbanist where they provide environmental site designs on a variety of scales from back yards to city lots. He is a certified arborist specializing in organic fruit tree care and edible landscaping. He writes widely on the environment, politics, and culture for international publications including the International Herald Tribune, the Economist, and the South China Morning Post. He is the author of *Guerrilla Gardening: A Manual*, published by New Society.

AFTERNOON SCHEDULE Stream B

1:00 – 1:15

Soil Primer for Gardeners - Let's all speak 'dert'

Speaker: Geoff Hughes-Games, P.Ag.

Geoff is a long-time employee of the BC Ministry of Agriculture and Lands. Through his position as the Provincial Soil Specialist he is responsible for managing several agri-environmental programs including the Canada-British Columbia Environmental Farm Plan Program. He also provides technical and practical guidance on a wide range of soil management topics, primarily focused on physical aspects of soil and provision of pedological information. Outside of work he regularly instructs soils courses to master and college students. Geoff holds a B.Sc. in Agriculture (soils) from the University of British Columbia and a Technical Diploma in irrigation technology from Olds College. Besides agriculture and soils Geoff has an avid interest in recreational running from gnarly trails and marathons to coaching new runners.

1:15 – 1:45

Practical Techniques for Assessing your Garden's Soil

What are the characteristics of local soils that all Vancouver gardeners should know?

How can someone with limited knowledge of soils effectively assess these characteristics for the betterment of their garden?

The goal of this presentation is to provide Vancouver gardeners with pertinent information about their soils, focusing on key soil characteristics and techniques for soil quality assessment. These concepts will be illustrated by examples from three years of experience working with community gardens in Vancouver. Participants will have the opportunity to further explore these concepts on a short field tour following the talk.

Speaker: Melissa Iverson, B.Sc., M.Sc. Candidate

Melissa Iverson began her love affair with urban agriculture as she was concluding her undergraduate degree from UBC's faculty of Land and Food Systems and becoming increasingly aware of the costs the current food system imposes on human and ecological health. A curiosity and fascination with soil, one of our most precious (and all-too-often neglected) resources, brought Melissa back to UBC in 2006, where she began a Master's degree in soil science. Since that time, Melissa has been working with communities in Vancouver to find accessible and accurate ways of assessing their gardens' soils and

microclimates. Through these adventures in Vancouver's urban agriculture scene, Melissa has participated in the creation of six community gardens, witnessing the struggles and triumphs of folks that wish to create spaces to grow their own food, connect with their neighbors, or just get their hands in the dirt.

1:45 – 2:50

Walk to Forest and Totem Field

Once in the "field", Rachel, Melissa and Geoff will be speaking about inherent soil conditions/properties of the forest soils of the Metro Vancouver area and the impact of management. They will use two soil pits to illustrate some of this as well as speak to normal gardening landscape practices and how they can be used to benefit or impact soil physical, chemical, and biological characteristics.

Leaders: Geoff Hughes-Games, Rachel Strivelli, & Melissa Iverson

2:50 – 3:00

Walk Back to MacMillan Building

WHOLE GROUP

3:00 – 3:30

Wrap Up

3:30

Go Home. Thanks for coming!!