

# PRSSS

**PACIFIC REGIONAL SOCIETY OF SOIL SCIENCE**

**C/O DEPARTMENT OF SOIL SCIENCE  
UNIVERSITY OF BRITISH COLUMBIA  
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## *Message From the President*

**President**

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Fees are \$10/\$5 (student) per yr.

Happy New Year!! Best wishes to all members for a year filled with good health and prosperity. The PRSSS executive is looking forward to the events we have planned in 1998. The two major events to be held this year will be an evening session in February and a co-sponsored presentation at the Agriculture Institute of Canada (AIC) conference in July.

In response to feedback from many PRSSS members, the topic chosen for the February evening session will be related to forestry. We have invited speakers to discuss various aspects of terrain mapping. The focus of the session will be primarily technical. Topics covered will include an introduction to terrain mapping, current issues regarding quality control of work performed and qualifications necessary to work in this field.

*Continued on next page.....*



## **INSIDE**

- 1** Notes on PGPR Workshop held in Japan
- 2** Notice for 1998 AIC Conference at UBC!
- 3** Resolving Rural/Urban Conflicts in Surrey
- 4** UBC & SFU M.Sc./Ph.D. graduate theses
- 5** February Evening Session insert

*Message from the President continued...*

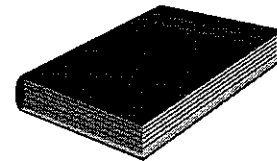
In many ways the topic is timely as quality control and professional jurisdiction are under review. Although the focus of the evening session is technical there will be an opportunity to raise questions regarding these other issues. It should be interesting discussion, as some of these issues will have been resolved by the time the evening session is held in February.

The AIC conference being held in July at the University of British Columbia provides a good opportunity for PRSSS members from across B.C. to associate with professionals from various disciplines. The PRSSS is co-sponsoring a presentation with the Canadian Soil Science Society. We have invited Don Gayton, author of *The Wheatgrass Mechanism* as a guest speaker. We are also planning to host our annual general meeting during the conference.

The fall was relatively low-key for the PRSSS. Our last event was a tour of the Capilano watershed in August. It was a beautiful sunny day and the tour guide was pleasant and informative (one of the members on the tour mentioned that the guide is pursuing a Master's Degree with Dr. Lavkulich in Resource Management). It was fun riding around in a dusty school bus with fellow soil types. Following the tour we rendezvoused for a great evening of barbecued food and volleyball.

We hope to see many of you at the evening session in February and the AIC conference in July.

*Markku Kostamo*  
*President*



*Reminder from the Secretary..*

Please take a moment to check the status of your membership. The date (e.g., Mar 98) in the right corner of the mailing label means that membership fees are due in March of the year listed. If your membership has expired, please renew it as soon as possible to ensure that your name remains on our mailing list. If you have any questions regarding your membership standing, please let me know at 739-7819 or at [krzic@unixg.ubc.ca](mailto:krzic@unixg.ubc.ca).

Maja Krzic  
Secretary

## Notes on the Fourth International Workshop on Plant Growth-Promoting Rhizobacteria

Sapporo, Japan, Oct. 5-10 1997

by Liz Bent

*Ph.D. candidate, UBC Dept. of Soil Science*

Plant growth-promoting rhizobacteria (PGPR) are soil-borne bacteria which stimulate plant growth, and so may be of use in agriculture, forestry, or even for the remediation of eroded soils. PGPRs can act directly on a plant to improve growth, by providing nutrients (the various *Rhizobium*-legume interactions are a good example of this), or by altering levels of plant hormones (or other growth-promoting substances) to stimulate root growth and increase the surface area available for nutrient uptake. PGPRs may also act to protect the plant from pathogens, either by inducing systemic disease resistance responses ("immunizing" the plant, so that when a pathogen is encountered, the plant can respond more rapidly and has a greater resistance to infection), or by antagonizing plant pathogens directly ("biocontrol", in which the PGPR competes with the pathogen for resources, and/or produces antibiotics to which the pathogen is susceptible).

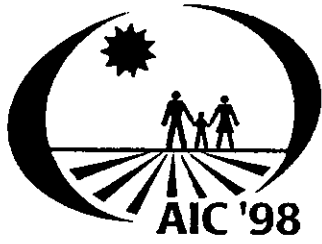
Quite a few people are interested in PGPRs and how they function in the rhizosphere (the zone of soil under the influence of plant roots). The workshop I attended in Japan was the fourth of its kind, and the largest so far - 170 delegates from 23 countries were in attendance.

Lectures covered a wide variety of topics, ranging from rhizosphere ecology, the physiological or genetic basis of mechanisms involved in bacterially-mediated plant growth promotion/biocontrol, issues in assessing the risk associated with release of genetically

modified PGPRs into the environment, progress in the commercialization of PGPR-based products, and some novel applications of PGPRs. There were three poster sessions as well, in which delegates were able to view and discuss the results of each other's recent research. I should mention that my colleague Masahiro Shishido (also from UBC) was invaluable as a translator during the conference discussion sessions (and especially during the bus tour of Sapporo that was arranged by our hosts).

One lecture which I found particularly interesting was given by Dr. Yoav Bashan, and dealt with the use of PGPRs to remediate overgrazed desert soils in Mexico. These soils are subject to heavy erosion by wind, leading to serious air pollution (dust) problems, and decreases in soil fertility. Efforts to prevent erosion by planting native vegetation (i.e. cacti) failed, since most of the plants were unable to survive the harsh conditions of these sites. The size and survival rate of cacti inoculated with an *Azospirillum* PGPR were improved, and when these inoculated cacti were planted on overgrazed sites, they were able to grow while most uninoculated cacti could not survive. The presence of cacti on overgrazed sites not only helped to reduce erosion by retaining soil particles, they also trapped airborne soil particles, and contributed organic matter to the soil. Eventually, these desert soils were repaired to the point where ornamental plants could be grown for commercial production.

People interested in PGPRs can visit the Auburn University PGPR website at <http://www.ag.auburn.edu/pgpr>, and subscribe to the PGPR newsletter that is now published electronically. As well, I believe there may be a scanned photograph or two from the conference, of various distinguished scientists lounging about in hot tubs, or screaming their way down water slides...



**AIC '98 Annual Conference of the Agriculture Institute of Canada**

*"Agriculture for Healthy Society"*

University of British Columbia, Vancouver, B.C.

July 5-8, 1998

## **Plan on Coming!**

### Field Tours - July 5, 1998

Two pre-conference tours in Lower Fraser Valley will be organized by Canadian Agricultural Society, Canadian Society of Horticultural Science, and Canadian Soil Science Society.

### Plenary Program - July 6, 1998

#### **Morning**

**"International Agriculture: Trade, Development and Sustainability"**. Dick Dawson, formerly Cargill Ltd. now Fulcrum Associates.

**"Food Safety in a Changing World"**. Anne MacKenzie, Canadian Food Inspection Agency.

**"Planning Together for Farms and Urban Development"**. David Sands, BC Ministry of Agriculture, Fisheries and Food.

#### **Afternoon**

**"Saving People and Wild Lands with Global Modern Agriculture"**. Dennis Avery, Center for Global Food Issues.

PRSSS Annual Meeting - July 7, 1998

The time and location will be announced in the next PRSSS newsletter.

Canadian Soil Science Society Symposia - July 7-8, 1998

"Future of Soil Science"

"Nutrient Cycling in Production Systems" joint with Canadian Soc. of Horticultural Sci.

"VA-Mycorrhizal Fungi" joint with Canadian Soc. of Horticultural Sci.

"New Developments in TDR methodology" joint with Canadian Soc. of Agrometeorology

Canadian Soil Science Society Banquet - July 7, 1998

Banquet will be held in the Asian Center in Nitobe Garden, UBC

Conference fee

The basic registration fee will be approximately \$220, but we will keep you posted on this.

Call for Titles

Deadline for submission of titles (please indicate **poster** or **oral** presentation)- **January 30, 1998**

Deadline for submission of abstracts - **March 1, 1998**

Please send your title submission to:

Dr. Art Bomke,  
Dept. of Soil Sci., UBC, 139-2357 Main Mall, Vancouver, BC V6T 1Z4  
Fax (604) 822-8639, E\_mail: fert@unixg.ubc.ca

Canadian Soil Science Society encourages people working on soil issues in areas other than agriculture (e.g., forestry, urban landscapes, environmental issues) to participate at this conference.

**More information is available at:**

<http://www.interchange.ubc.ca/aic98>

<http://www.umanitoba.ca/CSSS>

## **Resolving Rural/Urban Conflicts: Municipal Planning and Agriculture in the City of Surrey**

Aynslie E. Ogden, M.Sc. A.Ag. F.I.T.  
Pottinger Gaherty Environmental Consultants Ltd.  
Past President, Pacific Regional Society of Soil Science

Developmental pressures in the Lower Mainland in recent years have increased the number of rural/urban conflicts relating to agricultural practices. These conflicts eventually resulted in the need to protect normal farm practices with the Province's Right to Farm Act (1995). Many Municipalities throughout the Lower Mainland have also responded to these conflicts by planning for agricultural land use within their communities. On November 20, 1997, the BC Institute of Agrologists (Vancouver Branch) invited Kris Nichols, (Planner - City of Surrey), to speak at their Annual General Meeting about the City of Surrey's approach to planning for agriculture. Following is a summary of his presentation.

The City of Surrey is the fastest growing community in Canada, and one-third of Surrey's land base is agricultural. Surrey also contains 10,000 hectares of agricultural land; 9520 hectares comprise Surrey's Agricultural Land Reserve. Conflicts have included the use of agricultural lands for stormwater detention facilities, golf courses, fish and wildlife habitat, and dumping of fill. Conflicts over normal farm practices (i.e. smell, noise, and pollution) are also common between urban residents and farmers.

The agricultural policy goal of Surrey's Official Community Plan is:

"To preserve and protect the City's agricultural land, to provide effective buffering and maintenance of agricultural lands, to promote of agriculture within the local economy, and to increase compatibility between farm and non-farm land uses."

An Agricultural Advisory Committee (AAC), established in 1995, consists of seven farmers representing each agricultural sector, and representatives from the Agriculture Land Commission, Ministry of Agriculture, Fisheries and Food. The committee advises City Council on ways to sustain agriculture and increase it's viability, and serves as a liaison between the agricultural community and the City. Recently, a Councillor was appointed to the AAC which will give the committee even more credibility with City Council.

Continued on page 7...

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To address rural-urban conflicts, the City of Surrey uses several municipal tools:

1. Restrictive Covenants. For developments adjacent to agricultural land, land titles will include the expectation for normal farm practices on neighboring properties.
2. Buffers. Adjacent to agricultural land, development permits will require lower density land uses and leave strips.
3. By-laws. Soil removal by-laws, use by-laws, Official Community Plan policies, zoning by-laws, etc.
4. Permits. Soil removal permits, fill permits, etc.
5. Farm Community Plan. A new municipal tool expected to come into place in 1998.

With the development of a Farm Community Plan, the City of Surrey plans to be proactive about agricultural planning. This plan will address, but will not be limited to, drainage/flood control issues, buffer zones, land speculation, transportation, and environmental/agriculture concerns. The plan will enable the City to take a proactive approach to farm viability, provide a framework for development of by-laws affecting farm management, and increase public awareness of the importance of agriculture in Surrey.

### ***Congratulations to the Following Graduates from UBC and SFU:***

**Aynslie Ogden, M.Sc.** May 1997. "Soil Characteristics of Persistent Canopy Openings Occupied by Vine Maple in a Coastal Western Hemlock Forest". Supervisor Dr. M. Schmidt (SFU).

**Donna Dean, M.Sc.** May 1997. "Poultry Layer Manure Use in Raspberry Production: Soil Nitrogen Processes and Crop Nitrogen Uptake". Supervisor: Dr. B.J. Zebarth.

**Wenjun Chen, Ph.D.** May 1997. "Turbulent Transfer and Radiation Distribution within and above a Straw Mulch". Supervisor: Dr. M.D. Novak.

**Peter Blanken, Ph.D.** May 1997. "Evaporation within and above a Boreal Aspen Forest". Supervisor: Dr. T.A. Black.

**Martin Carver, Ph.D.** November 1997. "Diagnosis of Headwater Sediment Dynamics in Nepal's Middle Mountains: Implications for Land Management". Supervisor Dr. H.E. Schreier.

**Markku Kostamo, M.Sc.** November 1997. "Performance of Interior Spruce Seedlings

Planted under Dry Soil and Climatic Regimes". Supervisor: Dr. T.M. Ballard.

**James Hickling, M.Sc.** November 1997. "Some Effects of Forest Floor Displacement on Soil Properties and Lodgepole Pine Productivity in the Boundary Forest District". Supervisor. Dr.T.M. Ballard.

**Marcia Monreal, Ph.D.** November 1997. "Molecular Identification of Ericoid Mycorrhizal Fungi". Supervisor Dr. S.M. Berch.

**Maja Krzic, Ph.D.** November 1997. "Tillage-Planting Systems and Cover Cropping for Sweet Corn Production in the Western Fraser Valley". Supervisor Dr. A.A. Bomke.

**Sandra Brown, Ph.D.** November 1997. "Soil Fertility, Nutrient Dynamics and Socio-Economic Interactions in the Middle Mountains in Nepal". Supervisor Dr. G. Kennedy.

**PRSSS ENROLMENT / MEMBERSHIP RENEWAL / CHANGE OF ADDRESS**

*Name:* \_\_\_\_\_

*Employer:* \_\_\_\_\_

*Title:* \_\_\_\_\_

*Professional Interests:* \_\_\_\_\_

*Address:* \_\_\_\_\_

*Postal Code:* \_\_\_\_\_

*Telephone Work:* \_\_\_\_\_ *Fax #:* \_\_\_\_\_ *Home:* \_\_\_\_\_

*email address:* \_\_\_\_\_

*Comments/Suggestions:* \_\_\_\_\_

\_\_\_\_\_

*Please Find Enclosed (check one):*

*1 Year Membership - \$10* \_\_\_\_\_ *2 Year Membership - \$20* \_\_\_\_\_

*\$5(Student)* \_\_\_\_\_ *\$10(Student)* \_\_\_\_\_

*Please include me in the PRSSS Directory:* *Yes:* \_\_\_\_\_ *No:* \_\_\_\_\_

***Calendar of Upcoming Events***

- May 18-20, 1998.** Joint meeting of Geological Association of Canada and Mineralogical Association of Canada. Contact: Agathe Morin at (418) 656-2193, fax (418) 656-7339, e\_mail: quebec1998@ggl.ulaval.ca.
- May 27-30, 1998.** Conference on Rangeland Management and Water Resources, Reno, Nevada. Contact American Water Resources Association. Phone (703) 904-1225; fax (703) 904-1228.
- July 5-9, 1998.** Annual Conference of Soil and Water Conservation Society. San Diego, CA. The theme of the Conference is "Balancing Resource Issues". Contact Charlie Persinger. Phone (515) 289-2331 ext. 12; fax (515) 289-1227; email: charliep@swcs.org.
- July 5-8, 1998.** Annual Conference of Agricultural Institute of Canada (AIC). Vancouver, BC. The theme of the Conference is "Agriculture for Healthy Society". Contact <http://www.interchange.ubc.ca/aic98> or <http://www.umanitoba.ca/CSSS>.
- July 7, 1998.** PRSSS Annual Meeting will be held during the AIC conference in Vancouver, BC.
- August 9-14, 1998.** The 9th North American Forest Soil Conference. Lake Tahoe, California. The theme of the Conference is "Forest Soils and Ecosystem Stability". Contact: Neil Foster at fax (705) 759-5700, e\_mail: nfoster@fcor.glf.c.forestry.ca.
- August 9-14, 1998.** The 8th International Symposium on Microbial Ecology. Halifax, NS. The theme of the Symposium is "Microbial Biosystems: New Frontiers". Phone (902) 492-8000, fax (902) 423-2143, e\_mail: ardenne@fox.nstn.ca, <http://dragon.acadiau.ca/-cbell/isme8.html>.
- October 18-23, 1998.** Annual meeting of ASA, CSSA, and SSSA, Baltimore, Maryland.