



NEWSLETTER

CANADIAN SOCIETY for HORTICULTURAL SCIENCE
SOCIÉTÉ CANADIENNE DE SCIENCE HORTICOLE

Your executive / Votre exécutif

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June 2009

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PRESIDENT'S CORNER



Greetings from your CSHS Executive!

Preparations are underway for the upcoming CSHS Annual Meeting which is being held with the GreenSys meeting from June 17 to 19, in Quebec City. Details of the meeting can be found on CSHS's web site (www.cshs.ca).

An important part of the upcoming CSHS Annual Business Meeting will be filling positions within CSHS's Executive. If you would like to nominate someone for a position on CSHS's Executive, please let me know so that we can follow this up with them prior to our Annual Business Meeting. Also included at our Annual Business Meeting will be discussions on upcoming meetings, international project work, publication awards, association/memberships with organizations including Plant Canada, ISHS and ASHS. The agenda for the meeting is still under development and will be distributed prior to the meeting. If there are items you would like to bring to our attention or have discussed, please feel free to contact me.

As outgoing CSHS President, I would like to thank those who have supported and/or been involved with us. It has been a pleasure working with you, and I wish the incoming executive all the best.

David Percival, Ph.D.

President of CSHS

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MESSAGE FROM THE SECRETARY-TREASURER



Dear Colleagues,

Welcome to June 2009 CSHS's newsletter. As was mentioned in the previous newsletter, the 2009 CSHS annual meeting will be held with the Joint CSHS/CRH/GreenSys 2009 meeting, which will take place from June 14–19, 2009 in Quebec City, Quebec. Efforts will commence on the 2009 CSHS awards. CSHS will provide student travel, best oral and poster contribution awards and invite speakers for the conference. The tentative date of the next

CSHS Board Meeting is June 18, 2009 at Quebec City. Hope to see you in the 2009 CHHS annual meeting.

ISHS Country Membership:

CSHS has paid the revised Annual ISHS Country Membership Fee of €240 (~\$360/year) with the understanding that ISHS is to provide an overview of what services ISHS can provide to CSHS. It is

anticipated the next task will be to get CSHS representation on ISHS's Council. CSHS will be sending out a "call of interest" by e-mail to CSHS members and may have an election if sufficient interest is present. If you are interested, please feel free to contact Samir Debnath (samir.debnath@agr.gc.ca).

CSHS Web Site:

CSHS continued to be very fortunate in having an excellent web site under the maintenance of Shahrokh Khanizadeh. The site has information on the society, membership information, upcoming meetings, awards, opportunities, etc. CSHS is also providing space on its server for the Plant Canada web site. If you have any questions or concerns regarding the web site, please feel free to contact Shahrokh or other members of the CSHS Executive.

Scientific Meetings Related to Horticulture:

(i) 2009 - International Symposium on Sustainable Greenhouse Systems GreenSys 2009, Hotel Loews Concord, Quebec City Canada from June 14–18, 2009 (www.greensys2009.com). For more information contact Dr. Martine Dorais (Doraism@agr.gc.ca) or Dr. André Gosselin (Andre.Gosselin@crh.ulaval.ca), Tel. 1-418-656-2131 Ext. 2068 or Fax 1-418-656-7871.

(ii) Next Plant Canada Meeting. The next CSA/CSHS sponsored Plant Canada meeting will be held in Halifax in 2011. The tentative date is July 18-22, 2011.

Canadian Journal of Plant Science (CJPS):

An international peer-reviewed journal, shared with the Canadian Society of Agronomy (CSA), is the Society's principal scientific publication. The CJPS is published 4 times per year (January, April, July and October) and features sections in Vegetables, Ornamentals and Fruit and Pest Management. An Application of Technology section provides an excellent vehicle to publish results of applied studies in all aspects of horticulture. Review articles are published in all areas of plant science and ensure a continuing high profile for the Journal. CSHS members serve as Associate Editors, and the Editorship of the journal alternates between CSA and CSHS. Why not take advantage of your CSHS membership to obtain special discounts on either paper or electronic Internet subscriptions to CJPS? Electronic-only subscription is a special privilege available only to members and represents a 70% discount on the non-member rate. Consult the [Journal Web site](http://pubs.nrc-cnrc.gc.ca/aic-journals/cjps.html) (<http://pubs.nrc-cnrc.gc.ca/aic-journals/cjps.html>) for further information.

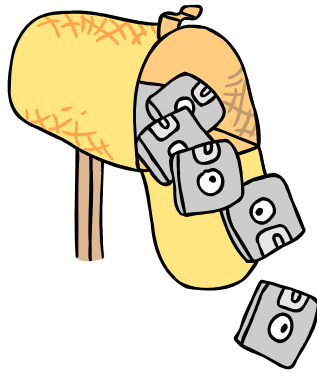
All active members are encouraged to do their best recruiting new members. Please send us your: job offers, published papers, posters, presentations, questions, suggestions, nominations and any other relevant information that could be of interest to our members.

Thank you.

Samir Debnath, Ph.D., P.Ag.

Secretary-Treasurer of CSHS

samir.debnath@agr.gc.ca



Please, do not forget to send your information to Denis Charlebois

Name and contact information of potential corporate members
Name and contact information of teaching institutions (college, university)

Contact us

For more information or for membership forms, contact the executive or:

Secretary-Treasurer

Samir Debnath

Agriculture and Agri-Food Canada,

PO Box 39088, 308 Brookfield Road

St John's, NL A1E 5Y7

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http://res2.agr.ca/stjohns/emp/debnath_e.htm

CSHS Annual Meeting/GreenSys 2009

June 17 to 19, 2009



Welcome to Québec

The Horticulture Research Center (CRH) of Laval University is happy to welcome you all in Québec City for the Annual meeting of CSHS.

The program is special this year as the Society will join with Greensys 2009, the International Symposium on High Technology for Greenhouse System sponsored by ISHS. Moreover, the CRH takes this unique occasion to organize an horticulture bash and have its annual meeting at the same time. This will be a unique occasion for our students to share with Canadian horticulturalists.

On top of these two days, we will organize a horticulture field trip to display some of our dynamic enterprises involved in innovative horticultural ventures.

We hope you will get involved in this event and will come to Québec City to share with us your horticultural novelties.


Yves Desjardins, Agr., Ph.D.

Local organization



CSHS meets in Québec

Greetings! I would like to welcome you to the CSHS Annual Meeting. CSHS's 2009 Annual Meeting represents a truly integrated opportunity for horticulturalists with the meeting occurring in conjunction with the Greensys 2009 meeting (International Symposium on High Technology for Greenhouse Systems) and also the Annual Meeting of the Horticulture Research Center at Laval University. Drs. Martine Dorais, André Gosselin and other members of the Greensys 2009 organizing committee have assembled a very interesting and innovative program available to CSHS members to participate in while attending our Annual Meeting.

The 2009 CSHS Annual Meeting will be occurring in conjunction with the Annual Meeting of the Horticulture Research Center at Laval University. CSHS is very appreciative of the contributions of Dr. Yves Desjardins and other members of the organizing committee for this meeting. It provides an excellent opportunity to showcase Canadian horticultural research and to meet with researchers from across the world. We hope that you can attend and make the most of this fantastic event!

Sincerely,



President of CSHS



Registration

Registration – Before 27th of March, 2009

Name: _____
 Surname: _____
 Institution: _____
 Address: _____

 City: _____ Postal Code _____
 Email: _____
 Tel: _____

Registration costs:

	Non members	CSHS members	Students
Greensys registration Includes coffee break & lunch	150	150	150
Joint CSHC - CRH Meeting Includes lunch, and BBQ	100*	50	60*
Québec horticulture field trip Includes sugar shack lunch & bus	50	50	50
Total†	300	250	260

* Includes current year (2009) membership to CSHS
 † Late fee add 50 \$

Payment

By check to the order of Laval University
 Please fill this form and return accompanied by your payment at :
CSHS/CRH annual meeting
Centre de recherche en horticulture
 Université Laval, Pavillon de l'Environnement,
 2480 boul. Hochelaga
 Québec Québec G1V 0A6
 Canada

Where ?

The CSHS meeting will be held in two locations:

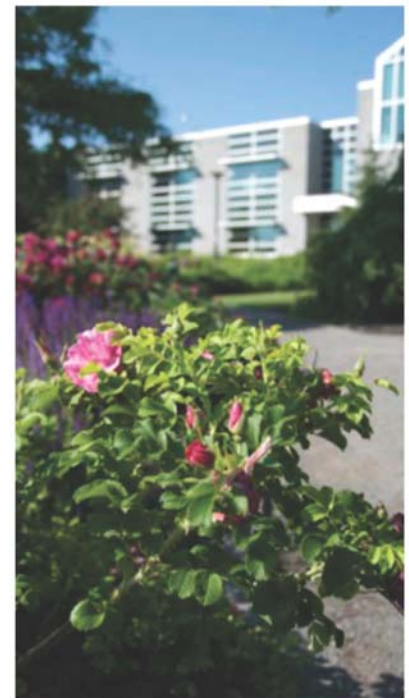
(17 June, 2009)
CSHS/Greensys 2009
 Hôtel Loews Le Concorde
 1225, Cour du Général-Montcalm
 Québec, (Québec) G1R 4W6
 Canada
 Phone: 1-800-463-5256, www.loewshotels.com

(18 June, 2009)
CSHS/Hort. Research Center
 Université Laval, Pavillon de l'Environnement,
 2480 boul. Hochelaga
 Québec Québec G1V 0A6
 Canada
 Phone: 418-656-2131 X 6788



CSHS annual meeting / Greensys 2009

June 17 to 19, 2009



Joint CSHS/CRH/Greensys 2009 meeting



Schedule

Dates	Time	Location
June 17	9h00 - Registration All day - Greensys (Scientific & Technical Program, See program beside)	Hotel Loews Le Concorde
June 18	All day Joint CRH / CSHS meeting	U. Laval Environtron bldg
June 18	18h00 CSHS Banquet/ BBQ	U. Laval Van den Herde Botanical Garden
June 19	Québec Horticulture Field Trip Departure from Environtron bldg.	Orleans Island

- * Greenhouse tomato production
- * Strawberry and raspberry production under high tunnels
- * Out of soil hydroponic strawberry production
- * Diner in sugar shack
- * Potato production
- * Vegetable farm

Participants will be back at the Environtron by 18h30

Wednesday, 17 June - Joint CSHS/Greensys Scientific Program

8:20	Keynote speaker Greenhouse Engineering: New technologies and approaches J. I. Montero (Spain)			NCERA Keynote speaker Factor Leaking to Lack of Uniformity in Commercial Greenhouses - and Potential Solutions R. Heins (USA)
9:20				CONTROLLED ENVIRONMENT TECHNOLOGY AND USE (NCERA 101/NE-1017)
9:40	SUSTAINABLE GROWING SYSTEMS <i>Welcome address</i> B. Ehret	CROP MODELLING - HORTIMODEL <i>Welcome address</i> H. Burris	GREENHOUSE MANAGEMENT <i>Welcome address</i> Y. Zheng	CE Instrumentation Technology Showcase
9:50	<i>Invited speaker</i> S. De Pascale (Italy)	<i>Invited speaker</i> J. Dautzat (France)	<i>Invited speaker</i> ???	
10:10	Healthy break			
10:20				Healthy break
10:30	SUSTAINABLE GROWING SYSTEMS	CROP MODELLING - HORTIMODEL	GREENHOUSE MANAGEMENT	
10:40	<i>Oral session</i>	<i>Oral session</i>	<i>Oral session</i>	CONTROLLED ENVIRONMENT TECHNOLOGY AND USE (NCERA 101/NE-1017) Part I
11:40				Lunch and poster session Business Meetings
12:10	<i>Closing address</i> D. Ehret	<i>Closing address</i> E. Heuvelink	<i>Closing address</i> Y. Zheng	
12:20	Lunch and poster session Business Meetings			
13:00				CONTROLLED ENVIRONMENT TECHNOLOGY AND USE (NCERA 101/NE-1017) Part II
13:30	<i>Invited speaker</i> B. Alvanus (Sweden)	ROBOTIC <i>Welcome address</i> S. Pepin	GREENHOUSE MANAGEMENT <i>Oral session</i>	Issues and trends in CE Greenhouse systems and design
13:40		<i>Invited speaker</i> E. Pakleriet (NL)		
14:00	SUSTAINABLE GROWING SYSTEMS	SENSOR AND ROBOTIC SESSION		CONTROLLED ENVIRONMENT TECHNOLOGY AND USE (NCERA 101/NE-1017) Part III - Measuring and Reporting Guide Lines for Environmental Parameters in Greenhouse Facilities
14:30	<i>Oral session</i>	<i>Oral session</i>		
14:50	<i>Healthy break</i>	<i>Healthy break</i>		Healthy break
15:00			<i>Closing address</i> Y. Zheng	
15:10				CONTROLLED ENVIRONMENT TECHNOLOGY AND USE (NCERA 101/NE-1017) Part III
15:20	SUSTAINABLE GROWING SYSTEMS	<i>Invited speaker</i> M. Dixon (Canada)		
15:40	<i>Oral session</i>	SENSOR AND ROBOTIC SESSION		
17:00	<i>Closing address</i> S. De Pascale	<i>Oral session</i>		<i>Closing address</i> C. Kubota
17:20 - 17:30		<i>Closing address</i> S. Pepin		

Wednesday, 17 June - Joint CSHS/Greensys Technical Program

Energy
An analysis of the agriculture energy situation in Québec, Canada, and elsewhere: *Eco Resource, Québec*
Heating system with bio mass and wind: an example from Ontario (Speaker to be confirmed)
Results of geothermal trials: *Annie Ousey, France*
Potential of closed greenhouse in Canada: *Peter Klapwijk, GreenO, The Netherlands*
Sustainable integrated system utilizing biomass: *Martine Dorais, AAFQ, Québec*
Heating system utilizing bio mass up date on this combustible: *Khosro, S. OMAFRA, Ontario*
New crops, innovation and trends
Greenhouse production in China: the dragon wakes up: *Xu-Hai, China*
Sustainable production in greenhouses: Who can benefit? *Giuseppe DePascale, Italy*
Structure, covering materials and equipments
Supplementary lighting with LED: a progress update: *Silvia Harroting, The Netherlands*
New products and innovations in greenhouse engineering: *Gene Gebremseh, USA*
Optimizing the control of heating, CO₂ and light in Nordic countries: *Gilles Turcotte, Québec*
A vision of future of greenhouse coverings and structures: (Speaker to be confirmed): *The Netherlands*
Recirculation of nutrient solutions new developments: *Serge Lequitic, France*
Plant-Based Control Holy Grail or Mission impossible: *Peter Klapwijk, Piva*

Thursday, 18 June - Joint CSHS/CRH meeting

9h00 - 12h00
Keynote presentation (Speaker to be announced)
Oral Session
12h00 - 13h30
Lunch
13h30 - 16h00
Oral Session
16h00 - 17h00
CSHS business meeting
17h00 - 18h00
Poster session
18h00 - ...
CSHS / CRH BBQ
Bar service provided by CRH graduate students

Accommodation

Loews Le Concorde Hotel



Although the hotel of 30 floors and 404 rooms rises to a height of 91 meters, you need not go further than the first floor to enjoy the most magnificent vistas. Because of the hotel's vantage point, every single room has an idyllic setting right outside its window. Turn your attention back to the room and you'll see that the hotel's services reach as far as the views.

The restaurants and the lounge not only span the culinary spectrum, they cover the entire city. Start at the top and take the elevator up to a phenomenal rooftop revolving restaurant doubles as an observatory. In the lobby you'll find a relaxing atmosphere where you can review the days events over hors d'oeuvres and a cocktail. Either way, you'll find that Loews Le Concorde Hotel has a flavor all its own.

To guarantee that all attendees enjoy comfortable and convenient accommodations, we have reserved a limited number of rooms at an incredibly low rate at Loews Le Concorde Hotel, the conference venue. Should you wish to benefit from the incredibly low rate, we urge you to reserve your room since the conference rate is guaranteed as long as our room block is not full and reservations will be accepted on a first-come, first-served basis. Reservations must be received prior to May 8, 2009. After this date, reservations will only be accepted based on availability and at the regular rate.

The special rate of \$189, single or double occupancy, is guaranteed upon room availability. The occupancy tax of \$2 per night, the federal tax (GST) of 5% and the provincial tax (PST) of 7.5% must be added to this rate. Taxes are subject to change without notice.

Please reserve early, since June is a peak tourist month in Québec City.

Reservation

Please mention the group code "SYS143" upon reservation in order to benefit from the conference rate.

Reserve now at Loews Le Concorde Hotel (event code: **SYS143**):

- Central Reservations: 1 800 463-5256 (toll free in Canada/USA only);
- Phone: +1 418 647-2222.

Loews Le Concorde Hotel
1225 Cours du Général-De Montcalm
Québec City, Québec
G1R 4W6
CANADA

Université Laval student residences

Some rooms in the Université Laval student residences have been reserved so that participants may stay in Québec City at a lower cost.

The Loews Le Concorde Hotel can be reached from Université Laval by bus within approximately 15 minutes.

The special rate of \$49 per night is guaranteed based on room availability and consists of a private room with a shared bathroom, in single occupancy.

There is also a few private rooms with private bathroom available at the rate of \$80 per night in single occupancy.

These rates include breakfast but not the federal sales tax (GST) of 5% and the provincial sales tax (QST) of 7.5%. Taxes are subject to change without notice. The deadline for reserving a room is May 1st.

Room reservations will be accepted on a first-come, first-served basis.

Reserve now at the Université Laval student residences (event code: GreenSys 2009):

- * On-line registration: <http://www.residences.ulaval.ca/> (starting in January 2009)
Click on "Summer housing" and then on "Convention Participants"
- * By phone: (418) 656-5632



ABSTRACTS

CSHS Annual Meeting/GreenSys 2009

June 17 to 19, 2009

Effects of a Shading and an Insulating Foam Injected between Double Polyethylene Films on Light Transmission, Growth and Productivity of Greenhouse Tomato

K. Aberkani¹, A. Gosselin¹, M. Dorais², J. Villeneuve³, L. April³, X. Hao⁴, and D. de Halleux⁵

¹Centre de Recherche en Horticulture, Université Laval, Québec, QC, Canada G1K 7P4

²Agriculture and Agri-Food Canada Université Laval, Québec, QC, Canada G1K 7P4

³Sunarc of Canada, 1597 Cunard, Laval, QC, Canada H7S 2B4

⁴Greenhouse and Processing Crops Research Centre, Agriculture and Agri-Food Canada, 2585 County Road 20, Harrow, ON, Canada N0R 1G0

⁵Département des Sols et de Génie Agroalimentaire, Université Laval, Québec, QC, Canada G1K 7P4

Energy saving in cold climates and excess light and temperature in summer are major concerns to the greenhouse industry. Sunarc of Canada developed a liquid foam technology allowing the generation and distribution of liquid foam between two polyethylene films used as greenhouse covering materials. The effects of such insulating and shading foams on energy consumption and greenhouse microclimate were investigated. Two greenhouses were used in this experiment: (1) a control greenhouse; and (2) a prototype greenhouse installed with the retractable foam technology. The first experiment (winter and early spring) consisted of injecting liquid foam between two films during the night to increase greenhouse insulation and decrease energy consumption. Tomato plants were grown using high-pressure sodium lamps (HPS) providing $120 \mu\text{mol m}^{-2} \text{s}^{-1}$ for 16 hours. In the second experiment (summer), liquid foam was in circulation between double polyethylene films during the day when solar radiation was high. Greenhouse climate (air and relative humidity), light transmission and spectral quality were measured in each greenhouse. In addition to saving in greenhouse energy consumption (40 % to 60 %), the results of this experiment indicated that the use of this technology as insulation, at night, increased artificial light reflection by 8 % to 10 % (300 nm to 1100 nm), which could contribute to the increase in leaves temperature. In summer, the circulation of liquid solution with or without foam as shading reduced natural light by 10 % to 60 % depending on the time of the day. Air temperature was reduced and relative humidity increased when the foam was applied for shading.

American Elderberry Production in Quebec: Are the Climatic Conditions Right?

Denis Charlebois

Agriculture and Agri-Food Canada, Horticultural Research and Development Centre, 430, Gouin blvd., Saint-Jean-sur-Richelieu (Québec), J3B 3E6, Canada

American elderberry (*Sambucus canadensis* L.) is a tall shrub native to eastern North America. Its potential in the food and natural products industry is gaining momentum and an increasing number of producers are showing interest in its cultivation. To fill the gap in our knowledge about the field management of this plant, trials are underway since 2003 to evaluate its production potential in various

locations in Quebec. Growth, winter damages, and yield were evaluated for 5 cultivars (Kent, Nova, Scotia, Victoria, and York) and a wild type. Under limited field management, growth was maximum the second year in the field and exceeded 1 m in Normandin (zone 2b), a site well outside the natural distribution range of this species. Growth was more important at this site than it was in L'Acadie (zone 5a) stressing the importance of edaphic conditions on elderberry growth. For all the cultivars tested and the wild type, maintenance pruning became evident starting the third year in the field when an important decrease in growth was observed. Fruit production reached its peak the third year followed by a sizeable reduction the following year. This decrease in yield was associated with a reduction in the number of fruit clusters while the average cluster size remained the same. Pigment (anthocyanin) content remained stable over the entire observation period indicating a relative insensitivity to weather conditions. From our results, it can be concluded that American elderberry (wild type and tested cultivars) is well adapted to southern Quebec climate. A stable fruit production can be expected providing adequate maintenance pruning is performed. When comparing the Normandin and L'Acadie plots, it appears that soil selection seems to have a more pronounced effect than the climatic conditions. While elderberry fruit production should be considered realistic in zone 4 and up, its rather late fruit ripening might not have time to complete in colder climate where flower production should be preferred. More studies are needed to evaluate potential pest problems associated with high density orchards of this plant that usually grows in very low density.

Bioreactor Micropropagation Strategies for Canadian Berry Industry

Samir C. Debnath

Atlantic Cool Climate Crop Research Centre, Agriculture and Agri-Food Canada, P.O. Box 39088, 308 Brookfield Road, St. John's, Newfoundland and Labrador, A1E 5Y7, Canada

An improved understanding of the important role of dietary fruits in maintaining human health has led to a dramatic increase of the global berry crop production. While berry fruits have long been enjoyed huge popularity among consumers, tremendous progress in plant tissue culture, resulting in great advances in micropropagation, has occurred. Of particular significance has been the evolution of the technology permitting multiplication of berry plants through bioreactor micropropagation. Although automation of micropropagation in bioreactors has been advanced as a possible way of reducing propagation cost, optimal plant production depends upon better understanding of physiological and biochemical responses of plant to the signals of culture microenvironment and an optimization of specific physical and chemical culture conditions to control the morphogenesis of berry plants in liquid culture systems. This paper presents the progress in-depth of various aspects of Canadian berry propagation in vitro, on gelled and in liquid media using bioreactors, for their improvement and for commercial production. Clonal fidelity can be a serious problem and strategies have been developed in order to reduce the variation to manageable levels. Molecular markers such as RAPDs, RFLPs, AFLPs, DAFs, SCARs, SSRs and ISSRs have been introduced in tissue culture research and can potentially be used in various facets of pertinent studies with berry crops. The paper also focuses on the employment of molecular markers in micropropagated plants for the assessment of genetic fidelity, uniformity, stability and true-to-typeness among donor plants and tissue culture regenerants.

Vine Water Status Influence on Sensory Evaluation of Wines of Cabernet Franc Wines in Niagara Peninsula, Ontario

Javad Hakimi Rezaei and Andrew G. Reynolds

Cool Climate Oenology and Viticulture Institute, Brock University, 500 Glenridge Avenue, St. Catharines, Ontario, L2S 3A1, Canada

The influence of vine water status on wine sensory response was studied in *Vitis vinifera* L cv. Cabernet Franc in Niagara Peninsula, ON, in 2005 and 2006. Midday leaf water potential (Ψ) was monitored in ten vineyards as indication of vine water status that showed leaf Ψ varied within and between vineyards in both years. Sensory evaluation of nine (2005) and eight (2006) pairs of experimental wines illustrated differences between wines from high and low water status (HWS, LWS) zones in each vineyard. Twelve trained judges evaluated six aroma and six flavor (red fruit, black cherry, black current, black pepper, bell pepper, and green bean), three mouthfeel (astringency, bitterness and acidity) sensory attributes as well as color intensity in the experimental wines. Using t-test each pair of HWS and LWS wine was compared. In 2005, LWS wines from Buis, Harbour Estate, Henry of Pelham (HOP), and Vieni had higher color intensity; LWS wine from *Château* des Charmes (CDC) was high in black cherry flavor; at Rief was high in red fruit flavor and at George site was high in red fruit aroma. Similar trends were observed in 2006 vintage. Despite different climatic conditions in 2005 and 2006 vintages, no differences were found from one year to the next between the wines produced from the same vineyard, indicating that the attributes of these wines were consistent. Partial Least Squares analysis showed that leaf Ψ was associated with red fruit aroma and flavor, berry and wine color intensity, total phenols, Brix and anthocyanins while soil moisture was correlated with acidity, green bean aroma and flavor as well as bell pepper aroma and flavor.

Planting Design for Light and Water Management in Strawberry

Hong Li¹, Tingxian Li², Robert J. Gordon³, and Samuel K. Asiedu¹

¹Nova Scotia Agricultural College, Department of Plant and Animal Sciences, Truro, Nova Scotia, B2N 5E3, Canada

²Ministry of Sustainable Development, Environment and Parks, Sustainable Development and Ecological Inheritance Services, Quebec City, Quebec, G1R 5V7 Canada.

³University of Guelph, Department of Land Resource Science, Guelph, Ontario, N1G 2W1 Canada

Uneven light distribution and low water holding capacity are two natural constraints limiting strawberry (*Fragaria x ananassa* Duch.) production in the coast areas in Nova Scotia. The objectives of the study were to examine the uneven distribution patterns of solar irradiance (IRR), temperature and soil water content (SWC) and to quantify the correlations of these physical variables with strawberry fruit yield and plant reflectance water index (WI). The strawberry planting design included the orientation of rows along the field aspect in the N-S direction for maximizing plant sunlight exposure and spring rainfall drainage. The measurement design consisted of a nested grid with five transects. Results showed that solar radiation incident upon the canopy was significantly higher (mean IRR 778-819 W m⁻²) in the shoulder and slope areas compared to the mean IRR of 709 W m⁻² in downslope area ($P < 0.001$), where higher SWC and lower temperature stimulated strawberry fruit bearing. Strawberry fruit yield was positively correlated to reflectance WI, normalized difference vegetative index, ratio nitrogen vegetative index and leaf chlorophyll ($0.46 < R^2 < 0.68$, $P < 0.05$). Distribution patterns and correlations between strawberry yield and physical variables suggested that IRR and water stress occurring with the influence of high topographic features resulted in reduced strawberry fruit bearing

ability. It was suggested that the N-S row orientation along the aspect would help sunlight capture but not water holding for the shallow-rooted strawberry plants. A new planting design for alternative orientation of rows (NE-SW or W-E) should be tested for light and water management for maximum sunlight capturing and water holding in soils with natural constraints.

Sweet Corn Yield, Weed Populations, and Economics in a Winter Cover Crop System

Kelsey A. O'Reilly¹, Darren E. Robinson², Richard J. Vyn³, and Laura L. Van Eerd¹

¹Land Resource Science, ²Plant Agriculture, and ³Food, Agricultural and Resource Economics, ^{1,2,3}University of Guelph Ridgetown Campus, Ridgetown, ON, Canada N0P 2C0; lvaneerd@ridgetownc.uoguelph.ca

The effectiveness of cover crops as an alternative weed control strategy must be assessed as the demand for produce grown under sustainable agricultural practices increases. At two locations, a study was conducted to assess the effect of winter cover crops on weed populations in a pea (*Pisum sativum* L.) – cover crop – sweet corn (*Zea mays* L.) rotation. The main plot factor was winter cover crop type and the split-plot factor was presence or absence of weeds in the sweet corn. The cover crop treatments included a no cover crop control, oat (*Avena sativa* L.), cereal rye (*Secale cereale* L.), oilseed radish (OSR) (*Raphanus sativus* L. var. *oleiferus* Metzg Stokes), and oilseed radish with rye (OSR+rye). In the fall, at Site 2 but not Site 1, weed biomass in the OSR treatments was 29 and 59 g m⁻² lower than in the no cover and the cereal treatments, respectively. In the spring, OSR+rye and rye reduced weed biomass, density, and species richness below the levels observed in the control at Site 1, but cover crops had no effect on weed populations at Site 2. In the sweet corn crop, weed populations and sweet corn yields were generally unaffected by the cover crops, at both sites. Although cover crops did not provide weed suppression during sweet corn growth, they also did not result in an increase in weed biomass and or density, provided that OSR does not set viable seed. Economic analyses indicated that, at both sites, all cover crops were as profitable as or more profitable than the no cover crop control. The relative profitability of cover crop treatments varied among the two sites. At Site 1, the oats treatment was most profitable, while at Site 2, the OSR treatment had the highest profit margins. Overall, these results imply that the cover crops tested are feasible options to include in sweet corn production.

Processing Tomato Yield is Influenced by Prior Winter Wheat Straw Management

Laura L. Van Eerd¹ and Steven A. Loewen²

¹Land Resource Science, ^{1,2}University of Guelph Ridgetown Campus, 120 Main St. E. Ridgetown, ON, N0P 2C0, Canada

There is some concern by Ontario growers that too much winter wheat straw may have negative effects on the processing tomato crop in the following year. An experiment was designed to evaluate the response of processing tomato yield and quality to common winter wheat management practices including: 1) negative control treatment - leaving the straw in the field, 2) removing straw after wheat harvest, or 3) leaving the straw in the field with a fall application of calcium ammonium nitrate at 34 kg N ha⁻¹. The experiment was a split-plot factorial design with wheat management as the main-plot factor and nitrogen fertilizer (0 or 116 kg N ha⁻¹) to the tomato crop as the sub-plot factor. Management and tillage practices were according to typical grower practices. Over three site-years, marketable and total

yield was significantly higher in the control than the straw removed treatment (total yield 81.6 vs 71.9 T ha⁻¹). The straw +fall N treatment (total yield 77.8 T ha⁻¹) was not different from the other two straw treatments. Differences in yield appear to be related to the quantity of straw residue on the soil surface in the following spring. Although there were differences among site-years, tomato quality parameters of Agrtron colour and pH were not affected by wheat management or tomato nitrogen treatments. Straw management treatment had small but significant effect on soluble solids, where control \leq straw+fall N \leq straw removed. With the projected demand for straw and other crop biomass for the bioenergy sector, growers should consider the impact of removing biomass from the field.

Antioxidant Activities in Lingonberry (*Vaccinium vitis-idaea* L.) as Affected by *In Vitro* and *Ex Vitro* Propagation Methods

Poorva Vyas^{1,2}, Samir C. Debnath², Abir U. Igamberdiev¹

¹Department of Biology, Memorial University of Newfoundland, 232 Elizabeth Avenue, St. John's, NL, A1B 3X9, Canada

²Atlantic Cool Climate Crop Research Centre, Agriculture and Agri-Food Canada, P.O. Box 39088, 308 Brookfield Road, St. John's, NL, A1E 5Y7, Canada

Lingonberry (*Vaccinium vitis-idaea* L.), an important fruit crop in many northern latitude countries, is a medicinal plant rich in antioxidants. Berries contain higher antioxidant activity than those of cranberries, raspberries, strawberries, blackberries and blueberries. Antioxidant enzymes and free radical scavengers may provide defensive mechanism against the deleterious actions of reactive oxygen species which are formed during the course of normal cellular metabolism and are toxic causing lipid peroxidation, enzyme inactivation and oxidative damage to DNA. Antioxidant activities were found to be affected by propagation methods. This paper presents the progress in-depth of various aspects of antioxidants in lingonberry. It also discusses the relationship between antioxidant activity and propagation *in vitro* and in *ex vitro* in lingonberries.

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Photo : Sophie Pelletier

Themes Energy • Greenhouse system • Robotic and sensors • Crop modelling - HORTIMODEL • CFD • Micro-climate • Controlled Environment Technology and Use - USDA NCERA-101/NE-1035 • Greenhouse management • Fertigation and management of growing media • Plant protection • Sustainable growing systems • Organic crop systems • High tunnels • Product quality • Education and training

Conveners: André Gosselin (Centre de Recherche en Horticulture, Université Laval, Québec, Canada)
Martine Dorais (Agriculture and Agri-Food Canada, Université Laval, Québec, Canada)

Preliminary Scientific Program

MONDAY, JUNE 15, 2009

KEYNOTE SPEAKER:

Worldwide Development of Sustainable Production Systems in Greenhouses

Dr. Michael Parella (UC Davis, Davis, USA)

GREENHOUSE SYSTEM SESSION

PRESIDENTS:

Dr. Gene Giacomelli (CEAC, University of Arizona, Tucson, USA)
Dr. Damien DeHalleux (Soil and Food engineering department, Université Laval, Québec City, Canada)

INVITED SPEAKER:

The development of protected horticultural production in Asia

Dr. Xu Hui (Shenyang Agricultural University, Shenyang, China)

MODELLING-HORTIMODEL SESSION

PRESIDENTS:

Dr. Ep Heuvelink (Horticultural Productions Chains Grp, Wageningen University, The Netherlands)
Dr. Nadia Bertin (Plantes et systèmes de culture horticoles, INRA, Avignon, France)

INVITED SPEAKER:

The Use of Crop Models, Genotype x Environment Interactions to Aid Crop Management

Dr. Gerrit Hoogenboom (Biological and Agricultural Engineering, University of Georgia, Griffin, USA)

HIGH TUNNEL SESSION

PRESIDENT:

Dr. Chris Wien (Department of Fruit and Vegetable Science, Cornell University, Ithaca, USA)

INVITED SPEAKER:

High Tunnels for the Production of Vegetables, Small Fruits and Flowers

Dr. Bill Lamont (Department of Horticulture, Penn State University, USA)

FERTIGATION AND GROWING MEDIA MANAGEMENT SESSION

PRESIDENTS:

Dr. Jean Caron (Soil and Food Engineering Department, Université Laval, Québec City, Canada)
Dr. Mike Nichols (INR, Massey University, Palmerston North, New Zealand)

INVITED SPEAKER:

Irrigation and Aeration Management in Different Growing Media

Dr. Jean Caron (Soil and Food Engineering Department, Université Laval, Québec City, Canada)

PLANT PROTECTION SESSION

PRESIDENTS:

Dr. Nicole Benhamou (Plant Science Department, Université Laval, Québec City, Canada)
Dr. Jacques Brodeur (IRBV, Université de Montréal, Montréal, Canada)

INVITED SPEAKERS:

Greenhouse Climate: An Important Consideration when Developing Pest Management Programs for Greenhouse Crops

Dr. Les Shipp (Agriculture and Agri-Food Canada, Harrow, Canada)

Recent Advances in Disease Control of Soilless Media-grown Plants Using Suppressive Composts

Dr. Michael Raviv (Department of Environmental Horticulture, Newe Ya'ar Research Center, Ramat Yishay, Israel)

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KEYNOTE SPEAKER:

Energy Saving: From Engineering to Crop Management

Dr. Anja Dieleman (Wageningen UR Greenhouse Horticulture, Wageningen, The Netherlands)

ENERGY SESSION

PRESIDENTS:

Dr. Silke Hemming (Wageningen UR Greenhouse Horticulture, Wageningen, The Netherlands)
Dr. Sadanori Sase (National Institute for Rural Engineering, Tsukuba, Japan)

INVITED SPEAKERS:

Reducing Carbon Emissions from Greenhouse Production Through the Use of Temperature Integration and Alternative Sources of Heat

Dr. Steve Adams (Warwick HRI, University of Warwick, Wellesbourne, UK)

Low Energy Greenhouse – a System Approach

Dr. Hans-Juergen Tantau (Institute of Biological Production Systems, Leibniz Universität Hannover, Hannover, Germany)

CFD SESSION

PRESIDENT:

Dr. Thierry Boulard (INRA-URIH, Sophia Antipolis, France)

INVITED SPEAKER:

Advantages and Constraints of Greenhouse CFD Modelling

Dr. Thierry Boulard (INRA-URIH, Sophia Antipolis, France)

GREENHOUSE MANAGEMENT SESSION

PRESIDENT:

Dr. Youbin Zheng (Department of Environmental Biology, University of Guelph, Guelph, Canada)

INVITED SPEAKER:

Dr. Leo Marcelis (Plant Research International, Wageningen, The Netherlands)

NEW PRODUCT AND QUALITY SESSION

PRESIDENTS:

Dr. Blanche Dancereau (Horticultural Research Centre, Université Laval, Québec City, Canada)
Dr. Hélène Gautier (INRA, Centre d'Avignon, Avignon, France)

INVITED SPEAKERS:

New Crops for Greenhouse production

Dr. Mike Nichols (INR, Massey University, Palmerston North, New Zealand)

Production of plant-made vaccines and bio-pharmaceuticals

Dr. Louis P. Vézina (Médicago, Québec City, Canada)

MICROCLIMATE SESSION

PRESIDENTS:

Dr. Oliver Köner (Plant International Research, WUR Greenhouse Horticulture, The Netherlands)
Dr. Xiuming Hao (Agriculture and Agri-Food Canada, Harrow, Canada)

INVITED SPEAKER:

Dr. Constantinos Kittas (Department of Agriculture, University of Thessaly, Magnisia, Greece)

ORGANIC CROP SESSION

PRESIDENT:

Dr. Yüksel Tüzel (Ege University, Bornova-Izmir, Turkey)

INVITED SPEAKER:

Problems of Organic Greenhouse Farming Regarding the Root Environment

Wim Voogt (Applied Plant Research, WUR Greenhouse Horticulture, The Netherlands)

Photo: Constance Lanoussier

Preliminary Technical Program

WEDNESDAY, JUNE 17, 2009

Energy

An analysis of the agriculture energy situation in Québec, Canada and elsewhere
Eco Ressource, Québec

Heating system with biomass and wind: an example in Ontario
(Speaker to be confirmed)

Results of geothermal trials
Ariane Grisey, France

Potential of closed greenhouse in Canada
Peter Klapwijk, GreenQ, The Netherlands

Sustainable integrated system utilizing biomass
Martine Dorais, AAFC, Québec

Heating system-utilizing biomass: update on this combustible
Khosla, S., OMAFRA, Ontario

New crops, Innovation and trends

Greenhouse production in China: the dragon wakes up
Xu Hui, China

Sustainable production in greenhouses: Who can benefit?
Stefania DePascale, Italy

Structure, covering materials and equipments

Supplementary lighting with LED; a progress update
Silke Hemming, The Netherlands

New products and innovations in greenhouse engineering
Gene Giacomelli, USA

Optimizing the control of heating, CO₂ and light in Nordic countries
Gilles Turcotte, Québec

A vision of future of greenhouse coverings and structures
(Speaker to be confirmed, The Netherlands)

Recirculation of nutrient solutions: new developments
Serge Lequillec, France

Plant-Based Control: Holy Grail or Mission impossible
Peter Kamp, Priva

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THURSDAY, JUNE 18, 2009

Floriculture

Structure, covering materials and equipments

Flower production in high tunnels
Chris Wien, Cornell University, USA

The labor challenges in floriculture and what to do
Albert Grims, Ontario

New crops, Innovation and trends

The present trends and future packaging in Floriculture
Michel Sénécal, Québec

Cool growing spring crops or how to lower production costs
Jack Williams, USA

Genetic selection criteria's in floriculture; what will flowers resemble in the future
Will Healy, USA

New Plants in 2010 - as seen at California Pack Trial
(Speaker to be confirmed)

Production

New technologies in floriculture production
Royal Heins, USA

Phytosanitary control

Biological control of greenhouse pests: Keys to success
D.A. Demers, Bio-best

Vegetable

Energy

Tomato and fish production in the greenhouse
Peter Klapwijk, GreenQ, The Netherlands

New crops, Innovation and trends

Greenhouse development in Mexico
Hector Gallagos, Mexico

Greenhouse production in Ontario
Dean Thiessen, Ontario

Hydroponic lettuce production: a world vision
Luc Desrochers, Hydronov inc.

Growing strawberries and raspberries in greenhouses
Kris Goen, Belgium

Lighting of pepper production
Ep Heuvelink, The Netherlands

Biological production of vegetables
Wim Voogt, The Netherlands

Phytosanitary control

Greenhouse production in USA: Importance of bio-safety
(Speaker to be determined, USA)

Production

Producing 150 or 500 fruit/m²/yr: from the lab to reality (Scandinavian system)
Timo Helle, Finlande

New techniques in vegetable production
Kris Goen, Belgium

Plant Canada

The Federation of Canadian Plant Science Societies

Purposes

To organize and sponsor regular, effective scientific meetings and workshops under a national umbrella for plant science and related disciplines in Canada

To operate and maintain a strong communication network among Member Societies and their individual members

To be a strong and effective force for public education and advocacy in plant and related sciences

How to Join Plant Canada

Plant Canada (The Federation of Canadian Plant Science Societies) is made up of member societies, not individual scientists. Any society wishing to join this federation should contact the current President of the Board of Directors: Khanizadehs@agr.gc.ca

Board of Directors

The Plant Canada Board of Directors is made up of a president, secretary, treasurer, and two representatives from each of the member societies.

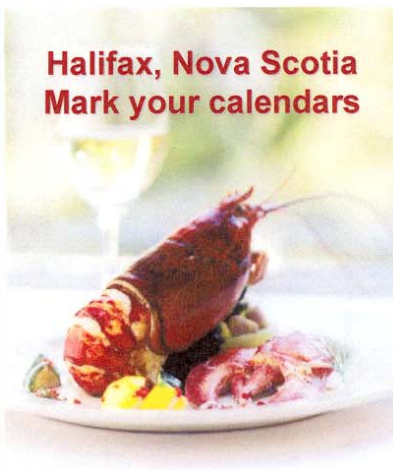
Members

- ✓ Canadian Botanical Association
- ✓ Canadian Society of Plant Physiologists
- ✓ Canadian Phytopathological Society
- ✓ Canadian Weed Science Society
- ✓ Canadian Society of Agronomy
- ✓ Canadian Society of Horticultural Science



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Halifax, Nova Scotia
Mark your calendars



Next Plant Canada Conference - (for all member societies) Summer 2011

Dear Colleague,

On behalf of the Organising Committee it is our pleasure to invite you to attend the Plant Canada meeting in Halifax during the summer of 2011. The meeting will be held in a first class conference environment while providing participants with easy access to the many entertainment options of this city including the historic waterfront, museums, galleries, shopping, dining and nightlife. In short we are hoping to entice you to participate in a meeting with excellent multidisciplinary science, and to also possibly set aside time for rest and relaxation in the region. Nova Scotia is known as one of the best vacation destinations in Canada! We look forward to seeing you in Halifax where Maritime hospitality is guaranteed!

Yousef A. Papadopoulos, Conference Co-Chair & Chairperson of the Organizing Committee

David Percival, Conference Co-Chair

Shahrokh Khanizadeh, Plant Canada President

Board of Directors

President

Dr. Shahrokh Khanizadeh
(CSHS past president)
Hort. Research and Development Centre
430 Gouin Blvd., St-Jean-sur-Richelieu, QC, J3B 3E6
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Dr. Carol Peterson
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Canadian Society of Plant Physiologists (CSPP)

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Guelph, ON, N1G 2W1
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Dr. Carl J. Douglas (CSPP Vice-president)

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Canadian Botanical Association (CBA)

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Department of Biology, University of Prince Edward Island, 550 University Avenue
Charlottetown, PEI, C1A 4P3
Telephone: (902) 566-0320

Dr. Rodger Evans (CBA President-Elect)

Biology Department, Acadia University, 24 University Avenue, Wolfville,
NS S4P 2R6
Telephone: (902) 555-1710

Canadian Phytopathology Society (CPS)

Dr. Jim Menzies (CPS President)

Cereal Research Centre, 195 Dafoe Road,
Winnipeg, MB, R3T 2M9
Telephone: (204) 983-5714

Dr. Bruce Gossen (CPS Past-President)

Saskatoon Research Centre, 107 Science Place, Saskatoon, SK, S7N 0X2
Telephone: (306) 956-7259

Canadian Weed Science Society (CWSS)

Dr. Len Juras (CWSS 1st Vice-President)

DOW AgroSciences Canada Inc., 101 - 421 Downey Rd., Saskatoon, SK S7N 4L8
Telephone: (306) 657-3358

Dr. Clarence Swanton (CWSS 1st Vice-President)

Dept. of Plant Agriculture, Crop Science Bldg,
Guelph, ON, N1G 2W1
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Canadian Society of Agronomy (CSA)

Dr. Shabbtai Bittman (CSA President-Elect)

Agassiz Research Station, 6947 Highway #7
AGASSIZ, BC, V0M 1A0
Telephone: 604-796-1735

Dr. Gavin Humphreys (CSA)

See above

Canadian Society for Horticultural Science (CSHS)

Dr. David Percival (CSHS President)

Nova Scotia Agricultural College, Department of Envir. Sciences, Truro, NS,
B2N 5E3
Telephone: (902) 893-7852

Dr. Shahrokh Khanizadeh (CSHS past president) See above

Tentative date: July 18-22, 2011

Plant Canada President's Report/Upadtes 2007/2008
February 2009

President: Shahrokh Khanizadeh

Secretary: Gavin Humphreys

Treasurer & Past President: Carol Peterson <cpeterson@uwaterloo.ca>

To the Executive and Board of Directors of Plant Canada:

Here is the highlight/summary of the activities and report for 2007/2008

Member Societies and Their Representatives on the Plant

Canada Board of Directors

CSPP (Canadian Society of Plant Physiologists) <http://www.cspp-scpv.ca/>

Dr. Peter K. Pauls (President of the society); Department of Plant Agriculture, ppauls@uoguelph.ca,
<http://www.plant.uoguelph.ca>

Carl J. Douglas (Vice-president of the society), cdouglas@interchange.ubc.ca, <http://www.botany.ubc.ca/>

Canadian Botanical Association (CBA) - <http://www.uoguelph.ca/botany/cba/>

Dr. Rodger Evans (President of the society); Biology Department, rodger.evans@acadiiau.ca
<http://ace.acadiiau.ca/>

Dr. Hugues Massicotte (President-Elect of the society); Ecosystem Science and Management Program,
hugues@unbc.ca, <http://web.unbc.ca/forestry/Hugues/>

CPS (Canadian Phytopathological Society) <http://www.cps-scp.ca/cps.htm>

Dr. Jim Menzies (President of the society); Cereal Research Centre, jmenzies@agr.gc.ca
<http://www4.agr.gc.ca>

Dr. Bruce Gossen (Past-President of the society); Saskatoon Research Centre, gossenb@agr.gc.ca,
<http://www4.agr.gc.ca>

CWSS (Canadian Weed Science Society) <http://www.cwss-scm.ca/>

Dr Tom Wolf, Saskatoon Research Centre; <http://www4.agr.gc.ca>, wolft@agr.gc.ca

Dr. Clarence Swanton (1st Vice-President of the society); Department of Plant Agriculture,
cswanton@uoguelph.ca, <http://www.plant.uoguelph.ca>

CSA (Canadian Society of Agronomy) <http://www.agronomycanada.com/about.html>

Dr. Shabbtai Bittman (President-Elect of the society); Agassiz Research Station, bittmans@agr.gc.ca,
<http://www4.agr.gc.ca>

Dr. Gavin Humphreys, Cereal Research Centre; gumphreys@agr.gc.ca, <http://www4.agr.gc.ca>

CSHS (Canadian Society for Horticultural Science) <http://www.cshs.ca/>

Dr. David Percival (President of the society); Nova Scotia Agricultural College
dpercival@nsac.ns.ca, <http://nsac.ns.ca>

Shahrokh Khanizadeh; khanizadehs@agr.gc.ca, <http://khanizadeh.info>

Progress 2007-2008

During the 2007 meeting in Saskatoon, SK, it was suggested that the Board of Directors (BoD) have at least 2-3 Telephone Conferences (TC) to keep the members informed of activities and progress, and to discuss what could be done to improve and push the PC mission forward. Such conferences are useful as we now meet only every 4 years.

One of the TC was on **April 15, 2008** and Shahroch Khanizadeh (PC-President), Carol Peterson (PC-Treasurer), Gavin Humphreys (PC-Secretary), Carl Douglas (CSPP), Christian Lacroix (CBA), Rodger Evans (CBA), Jim Menzies (CPS), Bruce Gossen (CPS), Clarence Swanton (CWSS), Shabbtai Bittman (CSA), David Percival (CSHS), Karen Bailey (Plant Canada 2007), and Yousef Papadopoulos (Plant Canada 2011) participated. Several items, including the approval of PC BoD meeting minutes for 2007, were discussed. A final report prepared by K. Baily was forwarded to the BoD and a copy is posted in the PC web site. **In short** 431 participants attended the meeting with 300 affiliated: CBA 46, CPS 96, CSA 37, CSHS 20, CSPP 94, and CWSS 7. The conference returned a profit of nearly \$ 45,000 which was distributed to the member societies. The BoD congratulated the LOC on the successful meeting.

It has been suggested that PC have a financial reserve built up to provide seed money for future meetings and to fund other operations. The Plant Canada web site has been moved to seanic.net, a server used by CSHS, and is managed by S. Khanizadeh. The domain name plantcanada.ca is registered by Sibername Internet and Software Technologies Inc. until 2018/03/25 for about \$130.00. This reduces the cost of server maintenance and yearly domain name registration. Many modifications have been done and more are in progress to improve the web and its usage, including full translation of the site into French. All the information regarding the previous meeting, minutes etc. are now being archived and are accessible to the PC BoD. The PC BoD members can access the minutes and other archived materials by using an ID and password which is the BoD family+society abbreviation as ID and PC BoD family name as password, i.e. ID: evansCBA and password: evans (note the lower and uppercase) or ID: menziesCPS password: menzies.

This will eliminate paper transfer from one BoD group to another and information will be accessible to the new LOC to be used for their convenience and improvement of future meetings.

I am missing a lot of information from 2003 to 2005 on PC activities and meetings and would appreciate receiving anything that can be added to the PC site, similar the 2007 meeting.

I would like to propose making a universal section (sub-web) that can be used by the future PC LOC conference members to post items e.g. Committees, Programs, Tours, Abstract Submissions, Poster & Oral Presentation Guidelines, Announcements, Registration, Hotels & Accommodation, Sponsors & Exhibitors, etc. This section could also be used to receive abstracts on line to facilitate and simplify the work of the organizing committees and also build a database of articles, presented subjects etc. This will be added to the next PC Telephone Conference agenda for discussion, approval and implementation. The outcome will also improve/increase the visits to the PC website through the search engines.

As reported in our last meeting by **C. Peterson**, Harold Weger (treasurer CSPP) and Jane Young (treasurer CBA) are nominated as Plant Canada Auditors. It is also noted that Plant Canada is presently in a good financial position (**balance \$11,964.36**) and the previously circulated report has been audited and approved.

Two new committees were put together. One was a PC advisory committee to help the transition of the new PC BoD, web site update, conferences, etc. with no pay; Carol and Shahrokh accepted this volunteer work.. Carol, Jane & Bruce also agreed to form a second, Ad Hoc committee to discuss how to divide up the profits and losses from PC annual meetings.

Membership and Changes in PC BoD

The membership of Plant Canada has remained stable (six societies). S Khanizadeh sent invitations to Canadian Society of Soil Science (CSSS) (Dan Pennock, President), and to the Entomological Society of Canada (ESC) (Maya Evenden) inviting them to join PC. ESC decided not to join Plant Canada at this time but CSSS would re-consider after the 2011 Plant Canada meeting due to their current engagements. We agreed to create a corporate members category and Carl Douglas (CSPP) agreed to formulate a policy for this that can be posted on the PC web site.

On behalf of the Plant Canada (PC) Board of Directors (BD) I would like to thank Christian Lacroix and Len Juras for their effort and participation and help during their terms. I would like also to take this opportunity to welcome Tom Wolf and Hugues Massicotte to the Board and for their willingness to promote PC mandate and missions.

Last but not least I would like to thank Deep Saini who led the PC BoD during 2005-2007.

Publicity

A poster has been put together and presently being revised to promote the 2011 PC meeting in NS. The new poster will have additional information on the proposed date, LOC and other committees, places and will be sent to all PC Board members by this summer.

Plant Canada NS2011 - 1st Meeting, Halifax, NS

Lead organizing groups: Canadian Society of Agronomy and Canadian Society for Horticultural Science

Contact: Yousef Papadopoulos Papadopoulosy@agr.gc.ca and David Percival dpercival@nsac.ca

S. Khanizadeh attended the 1st meeting of PC2011 in NS organized by Yousef Papadopoulos and David Percival on Jan 20, 2009 in Nova Scotia Agricultural College. Yousef, David, Gordon Braun, Zhongmin Dong, Kevin Vessey, Jean-Pierre Prive, Paul Hildebrand were also present. The meeting is projected to have about 400-700 attendees, and the members representing the societies agreed that each society have its own sessions, but also have other sessions that overlap with other societies to encourage interactions. The members emphasized that each member society have their own publicity effort apart what is done by PC and LOC. It was also agreed to have at least two reps from each member society on the LOC.

Saint Mary's University, Halifax was selected as the best choice for PC2011. This venue has excellent conference facilities and close proximity of lecture halls, excellent food services, and newly renovated residences that are excellent for individuals or families at very reasonable rates. The campus is also close to downtown and the harbourfront. Numerous dates for the meeting were considered with **July 18-22** as the best possible choice with proposed registration and an evening reception on Sunday, July 17.

Preliminary committees

Finance Committee

David Percival will chair this committee with financial accounts and auditing being handled by NSAC. C. Peterson (PC treasurer) agreed to serve on this committee.

It is proposed that the finance committee have a rep from each society, but concern was expressed regarding the committee size.

Fundraising and Sponsorship Committee

It is vital to the success of the PC2011 to have good sponsors, and Yousef and Shahrokh are looking for individuals to put a committee together from inside and outside of the Atlantic region. Suggested names of potential committee members are welcome and can be forwarded to Yousef. Zhongmin (from St Mary) is the chair of LOC with Yousef and David on the board.

Proposed schedule of PC2011

Day 1 Registration (Sunday or Monday – to be confirmed)

Day 2 Official Opening/Plenary Session; Society sessions in PM

Day 3 Tours and BBQ, family day; Hopewell Rocks, Peggy's Cove/Lunenburg NSAC etc.

Day 4 Society sessions and evening banquet

Day 5 Society sessions ending at noon

It is suggested that each member of the planning committee contact their member society regarding the proposed schedule, and obtain feed-back and specific requirements for their scientific sessions, including awards, presentations, etc.

Scientific and Publication Committee

Shahrokh and Jean-Pierre will co-chair this committee; the next meeting is scheduled for April 21, 2009 at 13:00-15:00.

A note from:

Yousef A. Papadopoulos (Conference Co-Chair & Chairperson of the Organizing Committee) and David Percival (Conference Co-Chair)

Plant Canada 2011

Progress Report, December 30, 2008

On behalf of the Organising Committee it is our pleasure to invite you to attend the Plant Canada meeting in Halifax during the week of July 18 to 22, 2011 (proposed date which will be finalized in early 2009). The initial planning committee was assembled in 2008 and met on January 20th, 2009; Yousef A. Papadopoulos (Chair), David Percival (Conference Co-Chair), Shahrokh Khanizadeh (Plant Canada President), Paul Hildebrand & Gordon Braun (CPS), Hugues Massicotte (CBA), Prithiviraj Balakrishnan (CSA), Jean-Pierre Privé (CSHS), Kevin Vessey & Zhongmin Dong (CSPP), and Glen Sampson (CWSS). The PC2011 meeting will be held at Saint Mary's University. The chosen location is a first class conference environment that will also provide participants with easy access to the many entertainment options of this city including the historic waterfront, museums, galleries, shopping, dining and nightlife. In short we are hoping to entice you to participate in a meeting with excellent multidisciplinary science, and to also possibly set aside prior or subsequent time for rest and relaxation in the region. Nova Scotia is known as one of the best vacation destinations in Canada! We look forward to seeing you in Halifax where Maritime hospitality is guaranteed!

It is intended to use the above text and details on the committees to update the PC poster for publicity which will be posted on the PC web site and can be downloaded by PC BoD to display at their Dept for publicity.

I would like to propose that we use a small part of the PC reserve to make a 1 page flyer to be distributed to several list servers for publicity.

Sad New about CFBS Closure

The CFBS Board decided in May 2008 to discontinue the annual CFBS scientific conferences and other operations. The CFBS was shut down in Dec 31, 2008.

Strategic Summit of Plant Science Societies

The American Society of Plant Biologists will be hosting the first Strategic Summit of Plant Science Societies in Honolulu, Hawaii, on July 15 and 16, 2009. An official invitation was forwarded to the PC President to represent Plant Canada during the meeting.

Best regards

Shahrokh

New Book

"Modification of Seed Composition to Promote Health and Nutrition" image:
<http://www.newswise.com/images/uploads/2009/05/04/fullsize/9780891181699.jpg>

Food Security: It Starts with Seed

Madison, WI, May 1, 2009 -- With each passing year, the human population of our planet continues to expand. This growth has created a wide ranging strain on our water and soil resources, as well as our environment, creating an unprecedented urgency to address the issue of food security. One way that scientists are working towards this goal is through the genetic modification of seeds, both as a method of improving crop yields as well as enhancing the nutritional composition of foods. A new book published by American Society of Agronomy, the Crop Science Society of America and the Soil Science Society of America addresses the issue of seed modification for the improvement of food sources around the world.

The newly released book, "Modification of Seed Composition to Promote Health and Nutrition," brings together research and interpretations from prominent scientists from around the world who are addressing many food-related human issues through modification of seed composition. Among the wide range of cutting-edge topics that this book covers are the pursuit of grains that could eradicate global malnutrition and the potential growth of vaccines.

This book provides valuable, science-based insights for researchers and practitioners in disciplines ranging from medicine to human nutrition to crop production. Readers from across a spectrum of various disciplines should find a topic of interest in this text. Chapter titles include "Engineering Proteins for Improved Nutritional Value"; "Reducing Peanut Allergy Risks by Means of Genetic Modification"; "Engineering Seeds for the Production and Delivery of Oral Vaccines"; and "Engineering Plants to Produce Polyunsaturated Fatty Acids".

Hari Krishnan, a research molecular biologist with the USDA-ARS and an Adjunct Professor of Plant Sciences at University of Missouri in Columbia, MO, is the editor of the book. Current areas of research in his lab include the genetic modification of soybean seed composition and improvement of biological nitrogen fixation in the model symbiosis between soybean and *Sinorhizobium fredii* USDA257.

The publishing of "Modification of Seed Composition to Promote Health and Nutrition" coincides with the initiation of the Biomedical, Health-Beneficial and Nutritionally Enhanced Plants division of interest in the Crop Science Society of America. This division of CSSA focuses on plants as food or feed, as well as the development and evaluation of novel characteristics and compositional quality traits in crops that are important to the health, well being, and nutritional requirements of humans.

View the table of contents for "Modification of Seed Composition to Promote Health and Nutrition" at:
<https://portal.sciencesocieties.org/Downloads/pdf/B40723.pdf>

"Modification of Seed Composition to Promote Health and Nutrition" can be purchased online for \$105, Item No. B40723 at:
www.societystore.org, by phone at 608-268-4960, or by email: books@crops.org.

The American Society of Agronomy (founded in 1907) is dedicated to the development of agriculture enabled by science, in harmony with environmental and human values. The Society supports scientific, educational, and professional activities to enhance communication and technology transfer among agronomists and those in related disciplines on topics of local, regional, national, and international significance.

The Crop Science Society of America (founded in 1955) is a scientific society comprised of members who advance the discipline of crop science by acquiring and disseminating information about crops in relation to seed genetics and plant breeding; crop physiology; crop production, quality, and ecology; crop germplasm resources; and environmental quality.

The Soil Science Society of America (founded in 1936) is a progressive, international scientific society that fosters the transfer of knowledge and practices to sustain global soils. Based in Madison, WI, SSSA is the professional home for 6,000+ members dedicated to advancing the field of soil science. It provides information about soils in relation to crop production, environmental quality, ecosystem sustainability, bioremediation, waste management, recycling, and wise land use.

Because of their common interests, ASA, CSSA, and SSSA share a close working relationship and same office staff in Madison, WI. Each organization is autonomous with its own bylaws and governing boards of directors.

Job Opportunities



Vineland Research and Innovation Centre is now recruiting for four senior Principal Investigators to work in an industry-driven research environment. As a not-for-profit, international research organization, Vineland is dedicated to innovation and commercialization in horticulture. Our people are the most important asset in achieving our goals and are known in the world for excellence in science and entrepreneurship. Our staff enjoys outstanding benefits and an exciting and challenging work environment noted for collaboration and knowledge sharing all set against a backdrop of natural beauty.

While the science at Vineland is cutting edge, the Vineland lab is guided by market demand and its research driven by the needs of industry. The Centre's partnerships with industry, universities and colleges, and with provincial and federal agencies, enable and leverage a convergence of ideas and expertise. The result is an innovation pipeline that is continuous from scientific discovery to market application.

Principal Investigator – Bioinformatics and Genetic Information

The incumbent, with a MSc or PhD specializing in bioinformatics and with two to five years' experience in bioinformatics, will build a team that develops new technologies advancing the breeding of horticulture species.

Principal Investigator – Horticultural Crop Breeding

The incumbent, with a PhD in plant breeding and genetics and with a minimum of two years postdoctoral research experience in plant breeding and genetics, will build a research team that develops new traits, germplasm and varieties of horticultural species.

Principal Investigator – Sensory Analytics

The incumbent, with a PhD in Food or Plant Sciences and with at least two years of postdoctoral experience, will establish and oversee the research program in sensory analytics to discover chemical or physical markers of horticultural product quality.

Principal Investigator – Horticultural Economics

The incumbent, with a PhD in Agricultural Economics, Agribusiness or equivalent and with two years of postdoctoral experience, will acquire and transmit new economic knowledge supporting Vineland's research strategy including market expansion by the introduction of new or enhanced horticulture products.

Please send your application in confidence to the attention of:

Human Resources
Vineland Research and Innovation Centre
4890 Victoria Avenue, North, POB #4000
Vineland Station, ON L0R 2E0
careers@vinelandresearch.com

Vineland Research and Innovation Centre thanks all applicants. We advise only those who qualify for an interview will be contacted.

Post-Doctoral Fellow - Natural Product Chemistry

Nova Scotia Agricultural College
Truro-Bible Hill, NS

Competition #: 2596CH-CB

Nova Scotia Agricultural College (NSAC; <http://nsac.ca>) is a small research-intensive university located in the centre of beautiful Nova Scotia at Truro-Bible Hill. Offering technical, undergraduate and graduate programs in agriculture and its related life and social science disciplines, NSAC educates future leaders and generates knowledge and solutions for healthy, sustainable societies. NSAC seeks candidates to fill the position of Postdoctoral Fellow - Food and Natural Product Chemistry.

Duties:

The Tree Fruit Bio-product Research Program at NSAC is seeking a Postdoctoral Fellow to perform research in the area of food and natural product chemistry with the emphasis on plant secondary compounds and their antioxidant and pharmacological properties using *in vitro*, food, and biological model systems. Research activities mainly include isolation of selected phytochemicals using various chromatographic partitioning techniques, characterization of their chemical properties using liquid chromatography mass spectrometry and food/biological properties using various research model systems. Duties also include assisting undergraduate and graduate students in research associated with above discipline. The successful candidate is also responsible for data collection and analysis and preparing written reports and manuscripts. He/she will be expected to demonstrate research productivity through publication in relevant refereed journals and through dissemination of results at scientific, industry and producer meetings.

Qualifications:

Applicants must have a Ph.D. in food or analytical chemistry or related discipline from a recognized university with a strong background in natural product chemistry of phytochemicals. Experience in chromatographic technique and mass spectrometry is required. Demonstrated skills in scientific methodologies and publications in peer-reviewed scientific journals are also required. In addition, the successful candidate must have demonstrated good problem solving skills. He/she will be expected to be innovative, creative, and solutions-oriented with a high level of integrity. Proven ability in interpersonal, written and verbal communication skills is necessary, including strong communication skills in English. The selected candidate must be able to work independently and as part of a multi-disciplinary team.

Salary Range: \$33,512.40 - \$37,963.19 plus 4% in lieu of vacation.

Closing Date: June 28, 2009

Please Note: This is a one year appointment with possible starting date of August 01, 2009.

Please quote competition #2565CH-CB in your cover letter and, if sending via e-mail, in the subject line when applying. Please send letter of application, statement of career goals, a resume along with list of publications and three references to:

Nova Scotia Agricultural College
Human Resources Consultant
PO Box 550, Truro, NS, Canada B2N 5E3
Fax: 902-896-7078; E-mail: Resources-JobApps@gov.ns.ca

Submissions must be received by midnight on June 28, 2009.

For more information about the position, please contact: Dr. Vasantha Rupasinghe, Associate Professor of Agricultural BioProducts, Department of Environmental Sciences, NSAC, Truro, NS B2N 5E3 or via e-mail: vrupasinghe@nsac.ca.

All qualified candidates are encouraged to apply; however, Canadian Citizens and Permanent Residents will be given priority. NSAC is committed to the principle of employment equity. All applicants who are members of an Employment Equity group are encouraged to self-identify.

We thank all applicants for their interest, however, only those selected for an interview will be contacted.

You may also apply on-line at: <http://www.careerbeacon.com>