



CSA Newsletter

Canadian Society of Agronomy

April 2009



President's Message

Sciences for Sustainability. The theme of our upcoming conference suggests how agronomy links up with other disciplines to provide the scientific basis for better performance of Canadian agriculture. Industry depends on science to provide the validation for practices that make progress toward sustainability.

One example is the “4R Nutrient Stewardship concept (Right Source, Right Rate, Right Time, Right Place)” nutrient stewardship concept promoted by fertilizer industry organizations in Canada, the USA and worldwide. The concept is simplified into four easily communicated keys, but getting each of them “right” depends on the science linking the complex biophysical processes of crop nutrition to the desired outcome in terms of people, planet and profit—the triple bottom line.

It is critical not to lose sight of the contributions agronomic science can make. In order to have these contributions recognized, we need to be linking up with other scientific disciplines and a multitude of organizations with similar goals.

Your executive engaged in dialogue with several organizations over the past few months. We are working with the Canadian Societies of Soil Science and of Agricultural and Forest Meteorology for this summer's conference. For 2010, we discussed options with a number of societies, but in the end decided instead to partner up with the Canadian Society of Soil Science again, for a traditional summertime meeting. Mark your calendars for 20-24 June 2010 in Saskatoon! In 2011, our participation with Plant Canada in Halifax ensures us a continuing link to the other societies.

We also continued dialogue with the Agricultural Institute of Canada (AIC). Rigas Karamanos and I met recently with Myles Frosst in Ottawa. Our scientific societies need to have a voice in public policy toward agriculture and in particular on behalf of agricultural research. We'll be heard a lot more clearly if our organizations speak with one voice. We plan to continue to include input from and discussions with AIC at our annual conferences.

The “Meaning of Agronomy” prize. Discussions in Montreal last summer led to an announcement of a CSA-AIC prize for the best article explaining agronomy to the public. A couple of good contenders showed up in our November newsletter. Submissions are open until 30 June for this year. What's the prize? That and a few terms and conditions are still to be worked out, but you can count on recognition at this summer's conference! Remember, we are looking for articles not only suitable for this newsletter—agronomists speaking to agronomists—but also designed to catch attention in the public press—agronomy speaking to Canada!

In this issue, check out the articles on NAESI, awards, nominations, and our upcoming conference with symposia on some fascinating topics along with a statistics workshop. I hope to see you in Guelph this summer!

*Tom Bruulsema,
President*

New from CJPS

Canadian Journal of Plant Science was very active in 2008. There were 235 manuscripts submitted to CJPS in 2008, an increase of over 10% compared to the 212 submissions in 2007. To date, 37% (88) of the submissions have been accepted for publication and 34% (79) were found unsuitable for publication in CJPS. Although I don't have the final statistics on origin of submissions, but they should continue or accelerate the trend noted in recent years, with a smaller percent coming from Canadian researchers (51% in 2007 vs 56% to 60% in 2004-2006) and more coming from outside North America (46% in 2007 vs 34% to 37% in 2004-2006). The rejection rate for submissions from international institutions remains much higher than that of Canadian and US submissions.

The Impact Factor for CJPS made a significant jump in 2007 to 0.722, compared to 0.484 in 2006 and 0.439 in 2005. The actions that have been taken to improve the journal, including the high number of reviews published in 2006, combined with the overall improved quality of accepted manuscripts, appear to be gradually being acknowledged in the scientific community. We especially thank the previous Editor, Dr. Yousef Papadopoulos, and the Editorial Committee for all their contributions leading to this improved Impact Factor.

In January 2009 four new Associate Editors joined the CJPS Editorial Board. The new AEs, who will serve for the period 2009-2011, are: **Dr. Alireza Navabi**, CSA, AAFC at University of Guelph, replacing Dr. Elroy Cober; **Dr. Marie-Thérèse Charles**, CSHS, AAFC, Saint-Jean-sur-Richelieu, Quebec, replacing Dr. Pat Bowen; **Dr. Alan McKeown**, CSHS, University of Guelph, replacing Dr. Douglas Waterer; and **Dr. Robert Nurse**, CWSS, AAFC, Harrow, Ontario, replacing Dr. Hugh Beckie.

We have also established a new position of **Special Issues Editor**, which **Dr. Elroy Cober**, who has been an exceptional Associate Editor for six years, has agreed to fill.

The web pages for CJPS, along with CJAS and CJSS, are being improved, with the upgraded site being available by the end of March, 2009. The upgrade will enable better searching and presentation of the electronic journals. AIC has also arranged to scan all back issues of CJPS, CJSS, and CJAS, back to their first volumes in 1957, and make these available on the journals' web site.

Call for Awards Nominations

Our annual meeting is approaching rapidly, bringing with it the opportunity to recognise deserving colleagues for their achievements. We have several awards that are presented through the Canadian Society of Agronomy. These include awards for Young Agronomist, Distinguished Agronomist, and Fellow of the Canadian Society of Agronomy. The guidelines for these awards as well as a list of past recipients can be found on the CSA website at <http://www.agronomycanada.com/awards.html>.

You all know someone who has made an exceptional contribution to agronomy. The CSA awards are the opportunity for that contribution to be recognised by the agronomic community. But, that recognition cannot take place unless the person is nominated. The nomination procedure is not complicated and is described thoroughly on the website. Please take the time to prepare and submit a nomination before **May 15, 2009**.

If you have any questions, feel free to contact: Yousef Papadopoulos for the nomination procedures (Papadopoulosy@agr.gc.ca; Tel: 902-896-2452) or Steve Sheppard (sheppards@ecomatters.com; Tel: 204-753-2747)



Sciences for Sustainability Soil, Agronomy and Atmosphere

Canadian Society of Agronomy

Canadian Society of Soil Science

Canadian Society of Agricultural and Forest Meteorology

Program Highlights

Plenary Symposium – 5 August

The role of agrometeorology in improving crop management

Dr. Rob Gordon, Dean, Ontario Agricultural College

Sustainable plant production systems for the world of 2050

Dr. Dan Pennock, Professor, University of Saskatchewan

Farming systems for greenhouse gas mitigation

Dr. Claudia Wagner-Riddle, Professor, University of Guelph

Innovation's emotional road

Dr. Ron DePauw, Cereal Breeding Team Head, SPARC, Agriculture and Agri-food Canada

Canadian Society of Agronomy Symposium – 6 August

Precision designs for multifunctional grasses

Dr. Mike Humphreys, Team Leader/Principal Investigator, Aberystwyth University, Wales, UK

Plant genetic improvement strategies to enhance nutrient and water use efficiency

Dr. Jonathan Lynch, Professor, The Pennsylvania State University, USA

Improving crop water use efficiency – what are the limits?

Dr. Hugh Earl, Associate Professor, University of Guelph

Statistics Symposium – 7 August

Linear-bilinear model analysis of agricultural experiments: when interactions are important

Dr. Jose Crossa, Head of Biometrics and Statistics, CIMMYT

Mixed-model analysis of agricultural experiments: when some effects are random

Dr. Rong-Cai Yang, Professor, University of Alberta

Bayesian analysis of agricultural experiments: when everything is random

Dr. Shizhong Xu, Professor of Genetics, University of California Riverside

And more... oral and poster sessions, field tours, student activities...

For abstract submission, registration and more information see:

<http://www.Guelph09.ca>

The National Agri-Environmental Standards Initiative (NAESI)

Michelle E. Bowerman and Elizabeth S. Roberts, Forestry, Agriculture, and Aquaculture Division, Environment Canada

With the goal of defining healthy ecosystems in agricultural areas and increasing the understanding of the relationship between agriculture and the environment, Environment Canada (EC) and Agriculture and Agri-Food Canada (AAFC) initiated the four-year (2004–2008) National Agri-Environmental Standards Initiative (NAESI). This collaborative initiative under the Agricultural Policy Framework, recently completed its work to develop a suite of recommended, science-based agri-environmental performance standards (benchmarks of environmental quality) for a multitude of parameters and media.

These agri-environmental performance standards were specifically designed to be non-regulatory, nationally consistent (with regional application), scientifically defensible, and to support common EC and AAFC goals for the environment. Two types of performance standards aligned under four themes (Air, Biodiversity, Pesticides and Water) were developed. The first type, Ideal Performance Standards (IPS), specify the desired environmental state needed to maintain ecosystem health. The second type, Achievable Performance Standards (APS), specify environmental conditions that can realistically be achieved using currently available and recommended Beneficial Management Practices (BMPs).

Due to the different methodologies employed across the four themes, recommended ideal and achievable agri-environmental performance standards take three main forms:

1. Numerical or descriptive benchmarks - describe the desired level of environmental quality (IPS);
2. Methodological or guidance - provide a science-based approach to developing standards (IPS); and
3. APS - specify levels of attainable environmental quality for agricultural landscapes based on currently available technology and management practices or through hypothetical scenarios.

Standards were developed at a variety of scales, ranging from the farm or plot to the sub-watershed (10–50 km²) up to the eco-zone level (1000 km²) and while the methods were designed to be applicable nationally, data availability and method demonstration sometimes limited the national scope of a product. Similarly, some standards are applicable at the regional level only since they incorporate regional conditions in their approach.

NAESI products are designed for use on agricultural landscapes and as such can guide agri-environmental decision-making in achieving desired environmental outcomes. Three examples of how the standards can be used are: ideal and achievable performance standards, along with information about a current situation, can be used to prioritize the choice of or need for improved BMPs; standards can be used as environmental benchmarks to set risk thresholds in agri-environmental indicator programs such as the National Agri-Environmental Health Analysis and Reporting Program (NAHARP); and standards can be used to define environmental outcomes by incentive-based farm programming as a goal against which to measure environmental improvements.

NAESI produced an annual technical series of reports which consolidated and disseminated scientific knowledge, information and tools produced under this program and formed the basis for final suite of recommended agri-environmental performance standards.

More recently, the NAESI program culminated with the production of a series of 15 peer-reviewed technical synthesis reports and an overarching summary report. The technical reports include the recommended standards and the approach used in their development and the overarching report provides context for the work, summarizing their content and recommended standards, and includes examples of how the recommended standards can inform agri-environmental decision-making. See Table 1 for a complete list of the final NAESI deliverables.

Two workshops were held to keep stakeholders and partners informed about the initiative, methodologies employed to develop the standards, potential uses of the standards and to discuss recommendations on next steps/actions regarding implementation of standards. The first held in March, 2006 in Toronto, ON introduced the initiative and presented priorities and approaches. The second, held in January 2009 in Winnipeg, MB, presented and clarified the draft standards, discussed limitations and gaps in the science and identified opportunities for using the standards in decision-making in agriculture in Canada. In general, stakeholders expressed great interest in the program and appreciated the opportunity to review the science and provide input for consideration by both AAFC and EC regarding the potential use of the standards.

The annual NAESI Technical Series, Proceedings from the Workshops, and the 16 final NAESI Synthesis Reports are available on CD. To receive a copy of any of our products or for more information on the program, please send an e-mail to Elizabeth.Roberts@ec.gc.ca.

Table 1: Titles of the final 16 NAESI deliverables that will be available in April 2009:

1. National Agri-Environmental Standards Initiative Overarching Report. Authors: M. Bowerman, L. Maclean, S. Villeneuve, and E.S. Roberts.
2. The Development of Regionally Based Performance Standards for Agricultural Ammonia Emissions in the Context of Particulate Matter Formation in Canada. Authors: C. Lillyman, K. Buset, G. Beaney, and D. Mullins.
3. The Development of Tier 1 Generalized Habitat-based Standards for Ecozones in Agricultural Regions of Canada. Authors: M. McPherson, C. Nielsen, and K. Proudlock. 2009.
4. Tier 2 and 3 Standards – Developing Landscape-specific, Habitat-based Standards Using Multiple Lines of Evidence. Authors: E. Neave, D. Baldwin, and C. Nielsen.
5. The Development of Ideal Performance Standards for Pesticides. Authors: M.J. Demers. and P.B. Jiapizian.
6. The Development of Agri-Environmental Achievable Performance Standards (APS) for Pesticides at the Watershed Level. Authors: A.N. Rousseau, P. Lafrance, M-P. Lavigne, S. Savary, B. Konan, and R. Quilbé.
7. Environmental Risk-Based Standards for Pesticide Use in Canada. Authors: P. Mineau, T. Dawson, M. Whiteside, C. Morrison, K. Harding, L. Singh, T. Längle, and D.A.R. McQueen.
8. The Development of Commodity-Based Ideal Performance Standards for Pesticides Used in Potato Production in Canada. Authors: C.S. Murphy, J.P. Mutch, and M.L. Williamson.
9. The Development of Ideal Performance Standards for Pesticide Mixtures to Protect Aquatic Ecosystems: A Prairie Waterbody Case Study. Authors: M.L. Williamson and N. Glozier.
10. The Development of Meteorological Standards for Pesticide Application in Canada. Authors: B. Ernst, R.E. Mickle, S. Howatt, R. Pitbaldo, I. Nichols, T. Rowlandson, and P. MacKinnon.
11. Nitrogen and Phosphorus Standards to Protect the Ecological Condition of Canadian Streams, Rivers and Coastal Waters. Authors: P.A. Chambers, M. Guy, S.S. Dixit, G.A. Benoy, R.B. Brua, J.M. Culp, D. McGoldrick, B.L. Upsdell, and C. Vis.
12. Ideal Performance Standards to Prevent Nitrate Toxicity. Authors: M. Guy.
13. Total Suspended Sediment, Turbidity and Deposited Sediment Standards to Prevent Excessive Sediment Effects in Canadian Streams. Authors: J.M. Culp, G.A. Benoy, R.B. Brua, A.B. Sutherland, and P.A. Chambers.
14. An Evaluation of *Escherichia coli* as a Potential Agri-Environmental Waterborne Pathogen Standard. Authors: T.A. Edge, I. Droppo, A. El-Shaarawi, V. Gannon, M. Hewitt, R. Kent, I. Khan, W. Koning, D. Lapen, D. Marcogliese, C. Marvin, J. Miller, N. Neumann, R. Phillips, W. Robertson, H. Schrier, I. Shtepani, E. Topp, and E. van Bochove
15. Establishing Standards and Assessment Criteria for Instream Flow Needs in Agricultural Watersheds in Canada. Authors: D.J. Baird, D.L. Peters, R.A. Curry, N. Horrigan, W.A. Monk, and D.E. Tenenbaum
16. The Development of Water-Balance Indicators in an Agriculture-Dominated Watershed Using Coupled Hydro-meteorological Modeling and Data Assimilation. Authors: P. Pellerin, A. Pietroniro, S. Bélair, V. Fortin, D. Charpentier, B. Bilodeau, I. Doré, J. Töyrä, M. Carrera, B. Davison, B. Toth, and S. Marin

Nominations for Executive 2009

President Elect	Gavin Humphreys Rigas E. Karamanos Surya Acharya	Eastern Director	Alek Choo Gefu Wang-Pruski
Secretary/Treasurer	Prithiviraj Balakrishnan	Western Director	Jane King Patricia Juskiw

Biographies

Surya Acharya

Surya Acharya PhD (U of Saskatchewan) is a Senior Research Scientist with AAFC Lethbridge Research Centre. He has been a member of CSA for the past 20 years and had served as Associate Editor for CJPS from 2002 to 2007. He was the National Study Leader of the Forage Breeding Study and is the PI of the new four year study aimed at developing new knowledge, technologies, germplasm and/or cultivars. For his research contributions on traditional and non-traditional crops he has received Fellowship Awards from International College of Nutrition (ICN) and Canadian Society of Agronomy and other international and national awards. He served as the President Elect and President of ICN from 2003 to 2005 and 2005 to 2007, respectively. At present he is an Associate Editor for Crop Science Journal and is the Past President of ICN (2007-2009). In addition he serves in many regional and provincial committees and functional groups. He is an Adjunct Professor in two universities each in China and Alberta. Surya's research experience and interest include improvement of stress tolerant germplasm in traditional and non-traditional perennial crops, desertification and erosion control using plants, animal and human nutrition, crops for biofuel production and water use efficiency in perennial crops. He works mainly on alfalfa, cicer milkvetch, sainfoin, orchardgrass, perennial cereal rye and fenugreek and collaborates with other breeders for improvement in other forage crops.

Dr. Thin-Meiw "Alek" Choo

Alek has been a research scientist with Agriculture and Agri-Food Canada since 1978. He obtained his bachelor's degree from the National Taiwan University in 1971 and his doctoral degree from McGill University in 1976. Alek was a research associate at the University of Guelph from 1976 to 1978. In 1978, he initiated the red clover breeding program at Charlottetown. Currently, he is the barley breeder at the Eastern Cereal and Oilseed Research Centre. During the past 30 years, he released 15 barley cultivars and co-released 4 red clover and 1 birdsfoot trefoil cultivars. In addition, Alek authored/co-authored 90 refereed papers including three invited reviews. Alek has been an active CSA member for the past 30 years. He served as associate editor for the Canadian Journal of Plant Science for two terms (1997-2002) and as associate editor for a special issue of the Canadian Journal of Plant Science in 2006. Alek also served on the Editorial Policy Subcommittee of the Agricultural Institute of Canada for two terms (2002-2005).

Gavin Humphreys

Gavin Humphreys is a Research Scientist and Wheat Breeder at Agriculture & Agri-Food Canada's Cereal Research Centre in Winnipeg. He holds a M.Sc. in forage breeding and biotechnology from the University of Guelph and a Ph.D. in Oat Breeding and Quality from McGill University. Gavin has been a member of the Canadian Society of Agronomy (CSA) for over 17 years. He has been an active member of the CSA executive for the last 6 years as CSA, Western Director (2003-2007) and Secretary/Treasurer (2007-present). Gavin is Secretary of Plant Canada (2005-present), a national organization composed of 6 Canadian Plant Science societies including the CSA. He is an adjunct professor (2002-present) in the Department of Plant Science of the University of Manitoba and is a former Chair of the Canadian Wheat Cultivar Development Network (2000-2002). His research focuses on the development of improved varieties of Hard White spring wheat for western Canada and bread wheat (CWRS) adapted to the short season Northern prairies. He is primarily concerned with developing high-yielding varieties with improved pre-harvest sprouting resistance and end-use quality suitable for both baking and noodle markets. Gavin is a member of the Prairie Recommending Committee for Wheat, Rye and Triticale and coordinator of the Parkland Wheat Registration Test. To date, Gavin has registered or co-registered 13 wheat varieties. Gavin collaborated on the development of 'Snowbird', the first Canada Western Hard White Spring wheat variety registered in Canada and the two (Superb and Lillian) hard red spring wheat varieties with the greatest acreage in western Canada over the past 3 years. Gavin has authored and co-authored 25 research papers on wheat and oat genetics, molecular mapping and cereal quality.

Pat Juskiw

Pat Juskiw, PhD., M.Sc, B.Sc. Agric., P.Ag., is a plant breeder with Field Crop Development Centre, Alberta Agriculture and Rural Development, in Lacombe, Alberta. Pat has been a member of the Canadian Society of Agronomy since 1990. She was the Western Director for the Society from 1994 to 1997 and again from 1999 to 2001. She was on the CSA Membership Committee from 1992 to 2002. In 2004 she was the CSA Lead on the planning committee for the 2004 Annual Meeting in Edmonton. Pat was an Associate Editor for the Canadian Journal of Plant Science from 2001 to 2006. Pat has been the Secretary of the Prairie Recommending Committee for Oat and Barley since 2007. Pat's research focus since 1997 has been the breeding of two-row feed and malting barley. Prior to that, Pat worked on development of agronomic practices for barley and triticale production especially for annual forage use. Pat continues to work on enhancing water use efficiency, nutrient use efficiency, and quality of feed grains.

Rigas Karamanos

Rigas Karamanos, M.Sc., Ph.D., P.Ag. is Agronomy Manager with Viterra Inc., Canada's leading agribusiness, which is headquartered in Regina, Saskatchewan. Rigas is a professional agrologist with over 30 years experience in soil fertility, chemistry and general agronomy, and has been a member of the Canadian Society of Agronomy since 2000. He is currently involved in a number of committees, including North American Proficiency Testing Oversight Committee of the Soil Science Society of America, Nutrient Committee of the Canadian Fertilizer Institute (CFI), Industry Relations Committee and Western Director for the Canadian Society of Agronomy, is chairing the Canadian Fertilizer Products Committee of the CFI and is President-elect of the Soil and Plant Analysis Council; he is currently serving as a Associate Editor for the Canadian Journal of Plant Science. Rigas completed his B.S.A. at the University of Thessaloniki in Greece and his M.Sc. and Ph.D. in soil chemistry and fertility at the University of Saskatchewan. He taught at the University of Saskatchewan from 1980-85 as an NSERC University Research Fellow and transferred his fellowship for one year to Macdonald College in 1985; between 1986 and 1988, he served as Senior Research Agronomist for Esso Chemical and in 1989 he returned to the University of Saskatchewan as Professor in Soil Science and Director of the Saskatchewan Soil Testing Laboratory. He directed the Laboratory up to its privatization and managed it after it became EnviroTest, Saskatoon from 1994 to 1997. In 1997 he joined Western Cooperative Fertilizers Limited (Westco) as Manager of Agronomy Research and Agronomy, a position he held until Westco was amalgamated by Viterra in November 2008. Rigas has 84 research (peer reviewed) and over 240 technical and conference proceedings publications covering an array of topics and has given 600 extension talks to farmers, agronomists and government employees along with a number of radio and TV interviews and articles in popular magazines and newspapers. He is currently an adjunct professor at the Department of Soil Science, University of Manitoba. Rigas has participated in number of international projects in Greece, Zambia, India, North Korea and China through the International Atomic Energy Agency, the Food and Agriculture Organization of the United Nations or the Canadian International Development Agency and has given 24 international lectures.

Jane King

Jane King Bsc, BSC hon., PhD, is the Professor of Forage Physiology/Agronomy in the Department of Agriculture Food and Nutritional Science at the University of Alberta.

With more than 25 years of experience in university teaching and field research Jane has been a member of CSA for most of her career. Jane has twice served as an adjudicator for the CSA graduate student competition.

Jane completed her BSC Life Sciences, BSC hon Botany, and PhD in Plant Physiology/Breeding at the University of Liverpool in England. She came to Canada as an NSERC postdoctoral fellow and worked at the Agriculture Canada research station in Saskatoon with the canola breeding group under Keith Downey. She then moved to Edmonton where she worked with the canola breeder Zen Kondra before taking up her present position as Forage Agronomy/Physiology professor. For the last 25 years Jane's research interests have focused on forage physiology/agronomy with a special interest in pasture species, clover adaptation and intercropping for silage production. Recently her research has also included pulse crop agronomy and rotational benefits. Jane has supervised more than 20 MSc and PhD students and served on more than 60 graduate student committees. She currently teaches undergraduate courses in "Introductory Plant Science", "Crop Eco-physiology" and "Forage Production".

Balakrishnan Prithiviraj

Balakrishnan Prithiviraj is an Assistant Professor and Industrial Research Chair at the Department of Plant and Animal Sciences, Nova Scotia Agricultural College. After graduating with a Ph.D from Banaras Hindu University, India he conducted post doctoral research at the Department of Plant Science, McGill University and the Department of Horticulture and Landscape Architecture, Colorado State University. Later he continued as an Assistant Professor at Colorado State University before coming to Nova Scotia. At the Nova Scotia Agricultural College Dr. Prithiviraj has two major areas of research: 1) development of marine bio-products for imparting biotic and abiotic stress tolerance in plants 2) Investigation of the factors affecting the specificity of root-microbe interaction with a long term goal of improving plant health by encouraging preferential colonization of roots by beneficial microbes. Dr. Prithiviraj has attracted about \$1.4 million in funding from federal and provincial government agencies, inter-university collaborations and industry. He reviews manuscripts for a number of scientific journals and grant proposals for funding agencies in Canada and the United States. Dr. Prithiviraj has 73 peer reviewed publications and two patents to his credit. He actively participated in organizing the Halifax 2006 CSA, CSAS and CSHS conference, more specifically he served on the CSA program planning committee and coordinated the assembly, editing and printing of the proceedings of this conference.

Gefu Wang-Pruski

Gefu Wang-Pruski PhD., PAg., is Associate Professor at the Nova Scotia Agricultural College (NSAC), in Truro, Nova Scotia. She is a professional agrologist with over 20 years experience in plant and agricultural sciences, and has been a member of the Canadian Society of Agronomy for a number of years. Most of her work has been focusing on crop production, management and cultivar improvement. Gefu obtained her B.Sc. at Nan Kai University, China, in 1983 and her Ph.D. in Plant Science at University of Alberta in 1994. From 1995, she worked as a research associate at Center for Molecular Biology & Gene Therapy, Loma Linda University, California, USA until she joined NSAC in Truro, Nova Scotia in May 1999. Gefu is a trained molecular geneticist and her expertise includes crop production, postharvest management, plant nutrition and quality, genetic and environmental interactions of traits and genome wide analysis of plants. Gefu uses diversified systems biology approaches for her research programs. Her current research is mainly focused on potato crop for its tuber qualities, processing qualities, nutrition values related to antioxidants, and better management strategies for late blight control in field and storage. Over the years, Gefu has established close ties with the potato industry, growers and government agencies in Maritime provinces and across the country. Gefu also has over 10 years teaching experience and has supervised a large number of graduate students, postdoctoral fellows and research technicians. Besides her over 50 peer-reviewed publications, she holds 4 patents and two recently filed for her work on potato. Gefu is a managing editor for *Potato Research* and regular reviewer and the *American Journal of Potato Research*, the two most popular potato journals in the world. Gefu has been very active in international collaborations. She is adjunct professor at Fujian Agriculture and Forestry University in China and adjunct professor at Dalhousie University. Gefu has extensive experience working with the education and scientific communities and local schools. She has served as NSERC representative for NSAC, Chaired Research Committee and Library Committee for NSAC Faculty Council, and has been serving as a member of Curriculum Committee, Standard and Admission Committee and Seminar Committee of the Faculty Council. Gefu has also worked as advisors for the AAFC potato germplasm development program review and the New Brunswick Potato Cluster Strategic Innovation Group. Gefu has organized several conferences and chaired sessions of over a dozen of conference symposiums.

So You Wanna be a Consultant?

Perhaps you've thought of becoming a consultant in a small business as either an intended career move or the default career change. Welcome to middle earth! It can be fun, certainly a challenge, and a great opportunity to learn new things. A few down-to-earth thoughts:

- You will meet a lot of new people, if you don't, you've failed. You have to diversify to level out the rollercoaster in cash- and work-flow.
- You may be paid more as a consultant: income could easily jump 30%, but if so hours of work may jump 50% and there's probably a lesser pension.
- More flexible work schedule – yes - as long as you are there when the client needs you.
- You like the sound of the incentive programs for small business – most of these cost more than they benefit, one new-start business lost \$30k in the first year trying to make these things work. You should either be in business for business, or in business for grantsmanship, doing both is tough.
- You have your credentials, absolutely essential, but remember you have now lost the credibility that came from your former mega-institution. Maybe that is good!
- It's all up to you now, plan on being the technical lead but also the chief box mover, mail clerk, Head of Personnel, and sometime floor washer.
- If you take on people new to consulting, plan on 6 months to 'de-institutionalize' former big-institute employees.
- Mentoring new employees is a must if you plan to ever relax or sell your business: it takes time but has to be in 'the plan'.
- You are very expendable as a private consultant - your goal is to become irreplaceable.

CSA CORPORATE SPONSORS



CSA EXECUTIVE:

PRESIDENT

Tom Bruulsema
International Plant Nutrition Institute
18 Maplewood Drive
Guelph, Ontario, Canada N1G 1L8
Phone: 519-821-5519
Fax: 519-821-6302
Tom.Bruulsema@ipni.net

EXECUTIVE DIRECTOR

Steve Sheppard
P.O. Box 637
Pinawa, MB R0E 1L0
Phone: (204) 753-2747
Fax: 204-753-8478
sheppards@ecomatters.com

PAST-PRESIDENT

Yousef Papadopoulos
Nova Scotia Agricultural College
P.O. Box 550
100—5 Haley Institute
Truro, NS B2N 5E3
Phone: (902) 896-2452
papadopoulos@agr.gc.ca

PRESIDENT-ELECT

Shabtai Bittman
Agriculture & Agri-Food Canada
Pacific Agri-Food Research Centre
Agassiz, BC V0M 1A0
Phone: (604) 796-2221
bittmans@agr.gc.ca

WESTERN DIRECTORS

Yantai Gan
Semiarid Prairie Agr. Res. Cent.
P.O. Box 1030
Swift Current, SK S9H 3X2
Phone: (306) 778-7246
gan@agr.gc.ca

Rigas Karamanos
Western Cooperative Fertilizers Ltd.
Box 2500
Calgary, AB T2P 2N1
Phone: (403) 279-1120
Email: r.karamanos@westcoag.com

SECRETARY-TREASURER

Gavin Humphreys
Agric & Agri-Food Canada
Cereal Research
195 Dafoe Road
Winnipeg, MB R3T 2M9
Phone: (204) 984-0123
ghumphreys@agr.gc.ca

EASTERN DIRECTORS

Derek Lynch
Nova Scotia Agricultural College
P.O. Box 550
Truro, Nova Scotia B2N 5E3
Phone: (902) 893-7621
dlynch@nsac.ca

Philippe Seguin
McGill University
21111 Lakeshore Road
Sainte-Anne-de-Bellevue, QC
H9X 3V9
Phone: (514) 398-7855
Email: philippe.seguin@mcgill.ca

Canadian Society of Agronomy

Steve Sheppard, Executive Director

P.O. Box 637, Pinawa, Manitoba, R0E 1L0

Ph: 204-753-2747 Fax: 204-753-8478

E-mail: sheppards@ecomatters.com Website: www.agronomycanada.com