CSA Newsletter

Canadian Society of Agronomy **February 2010**

What's inside and what you should do:

CSA/CSSS meeting in Saskatoon, June 2010

- Special symposia and workshops
- Lots of awards
- Submit abstracts now

Congratulate:

- Atlantic workshop award winners
- New Editors for CJPS

Where's the future of agronomy

- 100,000 farmers want more research
- Grand Challenge
- CSA is going to launch a study – you can help

Awards

- Time to nominate your colleagues. Nominations open for:
  - ◊ 'Young Agronomist',
  - ◊ 'Fellow of CSA' and
  - ◊ 'Distinguished Agronomist'
- Student awards at conference
  **** BIG INCREASE IN PRIZE MONEY ****
- NEW Student President's Award
- NEW Best Agronomy Paper in CJPS award

Nominations for 2011

President Elect, Eastern Director, Western Director

PRESIDENT'S MESSAGE

A Grand Challenge for Agronomy

The scope of our profession is nebulous. Our work is hard to define. We lack 'science' or 'ology' in our name and our intellect is dismissed. We are dwindling in numbers and to many our work conjures up a by-gone era. And worst of all, our role in food production elicits yawns.

Perhaps it was this concern that was behind the recent efforts of the American Society of Agronomy to articulate the Grand Challenges for Agronomy over the next 50 years. The Grand Challenge statement was developed by a committee selected by the president of ASA, Dr. Mark Alley. It consisted of 4 scientists from academia, 2 from international research institutes, 3 from industry and 2 from USDA. It also included the presidents of the CSSS and CSA. The Grand Challenge document has just been released and will be taken to politicians and funding agencies with the strongest of messages- that agronomists are needed to ensure food security and sustainability for mankind.

The Grand Challenge document is published in this Newsletter. We would like your comments. The CSA will discuss the Grand Challenge at the upcoming Annual Conference in Saskatoon, to see if we should develop a statement for agronomy in Canada to present to our politicians and policy makers.

In Canada, will the profession of Agronomy have the capacity to meet the Challenges of securing food and environment? Will we have the human resource and advanced skills to increase food supply using fewer resources while cleaning the environment? The CSA hopes to initiate a study of the state of Agronomy in Canada. How many agronomists are now working, what are their skills, and what is the supply of agronomists coming down the pipe? The results of this survey will be taken to the agricultural industry, policy makers and the public.

Our challenge for agronomy today is to communicate our important role in the well-being of future generations.

Shabtai Bittman
President

Best Agronomy Paper in CJPS

CSA is offering a new award, for best paper in the Journal in 2009. The Associate Editors of CJPS have already nominated 9 papers they felt were the best in 2009. A small committee will now read these and select the top 3. CSA will seek to get as much 'visibility' for these papers as possible, and the author of the top paper will be asked to give an oral presentation on the paper at the 2010 conference.

Saskatoon 2010

Transfers & Transformations: Our Evolving Biosphere

A joint meeting of the CSA and the CSSS

The 2010 CSA Annual Meeting will be held **June 20-24, 2010** in **Saskatoon, SK** in collaboration with the CSSS. It promises to be an outstanding meeting with symposia on organic agriculture and plant breeding, a plenary presentation by Gwynne Dyer, talks from international experts on soil chemistry, a Statistics Workshop, special graduate student activities and awards as well as an agronomy tour including a progressive Saskatchewan grain farm and the PCS-Allan potash mine.

Abstract are being accepted on-line and early bird registration begins March 1st. Please check out the conference website for more information: (http://www.usask.ca/saskatoon2010/Saskatoon2010/Home.html)

Beyond Organic: What can Conventional Agriculture Learn from Organic Agriculture?

This symposium will examine organic agriculture practices that can be utilized to increase the sustainability of conventional agriculture. To do this, speakers will evaluate the sustainability of practices normally associated with organic agriculture that have the greatest applicability for conventional agriculture. The areas of soil science, crop science and animal production in the agricultural system will be discussed.

2010 CSA Borlaug Symposium on Plant Breeding

In 2009, Dr. Norman Borlaug, the father of the green revolution, passed away at the age of 95. Dr. Borlaug's success, at getting improved agricultural technologies into the hands of farmers in the developing world, is credited with saving millions from being born into hunger. To honour Dr. Borlaug's achievements, expert Canadian researchers will make presentations on the past, present and future of plant breeding, molecular breeding, plant genetic resources and cultivar development in the private sector.

Invited Speakers:

Dr. Harvey Voldeng, Cereal Breeder at AAFC-Ottawa
Dr. Ron Knox, Molecular Geneticist at AAFC-Swift Current
Dr. Ken Richards, Research Manager, AAFC Plant Genetic Resources, Saskatoon
Dr. Greg Gingera, Plant Breeder, DOW Agrosciences

Statistics Workshop at CSA/CSSS 2010 Saskatoon

A Statistics Workshop during the CSA/CSSA 2010 Conference Saskatoon will be held between **4:00 and 7:30 PM on June 21, 2010** (with a 20-minute pizza break during the 3-hour session). This workshop will provide an excellent opportunity for the participants to update or refresh their statistical knowledge and skills with the analysis of agricultural research experiments. The emphasis will be on subjects including multivariate statistics, analysis of multi-environment trials, and analysis of covariance. Approaches of handling complex interactions among variables across multiple site-years will also be discussed. Some of the statistical examples in the field of soil science, agronomy, and genetics and breeding will be discussed. Some of the SAS MIXED model codes will be provided to participants as templates for the future references. Following three Powerpoint presentations, the Expert Panel (below) will be discussing and answering questions from the audience.

Topics:

Multivariate analysis, structural equation modeling (including path analysis); some of the examples in soil science will be used ---------- Dr. Eric Lamb

Analysis of covariance (linear, quadratic, site index as covariables); some examples in the agronomic studies will be discussed ---------- Dr. Rong-Cai Yang

Using Proc Mixed models in handling complex of interactions across multiple site-years; some examples in genetics and breeding will be discussed ---------- Dr. Gary Crow

The Expert Panel

Dr. Rong-Cai Yang, Research Scientist, Alberta Agriculture and Rural Development (ARD) & ARD Professor, University of Alberta, Edmonton.

Analysis of covariance (ANCOVA) is a statistical technique that combines analysis of variance with regression analysis. It is often used for the analysis of agricultural research experiments when one or more continuous variable (the covariates) are measured. However, different uses of ANCOVA and their interpretations are not always known or appreciated. Dr. Yang will discuss the use of SAS PROC MIXED for ANCOVA and its applications to the analysis of agricultural experiments. The analysis and discussion will center on the common uses of ANCOVA including statistical control of errors, testing for homogeneity of slopes for different treatment groups, linear and quadratic responses to quantitative treatments, and stability analysis of treatments over multiple environments. SAS code will be given to serve as templates for simi-

lar analyses or to be modified to accommodate for different analyses.

Dr. Rong-Cai Yang obtained his PhD degree in quantitative genetics/plant breeding from the University of Saskatchewan. He has provided high-level advice and mentorship to ARD scientists and their partners in statistical design and analysis of research experiments. Dr. Yang has maintained a very active research program in statistical genomics related to crop and animal improvement. His current research interests and activities include: (i) the development of mixed-model methodology for studying genotype-environment interactions and evaluation of long-term crop variety trials in western Canada; (ii) breeding theory and methodology for self-pollinated crops; and (iii) statistical and genetic analyses of large-scale genomic data (particularly those from Alberta Bovine Genomics Program).

Dr. Eric Lamb, a plant ecologist and statistician in the Department of Plant Sciences at the University of Saskatchewan. His research program in plant ecology is focused on disentangling the complex networks of ecological mechanisms that structure plant and soil biodiversity. Dr. Lamb has training and research expertise in experimental and field survey design, univariate and multivariate statistical methods, and specialized techniques including Structural Equation Modeling. He teaches a practically-oriented graduate course in biostatistics and experimental design based on the R statistical platform.

Dr. Gary Crow, Dr. Gary Crow is an Associate Professor in the Department of Animal Science at the University of Manitoba, with research interests in Animal Genetics and Animal Production Systems. For over 20 years he has taught a graduate course in Research Methodology first to Animal Science students, then to a broader audience of Agriculture and Food Science students, as well as to students from the Faculty of Science. This has included providing advice to students on their particular problems in the area of design and analysis, primarily using SAS software. Dr. Crow also teaches undergraduate and graduate courses in genetics as it is applied to farm animals. His current research activities include study of genetic conservation in cattle, systems modeling of beef cattle production systems, study of cattle use of riparian zones and collaborative study with University of Manitoba plant geneticists on application of mixed models to variety trial data collected over many years and sites. Dr. Crow recently completed ten years as Associate Head of the Department of Animal Science and has been involved in a number of administrative activities over that time including university Animal Care committees. Dr. Crow received his B.Sc.(Agr.) and M.Sc. from the University of Guelph, and his Ph.D. from the University of Saskatchewan.

Should you have a question, concern, or suggestion about the workshop, please contact Dr. Yantai Gan at Email: yan.gan@agr.gc.ca

Awards—Nominate a Colleague!

Each year the Canadian Society of Agronomy recognizes individuals who have made outstanding contributions to their science. Awards are to be presented at the annual meeting, this year on 20-24 June 2010 in Saskatoon. The following are the award categories:

- **Young Agronomist Award** - Presented each year for distinguished service to a scientist who is 40 years old or younger.
- **Fellow of the Canadian Society of Agronomy** - A maximum of three Fellows are conferred each year on those members who have made a significant contribution to agronomy in Canada and to the Society over a period of at least ten years.
- **Distinguished Agronomist Award** - presented to members who have made a significant lifetime contribution to agronomy in Canada and to the Society.

Pest Management Research Award - Made available annually to qualified graduate students enrolled in any aspect of pest management at Canadian universities. Nominations **due 31 March 2010**; contact F.A. (Rick) Holm at 306-966-5009 or rick.holm@usask.ca.

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.

Taking the time to nominate a colleague honours that individual's contribution to the discipline but also advances the recognition of the value of agronomy to society as well. The nomination procedure is straightforward and is described thoroughly on the website. With the exception of the Pest Management Research Award, the nominations are **due 1 May 2010**. Forward nominations to:

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

Nominations for CSA Executive 2010

Three positions on the Canadian Society of Agronomy executive are opening in 2009. Candidates are needed for the **President-elect**, **Eastern Director** and **Western Director** positions.

Holding office in the CSA provides a unique opportunity to work with your colleagues across the country, to have an impact on the society and contribute to the advancement of agronomy in Canada. Executives are required to participate in the executive meetings (teleconference calls), attend and participate in the CSA annual meeting, chair and/or serve on CSA committees as needed, and help to promote CSA within their organizations and regions.

If you are interested in becoming a director for CSA or you know a colleague who you feel will be a good candidate and is interested in being nominated please contact Tom Bruulsema (519-821-5519 or Tom.Bruulsema@ipni.net). Nominations are due **16 April 2010**.

Student Presentation Awards – CSA Annual Meeting 20-24 June 2010

The Canadian Society of Agronomy announces awards available for the best three oral and poster presentations by student members at this summer's meeting in Saskatoon. The intent of these prizes is to promote excellence in the communication of research findings. Award winners will receive a certificate, recognition in the CSA Newsletter and press releases to the media and at the annual banquet, and the following amounts as unrestricted cash awards.

Oral Presentations		Poster Presentations	
First	$900	First	$600
Second	$600	Second	$400
Third	$300	Third	$200

The awards are presented after an assessment conducted by a panel of judges, based on the following criteria:

1) **Oral Presentations**

Oral presentations are assessed both on the scientific merit of the research and on the ability of the student to convey the research to the audience.

- The written abstract is part of the judging process, assigned 15 points. The abstract should contain a brief but comprehensive summary of the subject matter, materials and methods and key study results.
- Content of the presentation is assigned 35 points. Factors considered should include the clarity and interest of the introduction, background material presented, organization of the material presented, development of the concepts of the study, clarity of thought and presentation, understanding of the material presented and the scientific merit of the study.
- Presentation style and delivery is assigned 30 points. This includes pace of the presentation, vocal clarity, language and grammar, poise and confidence, rapport and eye contact with the audience, quality and relevance of the visuals and ability to effectively use the equipment.
- Question period is assigned 15 points. Factors considering include the ability of the student to directly answer the questions, understanding of the material and confidence.
- General impression is assigned 5 points.

2) **Poster Presentations**

- The written abstract is part of the judging process, assigned 20 points. The abstract should contain a brief but comprehensive summary of the subject matter, materials and methods and key study results.
- Content of the presentation is assigned 60 points. Factors considered should include the clarity and interest of the introduction, background material presented, organization of the material presented, development of the concepts of the study, clarity of thought and presentation, quality, readability and relevance of the visuals, suitability of references cited, and the scientific merit of the study. and ability to effectively use the equipment.
- Question period is assigned 15 points. Factors considering include the ability of the student to directly answer the questions, understanding of the material and confidence.
- General impression is assigned 5 points.

NEW 'President's Student Award'

The Organizing Committee for the CSA/CSSS 2010 meeting will be recommending a winner of the NEW 'President's Student Award' for the student "making the greatest contribution to the CSA 2010 meeting". This includes contributions to the conference organization, participating in the execution of the meeting, and scientific contributions. The student will receive $200 and an Honorary CSA membership for 1 year, not worth a lot of money but definitely something of value on a resume.

100,000 Canadian Farmers Unite to Call for Investment in Agriculture Research

FOR IMMEDIATE RELEASE
(Ottawa ON Monday, January 18, 2010)
Farmers across Canada are uniting to form **Farmers for Investment in Agriculture (FIA)**, to demand greater investment in agronomic research from the federal government.

"Agriculture as an industry turns every dollar of research investment into a 10 dollar economic benefit for Canada through the growth of the domestic food sector, increased exports and lower food costs," said William Van Tassel, vice-chair of the Fédération des producteurs de culture commerciales du Québec.

At a time when most industrialized countries are making huge investments in farming to capitalize on growing world food demand, public research funding for agronomics in Canada has dropped 40 per cent since 1994 after adjusting for inflation, resulting in a serious loss of both research infrastructure and scientists.

In response to this crisis, four major agricultural organizations are joining forces to call for an increase in agronomic research**.** Over 100,000 Canadian farmers are represented by the group, which includes the Grain Farmers of Ontario, the Fédération des producteurs de culture commerciales du Québec, the Atlantic Grains Council and the Grain Growers of Canada.

"The government must develop a national strategy on agriculture that puts the needs of Canadian farmers at the top of its list," said Don Kenny, chair of the Grain Farmers of Ontario.

Farmers for Investment in Agriculture is calling on the Government to double core agronomic research over the next 10 years. The proposal would bring funding back to 1994 levels by 2020. By increasing research funds, Canadian farmers would gain a competitive edge in the global market and help stimulate the struggling Canadian economy. It is also estimated that agronomic research yields 40-60 per cent economic returns for the whole society.

"There is no better investment for Canada than an investment in food," said Doug Robertson, president of the Grain Growers of Canada. "We have some of the most fertile farmland in the world with access to the third largest supply of the world's fresh water and we are not maximizing our crop production," he said.

Research is more important today than it has ever been. The Food and Agriculture Organization of the United Nations predicts that global agriculture has to grow by 70 per cent by 2050 to feed an additional 2.3 billion people, creating a demand that Canadian farmers need to be prepared to capitalize on.

Increased public research funding helps develop crops that are more efficient, higher quality, healthier and more resistant to disease, pests and extreme weather conditions. At a time when demand is expected to rise significantly and wheat supplies are being threatened worldwide by an outbreak of Ug99, the time for government to invest is now.

For more information:
Doug Robertson, President of the Grain Growers of Canada, 403-819-8372
Don Kenny, Director of the Grain Farmers of Ontario, 613-314-2654

Allan Ling, Chair of the Atlantic Grains Council, 902-628-9727
William Van Tassel, Vice-Chair of the Fédération des producteurs de culture commerciales du Québec, 418-818-3238

CSA Executive have voted to endorse the: American Society of Agronomy Grand Challenge

Double global food, feed, fiber, and fuel production on existing farmland by 2050 with production systems that:

- substantially improve resource use efficiency;
- are resilient to and help mitigate global climate change;
- improve soil, water, and air quality, biodiversity, and ecosystem health; and
- are economically viable and socially responsible.

American Society of Agronomy Key Questions

Food Security:

Background: Food security is critical to overcome poverty and achieve peace among nations. We must ensure that future populations have access to adequate, safe, and nutritious food. Yet, population growth and rising incomes will require doubling of crop yields on existing farmland to meet the demands for food while also mitigating climate change, and encouraging good land, air, and water stewardship. The questions below must be addressed to achieve global and regional food security.

- How do we maximize yield potential and yield stability of crop production systems in the face of decreasing water supply, changing climate, and multiple abiotic and biotic stresses?
  Outcome: Integration of ecology, physiology, and genetics to develop new technologies, crop cultivars, and cropping systems that can achieve the required productivity and stability.
- How can mechanistic agronomic principles, modeling and simulation, increasingly detailed geospatial information and climatic data, real-time weather, and weather forecasting be used to improve the on-farm agronomic decision making processes?
  Outcome: Sustainably narrow the gap between attainable and actual crop yields through improved management decisions.
- What crops and cropping systems can we identify and design that will allow us to achieve significant improvements in human health and nutrition?
  Outcome: Ability to diversify our cropping systems to create a more nutritious and resilient food supply.

Resource Use Efficiency:

Background: Agronomy uses crops to convert air, sunlight, water, and available plant nutrients into food, feed, fiber, and fuel. Removal of nutrients such as nitrogen (N), phosphorus (P), and potassium (K), and water from soil is a necessary aspect of the crop production process. These nutrients (e.g., N and P) can have unintended negative environmental consequences when not used properly and are limited in supply because their production requires a substantial amount of energy (e.g., N) or because they come from finite geologic deposits (e.g., K and P). Water resources for irrigation are also limited. Future food security and environmental quality will therefore depend on achieving a large increase in use efficiency of nutrients and water. We are now faced with the challenge of achieving substantial increases in nutrient and water-use efficiency, while also enabling a continuation of rapid increases in crop yields on land in production.

- Can we meet the N needs of agronomic crops without increasing losses to levels that cause environmental damage or contribute to greenhouse gas emissions?
  Outcome: Greatly reduced use of fertilizer N for every calorie produced, resulting in lower energy requirements and improved air and water quality, to enable greater global food security.
- How can biological N fixation by soil microbes and improved plant varieties be harnessed to in-

crease crop yields and nutritional quality.
Outcome: Significantly enhanced agroecosystem nutrient use efficiency through improved nutrient cycling.

- Can we engineer new plants and fertilizers that maximize the utilization of fertilizer and soil P and K resources?
  Outcome: Enhanced agroecosystem P and K use efficiency, improved soil fertility, and increased yield.
- What biogeochemical interactions limit the plant-soil-air ecosystem cycling of renewable and non-renewable resources to limit leakages in the systems?
  Outcome: Increased allocation of research efforts toward significant improvements in managed nutrient cycles. Knowledge necessary to design production systems with substantially improved resource use efficiency.
- How can cropping systems, improved cultivars, and soil management practices be altered to increase crop yields per unit of available water?
  Outcome: Crop yields are increased with reduced water use per unit of production.

Enhancement of Ecosystem Services Provided by Agriculture:

Background: Agriculture is multifunctional; it is both dependent on and can be complimentary to ecosystem functions that produce goods. The study of natural and managed ecosystems, including agroecosystems, has shown that these systems provide services that generate goods essential to life. Ecosystem goods include clean air, water, soil, diverse plant and animal species, and habitats. Through agricultural and plant production, soil can provide multiple services that include not only food, fiber, fuel and feed production, but also carbon storage, erosion control, plant growth, nutrient cycling, and water filtration and storage. Improving and maintaining soil quality through proper management and care of the soil is critical for the production of these goods. While such goods are difficult to value monetarily, they have intrinsic value because they produce goods that support our health and economies. As society realizes the value of these services and goods, new ecosystem service markets are developing. To ensure that these markets are based on sound science, it is critical to understand the multifunctional relationships occurring in an agroecosystem. In this way, we can enhance the services provided.

- How can food, feed, fiber and fuel production be more efficiently integrated with other ecosystem services in both broad acre and small holder agricultural systems to create a more sustainable use of the landscape?
  Outcome: Ecosystem services, i.e. clean water, provided by agroecosystems will be increased on millions of hectares.
- What tools and practices can be provided to enable producers to adopt cropping systems and management that improve soil, air, and water quality without compromising aggregate food, feed and fiber production?
  Outcome: Profitable and productive cropping systems that increase soil, air, and water quality.
- How can agroecosystems enhance wildlife habitat and biodiversity, while doubling food, feed, fiber, and fuel production?
  Outcome: Increased wildlife habitat and biodiversity coupled with increased food security.

Agriculture as an Economically Viable and Socially Responsible Sector:

Background: Agricultural systems are the foundation of human health, economic development and political stability. Productive and sustainable agricultural systems will be based on high-quality interdisciplinary and integrated research, education, and extension.

- How can we implement research, education, and extension programs that deliver the optimum crop production knowledge appropriate for overcoming regional challenges?
  Outcome: Increased crop productivity and nutritional quality, opportunities for economic development and greater political sustainability.

First CSA International (ITPP) Project in Nepal

In November 2008, the Sustainable Agriculture Development Program (SADP) in Nepal contacted the Agricultural Institute of Canada (AIC) to enquire about possibilities for partnership, collaboration or twinning on areas of organic agriculture in Nepal. SADP is a non-profit organization committed to enhancing the livelihood of resource poor farmers through research, development and promotion of sustainable agricultural systems.

Discussions in Nepal and Canada continued for the next year, with AIC contacting organizations and individuals in Canada to identify interest in a potential new partnership with SADP through the AIC International Twinning Partnership Program (ITPP). Please see http://www.aic.ca/international/itpp.cfm for more information on the ITPP program and current projects linking Canadian scientific societies with partners in Sri Lanka, Tanzania, Vietnam, Ghana and Ethiopia. The broad goals of a ITPP partnership project must address capacity development of partner organizations, food security and/or income generation, along with the cross cutting them of gender equality.

Team members meeting with SADP members at SADP offices in Kathmandu. (L to R are Derek Lynch, CSA; Dinah Cephlis, CSHS, Ramesh Nath Sharma, Chairman, SADP; Usha Pokhrel, SADP, Samir Newa, SADP, and Tom Beach, AIC)

Dr. Derek Lynch, representing the Canadian Society of Agronomy, Dinah Ceplis, representing the Canadian Society for Horticultural Science, and Tom Beach, representing AIC, visited Nepal in December to view SADP activities, meet their partners and project beneficiaries and discuss the viability of a project with potential partners from Nepal and from Canada.

They also gathered information on other aspects, including: organic agricultural production in Nepal; farmers and organizations with motivation to adopt organic technologies; developing markets to make organic production profitable; current associated research and extension efforts and programs; recent national organic standards for Nepal; and tracking positive environmental changes due to organic practices.

Based on the potential identified, and SADP's vision, goals and organizational objectives, which fit well with the ITPP program, the group identified the initial elements of a plan to complete a Phase One project proposal to take place from early 2010 to March 31, 2011. The plan will be submitted for approval to CIDA, which funds the ITPP program.

Team members and SADP partners conducting a needs assessment meeting with farmers in the Kalesti Valley, Nepal.

CSA has officially approved the organization's participation as a Canadian partner to the project, and a Canadian coordinating committee, open to all CSA members interested in participating in this partnership project, is being formed. The Canadian Society for Horticultural Science will also encourage its members to participate. In Nepal, the lead project partner will be SADP in collaboration with LI-BIRD (Local Initiatives for Biodiversity, Research and Development), and the Tribhuvan University Institute of Agriculture and Animal Science.

All partners will continue working with SADP to develop a Phase One plan and budget, and to determine the viability of a longer term partnership and develop a project proposal to be submitted for consideration as part of the ITPP 2011 program submission to CIDA.

Further information on SADP is available at www.sadpnepal.org, LI-BIRD at www.libird.org, and Tribhuvan University at www.tribhuvan-university.edu.np.

If you are interested in serving on the Canadian project coordinating committee, or for more information please contact Derek Lynch (dlynch@nsac.ca).

Status of Agronomy Profession Assessment (SAPA)

There is evidence of a steady decline since the 1980's of agronomic science capacity in Canada, largely by attrition (retirement). The figure below is a recent illustration, specific to potato research but relevant to all of agronomy. We believe many of the remaining scientists and professional agronomists are in mid to late career, so that attrition will further decimate the discipline. Training and hiring new agronomists has apparently lagged. We believe that the pending loss of knowledge base is not well appreciated, and that it must be quantified in order to initiate a change.

CSA is planning a project to quantify Canada's agronomy science capacity (primarily numbers of agronomists are specific levels of expertise). This will be done by telephone and letter survey. The objective is to document change in capacity over the last few decades and projected change over the next decade. The beneficiaries are those agencies, both government and industry, who hire agronomists or who rely on the present agronomic science capacity to supply their needs.

We hope to inform policy makers and staffing agencies the details of the (perceived) pending loss of agronomic knowledge base. It is our duty as professionals to inform government of the potential loss of competitiveness in global food markets because of loss of technical advantage in agronomy. If the quantitative results are as compelling as we think will occur, then we hope to achieve increased training and hiring in agronomy for Canada.

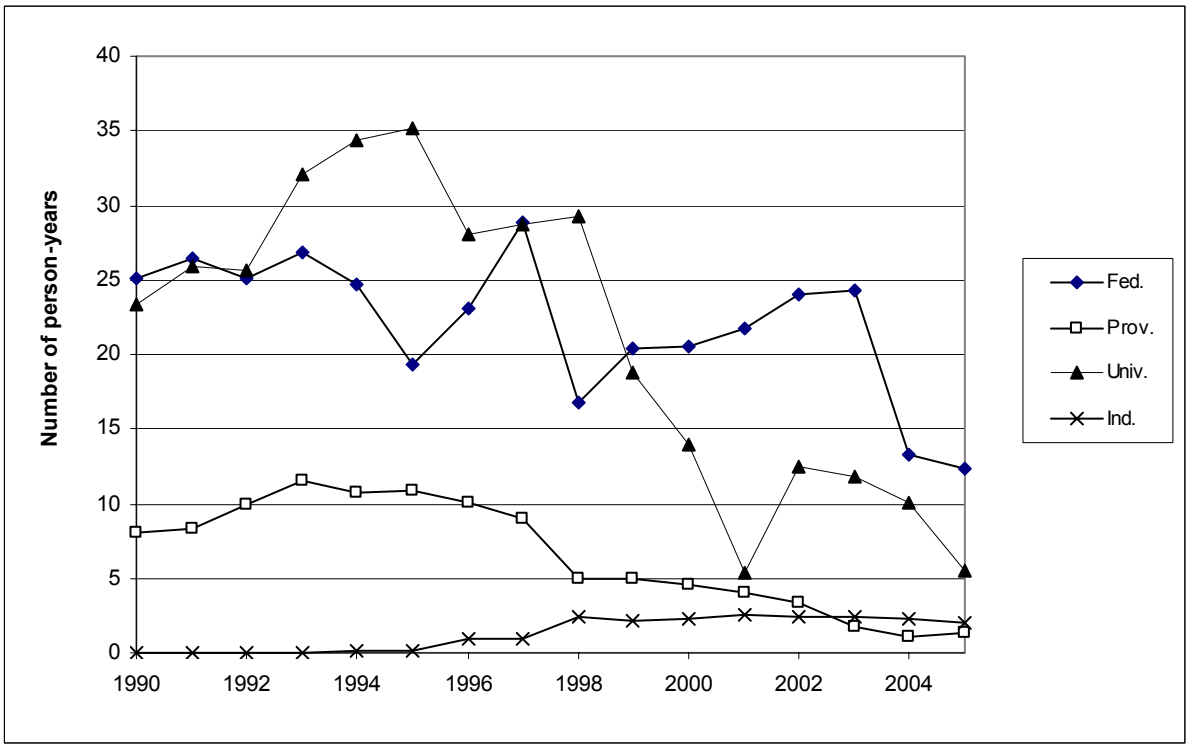


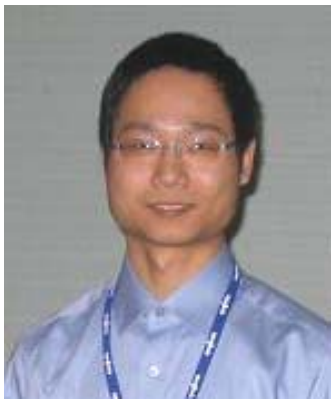
Figure 1. Number of Canadian agronomy research person-years involved in potato research (adapted from Carew et al. 2009, Amer. J. Pot. Res. 86:442-455).

Graduate Student Awards of the Fifth Atlantic Agronomy Workshop

Rodd Charlottetown Hotel, Charlottetown, Prince Edward Island
January 19-20, 2010

Sponsored by Prince Edward Island Cattle Producers
Awards were presented by Rinnie Bradley (CEO PEI Cattle Producers) and Dr. Derek Lynch (CSA-Eastern Director)

PAPER PRESENTATION AWARD



Winner: Jili Li, M.Sc. candidate, NSAC

Title: Evaluation of downy mildew resistance of 11 camelina genotypes and scanning electron microscopy (SEM) observations of downy mildew infection.

Supervisor(s): Dr. Claude Caldwell and Dr A. Bruce Gray.

Institution: Nova Scotia Agricultural College,
Dept. of Plant and Animal Sciences,
Truro, NS, Canada, B2N 5E3

POSTER AWARD

Winner: Di Fan, M.Sc. Candidate, NSAC

Title: Commercial extract of the brown seaweed *Ascophyllum nodosum* enhances phenolic antioxidant content of spinach (*Spinacia oleracea* L.) that also imparts protective effects in the nematode model, *Caenorhabditis elegans* against oxidative and thermal stress.

Supervisor(s): Dr. Balakrishnan Prithiviraj

Institution: Nova Scotia Agricultural College,
Dept. of Plant and Animal Sciences,
Truro, NS, Canada, B2N 5E3

Welcome New Associate Editors, CJPS

Please join me to welcome the following Associate Editors who have been nominated to serve the CSA, CSHS and CWSS for a term of three years beginning January 2010 to 31 December 2012.

CSA: Dr. Patrick Carr and Dr. Yves Castonguay
CSHS: Dr. Martine Dorais and Dr. Ji-Hong Liu
CWSS: Dr. Mihai Costea, Dr. Marie-Josee Simard and Dr. Mirwais M. Qaderi

Thank you for agreeing to represent CSA, CSHS and CWSS as an Associate Editor for the Canadian Journal of Plant Science. The job is critical for the journal and the journal is indeed fortunate to have your strengths added to the diverse and dedicated group of professionals committed to maintaining the quality of papers published in CJPS.

Shahrokh Khanizadeh
Editor-in-Chief, CJPS

CSA EXECUTIVE

PRESIDENT

Shabtai Bittman
Agriculture & Agri-Food Canada
Pacific Agri-Food Research Centre
Agassiz, BC V0M 1A0
Phone: (604) 796-2221
Shabtai.Bittman@AGR.GC.CA

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

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

PRESIDENT-ELECT

Rigas Karamanos
Viterra Inc.
10517 Barlow Trail
Calgary, AB T2C 4M5
Ph: 403-270-1120
Fax: 403-279-1127
rigas.karamanos@viterra.ca

WESTERN DIRECTORS

Yantai Gan
Semiarid Prairie Agr. Res. Cent.
P.O. Box 1030
Swift Current, SK S9H 3X2
Phone: (306) 778-7246
Yan.Gan@AGR.GC.CA

Patricia Juskiw
Agriculture and Rural Development
5030 50th Street
Lacombe, AB, Canada T4L 1W8
Phone: (403) 782-8691
Fax: 403-782-5514
patricia.juskiw@gov.ab.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

Alek (Thin-Meiw) Choo
Agriculture & Agri-Food Canada
ECORC, CEF
Ottawa, ON, Canada K1A 0C6
Phone: 613-759-1307
Fax: 613-759-1701
ThinMeiw.Choo@AGR.GC.CA

SECRETARY-TREASURER

Balakrishnan Prithiviraj (Raj)
Nova Scotia Agricultural College
58 River Road
Truro, NS, Canada B2N 5E3
bprithiviraj@nsac.ca
Phone: 9028936643
Fax: 9028956734

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