



CSA Newsletter


Canadian Society of Agronomy

September 2013




PRESIDENT'S MESSAGE

Fellow CSA members:




Greetings to all and I hope your growing season has gone well. Here in Atlantic Canada we seem well on track for another mild fall that we are increasingly getting used to, with soils rarely continuously frozen until well into the winter. Such open winters, combined with heavy rain events are to be expected in Atlantic Canada according to climate change models, and present opportunities and distinct challenges for agriculture in the region.

I'm delighted to assume the role of CSA president since July this year, taking over from Gavin Humphreys, and the chance it provides to contribute to strengthening and advancing our society over the year ahead. Gavin did an outstanding job shepherding CSA through a challenging past year. He continues on the executive as past-president and chair of our awards committee. The presidents job is only made possible also through the excellent assistance of our executive director Steve Sheppard plus the volunteer efforts of all the executive members.



The central role of the scientific societies such as CSA in facilitating scientific exchange and collaborations, plus the mentoring of up and coming new scientists, has been presented with serious challenges over the past year. As many of you aware, the ability of researchers from AAFC to attend all conferences has been severely restricted due to far reaching reductions in travel budgets for these federal scientists. CSA, along with all partner scientific societies, continues to present the case to all decision makers that this policy seriously undercuts the advancement of agricultural science in Canada. In the meantime we are adapting and determined to continue to provide forums for scientific exchange for current and new agronomists. This includes this years CSA meeting jointly with ASA in Tampa Florida, and a planned CSA and CSHS joint conference in July 2014 in Lethbridge, Alberta. I am delighted to note also, that at next years event, in addition to our regular awards for graduate student oral and poster presentations, we will be offering, for the first time, three travels awards of \$500 each to help up and coming scientists attend the conference.



While some issues such as reduced support for scientific exchange in the short term can be discouraging, when one considers the broader context of our work as agronomists and agricultural scientists, there is much to be encouraged and enthusiastic about. From any perspective, agriculture and food systems have never been more important. While populations the world over are increasingly urbanized the appreciation among both rural and urban dwellers alike, of the critical role of agriculture and food systems appears to be at an all time high, and this is certainly true in Canada as well. In turn, we are also recently appreciating that agriculture has never had more of an impact on all global ecosystems. From FAO to global agriculture industry bodies, a scientific approach to the redesign of agriculture is now regarded as urgently needed. Agronomists and the CSA have a self-evident key role to play in positioning agricultural science in Canada to elaborate the way forward and address these fundamental issues.

Derek Lynch, President.

New Executive Members

Brian Beres—President-Elect



Dr. Beres is a research scientist at Agriculture and Agri-Food Canada's Lethbridge Research Centre in Alberta. Dr. Beres started his career path as a teacher in southern Alberta after obtaining Bachelor's degrees in Education and Geography. However, the allure of scientific research, which he was exposed to as a summer student at AAFC, inspired him to change career paths whereupon he obtained a Master's and PhD from the University of Alberta. Dr. Beres established an agronomy program in 2000 and leads several multi-disciplinary projects developing innovative and integrated crop management systems. Dr. Beres publishes in the areas of agronomy and crop science and has been the author or co-author of 42 peer-reviewed research articles. He is a member of the

Canadian Society of Agronomy and the American Societies for Agronomy, Crops and Soils, currently serves as an Associate Editor for the Canadian Journal of Plant Science. He also maintains close ties with both producer organizations and several national and international private companies that have a stake in crop production systems and life sciences research. Dr. Beres has several international collaborations including ongoing projects with North Dakota State University and Montana State University. Dr. Beres is Chair of the Prairie Recommending Committee for Wheat, Rye, and Triticale and is currently leading this cross-sectorial group through a review of the current registration process to ensure any impediments to the pace of delivering new genetics to the marketplace are removed.

Yvonne Lawley—Secretary-Treasurer

Dr. Yvonne Lawley joined the Plant Science Department at the University of Manitoba as an assistant professor in 2011. Since that time, Yvonne has been a CSA Western Director. Yvonne's area of research is agronomy and cropping systems. To date her research has focused on the agronomy of soybeans and corn as well as new uses for cover crops in conventional cropping systems. Yvonne received her PhD in soil science from the University of Maryland (2010), an MSc in plant science from the University of Saskatchewan (2004), and a BSc in agronomy from the University of Manitoba (2002). Prior to joining the University of Manitoba, Yvonne was a Research Agronomist at North Dakota State University's Carington Research Extension Center.



Alison Nelson—Western Director

Dr. Nelson is an Agronomist for the Canada-Manitoba Crop Diversification Centre with Agriculture and Agri-Food Canada in Manitoba. She obtained her education from the University of Manitoba (B.Sc. and M.Sc. in Agronomy) and the University of Alberta (Ph.D.). Dr. Nelson's research focused on the impacts of organic and conventional management practices on soil physical and biological properties and crop quality. During her education, Dr. Nelson sat on the Advisory Board for the Organic Agriculture Centre of Canada. Her current role at the Canada-Manitoba Crop Diversification Centre is focused on research and development of sustainable management practices in irrigated crop production.



New Executive Members

Tarlok Sahota—Eastern Director

Dr. Tarlok Singh Sahota, Director of Research and Business, Thunder Bay Agricultural Research Station (TBARS), Thunder Bay, Ontario, has been heading the TBARS since January 2004. Tarlok has generated a lot of valuable agronomic data and has made a difference at the farm level by introducing new crops/cropping systems and beneficial management practices. Originally from a family farm, Tarlok has Master's and Doctorate degrees in Agronomy with distinction, from the famous Punjab Agricultural University Ludhiana, India.



He has undertaken International Course for Development Oriented Research in Agriculture (ICRA), Wageningen, The Netherlands (7 months course meant for young agricultural professionals). Tarlok has 30 years experience in agricultural research, extension and development spread over four continents and 11 organizations. Highlights of his career include establishment of a 10101 acre commercially viable contract mint farming program for A. M. Todd Company USA and management of large scale commercial farms in Nigeria, including a fresh produce export project. Tarlok served as a member of an International Panel for the Second External Review of ICRA, The Netherlands and has worked in multinational and multidisciplinary teams. He has several other awards and honors to his credit. Tarlok has been an Ontario CCA since 2007, has published hundreds of extension articles and has made over three dozens research presentations at Canadian Society of Agronomy (CSA), Plant Canada, American Society of Agronomy (ASA) and farmers' conferences in the recent past (total over 300 publications to date). Tarlok is a member of the CSA and the ASA and is a life member of the Indian Society of Agronomy and Indian Society of Soil Science. Since 1993, Tarlok has held senior management positions reporting directly to the board of directors. Tarlok has headed multimillion dollar projects/divisions and has served on the board of directors of a commercial organization, marketing agricultural inputs.

Teketel Haile—Student Representative

Teketel Haile is a PhD student at the department of Plant Sciences, University of Saskatchewan under the supervision of Dr. Curtis Pozniak. Teketel earned a BSc degree in Plant Production and Dryland Farming from Debub University, Ethiopia in 2002. After completing his undergraduate study with distinction in 2005, he went on to become an instructor at the Dilla College of Agriculture, an institution engaged in providing training to agricultural extension workers. There he taught various Plant Science courses for four years before coming to Canada in January 2010 to pursue his graduate study. Then he attended the University of Saskatchewan for three years and received his MSc degree in Plant Sciences in April 2013.



Christian Willenborg - Early Career Agronomist Award

Dr. Christian Willenborg obtained his B.Sc. (2002) and M.Sc. (2005) at the University of Saskatchewan and his Ph.D. (2009) at the University of Manitoba. He has held positions at the University of Alberta and is currently an Assistant Professor at the University of Saskatchewan. During his studies he won the Canadian Society of Agronomy Pest Management award in 2008 and a Best Student Poster award at the 2004 annual meeting. He has been a member of the Canadian Society of Agronomy since 2002 and has served as an Associate Editor on *The Canadian Journal of Plant Science* since 2011.



Chris demonstrated exceptional teaching ability early in his career while he was a Ph.D. candidate at the University of Manitoba. At the University of Alberta, Chris was an academic advisor for crop science undergraduate students, supervised 2 M.Sc. students and co-supervised a Ph.D student. He also revised the Crop Science section and developed a new course entitled “Plants in Our Lives” geared towards non-agriculture undergraduates. Since being at the University of Saskatchewan, Chris has made major revisions to the *Pesticides and Crop Protection* course and co-teaches *Current Issues in Agronomy*. Chris engages his students and they rate his teaching skills very high. He is currently supervising or co-supervising 12 M.Sc. candidates, and is a member of six (2 Ph.D., 4 M.Sc.) Graduate Student Committees.

Dr. Willenborg’s research covers the spectrum from basic plant ecology to applied weed control. Chris is currently a recipient of an NSERC discovery grant in the area of kin fitness. This project examines the effect of plant relatedness on their population dynamics using weeds as a model species. The methods used to determine these effects are very creative and synthesize the disciplines of genetics, plant population dynamics and competition. Chris has also published research in the area of gene flow in wheat, where he used a novel statistical model to identify the probability of hybridization between isolated wheat populations. This research is being applied to determine the risk of gene flow between transgenic and regular wheat. Chris also runs a large herbicide efficacy screening program. This work has resulted in the registration of minor uses for herbicides.

Dr. Willenborg’s is author or coauthor on 20 peer reviewed research publications in journals like The Canadian Journal of Plant Science, Weed Science, Crop Science, Agronomy Journal, Transgenic Research and Environmental Biosafety Research. Congratulations Chris on receiving the CSA Early Career Agronomy Award 2013.

Dr. Rigas Karamanos—Fellow

Dr. Rigas Karamanos is an expert in the use and application of fertilizer on all crops on the great plains of North America. He is an individual of boundless energy and enthusiasm who always seems to be in more than one place at a time. Rigas received his BSA from the University of Thessaloniki, Greece and his M.Sc. (1975) and Ph.D. (1979) in Soil Chemistry and Fertility from the University of Saskatchewan. He has taught at the University of Saskatchewan and McGill University, has served as the Senior Research Agronomist with Esso Chemical Canada, Director of the Saskatchewan Soil Testing Laboratory and Manager of ACES and Agronomy with Western Cooperative Fertilizers until it was absorbed by Viterra. He is currently Manager of Agronomic Solutions for Viterra.



Rigas has always been a research scientist who has conducted extensive experiments and interpreted the data with strict adherence to the scientific approach to research. Many have heard him say, “In God we trust. All others bring replicated data.” He has always wanted to be correct in his recommendation to farmers. One of Rigas’ great strengths is the ability to present his research findings and make their conclusions meaningful to all audiences, from fellow scientists to producers. Dr. Karamanos has presented at more than 710 extension meetings and has published 374 research reports in scientific journals since 1982. And these numbers continue to grow.

CSA Award Winners 2013 (continued)

Karamanos, used a massive data base of soil N experiments, collected while he was agronomy manager for Westco, to develop a nitrogen calculator program that gives farmers the option of changing fertilizer sources, costs, commodity prices and nitrogen rates. The readily available calculator gives the user the economic consequences of each decision relevant to current farming practices on the Great Plains. Once the nitrogen work was completed to his satisfaction, he turned his attention to a phosphorus calculator, which he released last year and is on the web for all to use. His research while academic in nature is producer-oriented in practice.

Rigas has served the Canadian Society of Agronomy extensively in his career. He was President Elect, President and Past President from 2009 to 2012 and he organized the 2012 annual general meetings in Saskatoon. He is an Associate Editor on the *Canadian Journal of Plant Science*. Many meetings have used Rigas' talents in fund raising and extensive contacts with industry to raise financial support. He has always volunteered and participated in his society.

Dr. Rigas Karamanos is a scientist with integrity who has always conducted research with the goal of enhancing the production capabilities of the Canadian farmer. He communicates his ideas with zeal and charm. He is a caring and considerate scientist, a mentor to a great many students and fellow workers, and an individual whose research underpins current soil fertilizer application recommendations on the Canadian Prairies. The Canadian Society of Agronomy thanks Rigas for his contributions to Canada and our Society by awarding him a Fellowship.

Dr. Vaino Poysa—Fellow

Vaino spent much of his scientific career with Agriculture and Agri-Food Canada at the Harrow research station. He initially bred tomatoes but switched to soybean when Dick Buzzle retired. Vaino realized that food quality soybean was an area that required attention in Canada and developed extensive collaboration networks with the growers, and the end users to breed soybean cultivars to fulfill targets in the soybean value chain. His research and extensive collaboration with others have greatly improved the soybean export industry in Canada.

Dr. Poysa recognized that new traits were needed to adapt soy foods to the North American market by developing lines with substantially improved flavour (less “beany taste) and increasing isoflavone concentration. In collaboration with Dr. Lorna Woodrow at Harrow, he developed NIR calibrations for isoflavone content, sucrose, stachyose, total free sugars, and acid hydrolysable sugars, which allowed soybean breeders to use small quantities of seed for non-destructive analysis in early generation selection. He was responsible for accessing germplasm with modified protein profiles from Japan and used this to develop adapted lines with a range of modified protein profiles. These lines were then used to study the functional effects of protein variation on the end-use properties of soyfoods, and are currently being used in animal feeding study to evaluate health benefits of soybean proteins.

Vaino collaborated with pathologists, molecular biologists, and other breeders to identify resistance sources for major soybean pathogens, characterize them genetically, and incorporate them into superior soybean cultivars. He developed RILs and mutation populations to map and differentiate genes for phytophthora root rot (PRR) resistance. Dr. Poysa collaborated on evaluation of white mould resistant germplasm and transgenic lines.

Dr. Poysa has been of service to the Canadian Society of Agronomy through a term as Associate Editor followed by a term as Editor-in-Chief for the *Canadian Journal of Plant Science*. He is a member of a number of other scientific societies, and has served on graduate student committees, international, provincial and industry committees.

Dr. Poysa has published many highly cited papers, developed 14 cultivars, and served in various AAFC leadership capacities. Vaino has participated in Canadian Soybean Export Association (CSEA) trade missions to Asia and has hosted incoming missions from Japan, Taiwan, China and Europe as part of a soybean market development program. The Canadian soybean industry has grown 300% in the past 20 years with food soybeans accounting for about one-third of the crop. The tofu testing lab that Dr. Poysa established has been critical for the entry of new Canadian soybean cultivars into Asian soyfood markets. Many Asian end users will request the results from this lab before considering new cultivars.

Vaino was always congenial, beginning his emails with “Friends” and ending them by wishing his colleagues



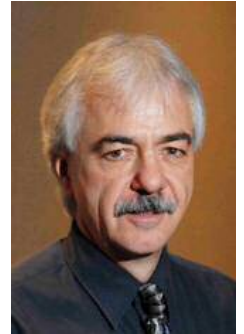
peace. His career was strongly based on collaboration, integration, and understanding. Thank you Vaino for serving Canada, and the Canadian Society of Agronomy with such intelligence, grace, and humility.

Guy Lafond - Distinguished Agronomist

It is with sadness and a little joy that the Canadian Society of Agronomy award Guy Lafond the Distinguished Agronomist Award for 2013. We are all saddened by his untimely death, but still hope to honour his memory, accomplishments, and contributions to Canadian Agriculture with this Award.

Guy earned his B.Sc. and M.Sc. at the University of Manitoba and his Ph.D. at the University of Saskatchewan in 1984. He briefly worked on aspects of winter wheat agronomy in 1985 before beginning his career with Agriculture and Agri-Food Canada in late 1985, as a cropping system agronomist at the Indian Head Research Farm.

Dr. Lafond's research focussed on the development of economically and environmentally sustainable farming systems. He is most strongly linked to the development of no-till management in Western Canada. He recognized early in his career that no-till held great potential benefits for crop production and soil conservation in the prairie region and dedicated much of his research effort to addressing the inevitable questions and challenges inherent in the development and adoption of such a new technology. His strong background in crop physiology and agronomy allowed him to combine field based research with a theoretical understanding of crop response to provide practical answers to producer problems.



While his research contributions have been substantial, Guy played an even more important role in the transfer of information to the farming public. He was instrumental in the establishment of the Indian Head Agricultural Research Foundation, a non-profit organization that has played an important role in encouraging research and technology transfer activities in support of environmentally and economically sustainable farming practices. Guy spent a huge amount of his time ensuring that current research information was transferred to the farming public in an understandable way. Guy was co-editor and founder of the electronic journal *Prairies Soils and Crops* (<http://www.prairiesoilsandcrops.ca/index.html>) which focused on applied agronomic research in the prairies. The Journal has been very popular receiving many visits per month. His technology transfer activities took him across North America, as well as to China, Russia, Ukraine, Kazakhstan, Australia and Europe.

Guy was made a fellow of the Canadian Society of Agronomy in 2010, received an Award of Merit from the Saskatchewan Soil and Crops Association in 2001, a Weed Science Society of America Award of Excellence in 1994, and an Award for Outstanding Contribution to Agriculture from the Manitoba-North Dakota Zero-Till Association in 1993.

Guy was passionate about agricultural research and the farmers he worked for. He had great respect for farmers that built the industry and enthusiastically adopted new technologies. At any field day, Guy could be found in earnest conversation with the producers present and it was clear that they also respected his options and the information that he could share with them.

Guy was a focused scientist. His research was well thought-out and meticulously planned to the last detail. He worked extremely hard for Canada, and the farmers of the Prairies. He took the greatest pride when a project he had worked on resulted in greater profits for farmers, or more sustainable practices for farming systems. He was a Distinguished Agronomist and we will miss him.

2013 Pest Management Research Award Winner

Glyphosate-resistant Canada fleabane (*Conyza canadensis* (L.) Cronq.) in Ontario: Distribution and control in soybean (*Glycine max* (L.) Merr.)

Holly P. Byker

Advisors: Peter H. Sikkema and François J. Tardif

Canada fleabane is the second glyphosate-resistant (GR) weed species to be confirmed in Ontario. In 2010, GR populations were identified at eight sites in Essex County. In 2011 and 2012, 147 additional sites across eight counties were confirmed to be resistant. Twelve and seven sites were identified with multiple resistance (glyphosate and cloransulam) in 2011 and 2012, respectively, across five counties. In soybeans, preplant tankmixes of glyphosate (900 g a.e./ha) plus saflufenacil (25 g a.i./ha), saflufenacil/dimethenamid-p (245 g a.i./ha), metribuzin (1120 g a.i./ha), or flumetsulam (70 g a.i./ha) provided greater than 87% up to 8 weeks after application (WAA). Glyphosate rates 21 to 48X the label rate (900 g a.e./ha) were required for 95% control. Postemergence tankmixes did not provide acceptable control. In dicamba-tolerant soybean, dicamba applied preplant at 600 g a.e./ha provided the most consistent control of GR Canada fleabane.



2013 CSA Best Paper in CJPS Award

The effect of irrigation on nitrogen uptake and use efficiency of two willow (*Salix* spp.) biomass energy varieties

R. D. Hangs, J. J. Schoenau, K. C. J. Van Rees, and J. D. Knight

Department of Soil Science, University of Saskatchewan, Saskatoon, Saskatchewan, Canada S7N 5A8.

Hangs, R. D., Schoenau, J. J., Van Rees, K. C. J. and Knight, J. D. 2012. The effect of irrigation on nitrogen uptake and use efficiency of two willow (*Salix* spp.) biomass energy varieties. *Can. J. Plant Sci.* 92: 563-575. Nitrogen (N) fertilizers historically have been applied to support increased productivity of purpose-grown willow (*Salix* spp.) biomass energy plantations. However, a frequently observed lack of willow growth response to added fertilizer N is often attributed to poor fertilizer use efficiency. The objective of this study was to determine the effect of irrigation on the recovery of broadcast ¹⁵N-labelled fertilizer, applied during the final year of a 3-yr rotation, by two willow varieties. A split-split-plot experiment was established on a fertile heavy clay soil in Saskatoon, SK, Canada, which consisted of two willow varieties (Charlie and SV1), three irrigation treatments (no irrigation, 75%, and 100% field capacity), and two fertilization treatments (1^L and 2^L the recommended fertilizer rate of 100:30:80:20 N:P:K:S; kg ha⁻¹). Irrigation increased fertilizer N uptake by Charlie, but had no effect on the amount taken up by SV1, which was attributed to greater N use efficiency of SV1 compared with Charlie when irrigated. Eighty-two percent of the applied fertilizer N was accounted for in the following sinks: 43% in the soil (0-60 cm), 31% in the willow tissues (i.e., stems, leaves, stump, and roots), 7% in the LFH layer, and 19% in the non-crop vegetation; the balance (approximately 18%) was presumed lost primarily through denitrification from the poorly drained soil, but possibly some may have leached below the root zone as well. Although the willow varieties accessed only a portion of the applied fertilizer N during the year of application, the majority of the residual fertilizer N was conserved within the production system and, therefore, remained available for willow uptake in subsequent years.



November 3-6, 2013

Tampa, Florida

<https://www.acsmeetings.org/>

CSA PROGRAM—Tuesday, November 5

8:00 AM		Introductory Remarks
8:05 AM	176-1	Northward Expansion of Soybean in Canada. <i>Elroy R. Cober, Department of Agriculture of Canada; Malcolm Morrison, Eastern Cereal and Oilseed Research Centre</i>
8:35 AM	176-2	Abiotic Stress Adaptation, Agronomy and Physiology in Northern Areas. <i>Malcolm Morrison, Eastern Cereals and Oilseed Research Centre</i>
9:05 AM	176-3	The Role of Agronomic Research in Meeting Current and Future Cropping System Challenges in Western Canada. <i>John T. O'Donovan, Agriculture & Agri-Food Canada; Kenneth Neil Harker, Agriculture and Agri-Food Canada; Thomas Kelly Turkington, Agriculture & Agri-Food Canada; Guy P. Lafond, Agriculture & Agri-Food Canada; Newton Z. Lupwayi, Agriculture & Agri-Food Canada; Robert E. Blackshaw, Agriculture & Agri-Food Canada; George W. Clayton, Agriculture & Agri-Food Canada</i>
9:35 AM	176-4	Energy and Economics. <i>Elwin Smith, Agriculture & Agri-Food Canada</i>
10:05 AM		Break
10:20 AM	176-5	Challenges of Organic Agriculture in a Northern Climate. <i>Derek H. Lynch, Dalhousie University; Andrew Hammermeister, Organic Agriculture Centre of Canada; Martin Entz, University of Manitoba; Martine Dorais, Agriculture and AgriFood Canada</i>
10:50 AM	176-6	Farming Systems: Challenges and Opportunities in the Northern Great Plains. <i>Yvonne Lawley, University of Manitoba; Martin Entz, University of Manitoba; Paul Bullock, University of Manitoba</i>
11:20 AM		Discussion
12:00 PM		LUNCH and CSA Annual General Meeting
1:00 PM-4:30 PM		Oral Session
4:30 PM-7:00 PM		Poster Session, Social Evening

2012 REVIEW OF FINANCES

Dear Canadian Society of Agronomy,

I have reviewed the accounting books for the Canadian Society of Agronomy for FY 2012. I have summarized the information below:

1. The total at the end of FY 2012 was \$58608.95.
2. I found the Profit and Loss and the Balance sheets (as attached) to match the actual income and expenses, including all deposits and debits, except for one minor issue. I could not find where the service charges for the Joint w/ Chequing account of \$2 and \$1 for June 30 and July 31, 2012, respectively, came from.
3. One cheque of \$300 was not cashed in 2012. It was outstanding from June 2012. It was recorded as such in the CSA financial records.

All the financial records for the Canadian Society of Agronomy for 2012 were found to be accurate and balanced according to the attached statement. All amounts on the bank statements were checked against the deposits and the receipts and invoices.

Sincerely,



Anita Drabek

CSA ANNUAL MEETING AND CONFERENCE 2014

July 10-12th, 2014
University of Lethbridge
Lethbridge, Alberta

In concert with the **Canadian Society of Horticultural Science** (CSHS) the CSA annual conference and meeting will be held at the University of Lethbridge, July 10-12th, 2014.

This event provides a great opportunity to present your research, and take in some exciting planned tours on day 1 of innovative local research, farms and processing facilities. The spectacular national parks nearby will offer great recreational opportunities for accompanying persons.

Special symposium themes in planning include:

- a focus on water and irrigation management,
- cold and frost tolerance and
- integrated cropping and livestock systems.

There will be graduate student oral and poster presentation competition and cash awards. In addition the CSA will be offering, for the first time, three travels awards of \$500 each to help graduate students attend the conference and present their work.

Check the CSA website this fall and winter for further updates.

Plan to be there!

2012 PROFIT / LOSS STATEMENT AND 2013 BUDGET

Canadian Society of Agronomy Profit & Loss

	Budget	Actual	This FY	Budget
	Jan1 to Dec31 2012	Jan1 to Dec31 2012	Jan 1 to June 30 2013	Jan1 to Dec31 2013
Ordinary Income/Expense				
Income				
Advertising	0	290	0	0
Conference surplus from previous year(s)	10,000	0	14,249	24,000
Corporate Sponsorship	1,000	700	0	700
Member Fees,Subscriptions,Conference Sponsorship for Awards	14,000	9,853	6,165	10,000
	800	1,800	1,800	1,800
Total Income	25,800	12,643	22,214	36,500
Expense				
Awards and Grants	4,800	5,660	0	4800 ^a
Bank Service Charges	10	3	1	5
Business Licenses and Permits	30	30	30	30
Copying and Reproduction	1,200	853	263	900
Insurance	729	729	0	729
Internet website	1,040	414	0	500
Membership Fees (of CSA)	1,000	1,000	1,000	1,000
Office Supplies	0	21	23	25
Outside Services (Membee, Beanstream)	0	1,610	880	1,200
Payroll Expenses (book keeper)	1,500	758	606	1400 ^b
Postage and Shipping	900	887	269	900
Professional Fees (audit)	175	158	0	175
Quarterly Fee Exec Dir	7,446	5,620	3,990	10000 ^c
Reimbursable expenses (conference, car)	300	2,292	2,025	5000 ^d
Subscriptions paid to AIC	4,000	2,950	465	3,000
Other Expenses	0	1,608	0	500
Total Expense	23,130	24,593	9,553	8,964
Net Ordinary Income	2,670	-11,950	12,661	27,536
Other Income/Expense				
Other Income				
Interest Income	1,000	1,060	415	1,000
Total Other Income	1,000	1,060	415	1,000
Net Other Income	1,000	1,060	415	1,000
Net Income	3,670	-10,890	13,076	28,536

Notes

^a 2012: included travel for 2011 Pest Award recipient

^b from 2012: \$606.38, cheque cashed in 2013

^c from 2012: \$1995.00, cheque cashed in 2013

^d 2013: money to ASA conference and memorial for Guy Lafond

Ruth Bastow
 GPC Executive Director
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The GLOBAL PLANT COUNCIL

About Us

The Global Plant Council (GPC) is a coalition of plant and crop societies from across the globe.

GPC seeks to bring plant scientists together to work synergistically towards solving the pressing problems we face. The central focus of the GPC is to define and engage in coordinated strategies that impact the most critical global issues; world hunger, energy, climate change, health and well-being, sustainability and environmental protection.

The GPC is made up of over 20 member organisations spread across the globe.



Global Pressures

- **Growing Population** - In 2050 there are likely to be 9.6 billion people on the planet, each of whom will require a diet of sufficient calories and adequate nutrition.
- **Water Shortage** - Fresh water is rapidly becoming a limited commodity. Today's agriculture accounts for 50% of total water use and this will increase as we need to produce more food.
- **Climate Change** - Changing weather patterns due to global warming, such as higher temperatures and reduced rainfall, are affecting both food production and the spread of pest and diseases.
- **Reliance on oil** - Increasing demand for energy, rising fuel costs and requirements to cut green house gases are creating an environment of change, from an oil economy to a bio based economy.

37% of total global land is used in agriculture



40% of agricultural soils are seriously degraded

The world relies on **10** major crops

to provide **95%** of our food.

Currently **1** billion people in the world are hungry

By **2050** we will need to produce **70%** more food

At current rates of use oil reserves will last for **40** years



"Individually, we are one drop.
 Together, we are an ocean"

By bringing scientists together to formulate a shared vision and allowing distribution of effort the GPC aims to -

- Increase awareness of the central importance of plant science
- Accelerate progress in solving pressing global problems via plant science based approaches
- Facilitate new research programs to address global challenges
- Enable more effective use of knowledge and resources
- Provide a focus and contact point for plant science across the globe

Plant Based Solutions

GPC has identified several challenges for which global plant research needs to find solutions including -

- **Biofortification of Crops** - Improving the nutritional quality of current and new crops
- **Digital Seed Bank** - Maintaining, understanding and preserving the wealth of crop diversity for future generations
- **Diversity and Yield Stability** - Identifying strategies for sustainable agriculture such as perennial crops
- **Sustainable adaptation to changing environments** - Identifying strategies for crop improvement to deal with a changing climate

It takes **1** tonne of water to produce **1** kilogram of wheat

CSA EXECUTIVE

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