

President's Message

Greg Boland

This year continues to be busy with CPS-SCP activities, both through the Board and through the Standing, Subject Matter and Ad Hoc Committees of our Society. I would like to take this opportunity to update you on some of the activities that we are currently working on.

Society Meetings

The Local Arrangements Committee, chaired by Larry Kawchuk, is making excellent progress on preparing for our annual meeting in Waterton Lakes National Park, Alberta, June 16-19, 2002. The theme for our meeting this year is "Phytopathology Challenges / Défis en Phytopathologie." Information and early registration (15 April) are currently available through the meeting website at <http://cps2002.uleth.ca/default.html>. I would like to remind everyone to book your accommodation early as there are limited facilities at Waterton Lakes National Park during the busy summer season. Make your plans now to attend our 2002 Annual Meeting.

The Future Meetings Committee, chaired by Ajjamada Kushalappa, has been actively planning future meetings of our Society, and current plans are to meet in Montreal

in 2003, Ottawa in 2004, and Edmonton in 2005. The 2004 meeting in Ottawa represents the 75th anniversary of our Society, and the 2005 will be our first meeting with Plant Canada, a new organizational group that includes various plant-related scientific societies in Canada. This will provide an opportunity for all organizations to meet and interact on a more regular basis in the future. Roger Rimmer and Richard Martin are currently serving on behalf of CPS-SCP as Directors on the Plant Canada Board. They can be contacted for additional information on this organization. The Future Meetings Committee is also discussing the possibilities of a joint meeting of APS and CPS-SCP in 2006, and there are several Canadian cities being considered as potential locations for this meeting. Further information will be posted in

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the Meetings page of our CPS-SCP website as it becomes available.

Nominations

As announced in the last newsletter and the CPS-SCP email Updates, the Nominating Committee, chaired by Roger Rimmer, is currently seeking nominations for several positions on the Board and Standing Committees. These nominations are due before May 10, 2002. Further information can be found in the December issue of *CPS-SCP News* or by contacting Roger.

The Awards Committee is also seeking nominations for our annual Society awards, including Honorary Members, Fellows, Award for Outstanding Research, Gordon J. Green Outstanding Young Scientist Award, and Graduate Student Travel Awards. The Graduate Student Travel Award applications were due on 1 March, and other applications or nominations on 15 March 2002. Further information can be found in the Society website at <http://www.cps-scp.ca/awards.htm> or by contacting Verna Higgins, chair of the Awards Committee.

Journals

I would like to remind CPS-SCP members that the *Canadian Journal of Plant Pathology* is now available as an electronic publication on the internet at <http://www.nrc.ca/cisti/journals/tcjpp/>. The *CJPP* is freely available for one year to everyone with access to the internet and, thereafter, will be available only to CPS-SCP members by password-restricted access. The March issue will soon be completed by Zamir Punja, Editor of *CJPP*, and the NRC Research Press, and will be available both through the internet and in hard copy.

Robin Morrall, Coordinator of the *Canadian Plant Disease Survey*, has completed the 2001 edition of *CPDS* and it is now available as a portable document file (pdf) publication through the website of the Southern Crop Protection and Food Research Centre in London, Ontario (<http://res2.agr.gc.ca/london/pmrc/english/>

[catalog.html](#)) and through our Society website.

Publications

The revised edition of *Diseases of Field Crops in Canada* is in progress and working towards a release date of early- to mid-summer. This revision is being coordinated by Karen Bailey and has required a tremendous effort by Karen and members of this committee to incorporate all of the new text and photos. We strongly support the activities and work of this committee because *DFCC* is an important publication of CPS-SCP and we are looking forward to the new and improved edition.

This committee has also initiated a search for pre-publication sponsors of the *DFCC* to help defray some of the costs of publication. If anyone knows of potential sponsors, especially those who have used this publication extensively in the past for teaching, research or extension, please pass on their names and contact information to Robin Morrall.

Education and Plant Pathology

The Education and Public Awareness Committee, chaired by Jeannie Gilbert, has recently updated the Teaching Resources section of our website with several new resources and links for helping to teach about plant pathology in public schools. One of these resources includes a poster entitled "Plant Pathology in the Classroom. Plants get sick too!" which includes an illustrated poster of five examples of plant diseases, and briefly explains what plant diseases are, and why they are important to Canadians. The poster can be downloaded as a "pdf" file and viewed on a computer screen, or printed out as a poster for demonstration. This poster is an excellent example of the types of resources that we can make available to teachers and Society members for helping to educate others about plant diseases and plant pathology.

We would like to encourage the development of more resources and activities for teaching, and all members of CPS-SCP are

encouraged to view these existing resources and consider developing others. For example, I was recently contacted by an educational resource person who is currently involved with the development of interactive science projects in the classroom and through the internet for grade, junior and high schools in Canada. She challenged our Society to design an experiment that could actively involve students, from various areas of the country, in the collection and analysis of data.

The results could be posted to a website for on-going assessment and progress during a defined period of, for example, one year. If anyone has suggestions for such an experiment, please let me know.

Sustaining Associates

The Sustaining Associates of CPS-SCP are an important component of our Society who make a significant contribution to our Society by maintaining linkages between our Members and their organizations, and through their financial contributions that help to sustain our Society. We are always looking for new Sustaining Associates and if you have any suggestions or contacts that you feel may be supportive of our Society, please forward contact names and information to Gayle Jespersen, our Membership Secretary. Also, you may not be aware that regular Members of CPS-SCP can also become Sustaining Associates and that a portion of the fee is tax deductible.

Other CPS-SCP Activities

The CPS-SCP Board and Committees are also working on a variety of other objectives of our Society this year, including:

- a proposal to co-sponsor a national workshop on microbial genetics resources and culture collections in Canada,
- the development of a new CPS-SCP Award for **Achievements in Plant Disease Management** (this will be voted on by So-

ciety members at our Annual Meeting in June), and

- transferring the management of institutional subscribers of *CJPP* to NRC.

Membership

Many Members of CPS-SCP have already renewed their membership for 2002 but, for those of you that have not renewed yet, this is a reminder that you should renew as soon as possible to continue receiving the journal and

newsletter. Membership forms are available from Gayle Jespersen, the Membership Secretary, and from our website. Please note that there is a late renewal fee (\$15) this year.

The CPS-SCP brochure was reprinted this year to improve upon its design and update changes in our fee structure. A new membership application card was also created that can be inserted into the brochure. You received a copy of each with your December newsletter. You can help promote our Society by passing on the brochure and application card to a colleague or student that may have an interest in joining. Copies, in quantity, of this brochure can be obtained from Karen Bailey. Also, supervisors of graduate students are reminded of the Society's recommendation that *new graduate students be given a free membership in their first year of graduate studies* as a way of encouraging membership and involvement in our Society.

All in all, it is a busy and productive year for CPS-SCP. If you have any suggestions or ideas for initiatives that CPS-SCP might consider, please feel free to send them along to me.

Best regards,

Greg J. Boland

"You can help promote our Society by passing on the brochure and application card to a colleague or student that may have an interest in joining."



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Mot du président - Mars 2002

L'année continue à être occupée avec les activités de la CPS-SCP, que ce soient celles du Conseil ou celles des comités permanents, d'experts ou ad hoc. Je profite de l'occasion pour faire le point sur les activités en cours.

Réunions de la Société

Le Comité local d'organisation, dirigé par Larry Kawchuk, avance rondement dans sa préparation de notre réunion annuelle au parc national des Lacs-Waterton, en Alberta, du 16 au 19 juin 2002. Cette année, le thème de notre réunion est « Phytopathology Challenges / Défis en phytopathologie ». De l'information sur la réunion et la pré-inscription (15 avril) est présentement disponible sur le site Web de la réunion au <http://cps2002.uleth.ca/default.html>. Je rappelle à tous qu'il est nécessaire de réserver tôt puisque l'hébergement est limité à l'intérieur du parc national des Lacs-Waterton durant la haute saison estivale. Faites vos préparatifs maintenant en vue de la Réunion annuelle 2002.

Le Comité des futures réunions, dirigé par Ajjamada Kushalappa, prépare activement les prochaines réunions de notre Société et ses plans prévoient des réunions à Montréal en 2003, Ottawa en 2004 et Edmonton en 2005. La réunion de 2004 à

Ottawa marquera le 75^{ème} anniversaire de notre Société et celle de 2005 sera notre première réunion avec Plant Canada, un nouveau regroupement d'organisations qui comprend diverses sociétés savantes canadiennes en lien avec les plantes. Ce sera l'occasion pour toutes ces organisations de se rencontrer et d'interagir dorénavant sur une base plus régulière. Roger Rimmer et Richard Martin agissent déjà comme directeurs au sein du Conseil de Plant Canada au nom de la CPS-SCP. Ils peuvent être rejoints par ceux qui désirent plus d'information sur cette organisation. Le Comité des futures réunions examine aussi la possibilité de tenir une réunion conjointe avec l'APS en 2006, et plusieurs villes canadiennes sont en lice pour recevoir cet événement. Plus d'information sera disponible sur la page « Réunions » du site Web de la CPS-SCP aussitôt qu'elle sera connue.

Candidatures

Tel qu'annoncé dans le dernier bulletin et dans le dernier courriel *Dernières nouvelles de la CPS-SCP*, le Comité de mise en candidature, dirigé par Roger Rimmer, reçoit présentement les candidatures pour plusieurs postes au Conseil et dans les comités permanents. L'appel de candidatures se termine le 10 mai 2002. De l'information supplémentaire peut être retrouvée dans le numéro de décembre du

CPS-SCP News ou en rejoignant Roger.

Le Comité des prix reçoit aussi les candidatures pour les prix annuels de notre Société, y compris ceux de Membres honoraires, Membres associés, Prix de l'Excellence scientifique, Prix Gordon J. Green pour un remarquable jeune chercheur et les Prix pour déplacement à la réunion pour étudiants diplômés. Les candidatures pour les Prix pour déplacement à la réunion pour étudiants diplômés doivent être reçues le 1^{er} mars alors que les autres candidatures sont attendues pour le 15 mars 2002. D'autres informations sont disponibles sur le site Web de la Société au <http://www.cps-scp.ca/awards.htm> ou en rejoignant Verna Higgins, présidente du Comité des prix.

Revues

Je rappelle aux membres que la *Revue canadienne de phytopathologie (CJPP)* est présentement disponible en version électronique sur l'Internet au <http://www.nrc.ca/cisti/journals/tcjpp/>. L'accès au *CJPP* est gratuit pendant un an pour quiconque utilise l'Internet et, par la suite, l'accès sera limité aux membres de la CPS-SCP par mot de passe. La préparation du numéro de mars sera bientôt complétée par Zamir Punja, Directeur scientifique du *CJPP*, et les Presses du CNR, et sera disponible tant sur l'Internet qu'en version imprimée.

Robin Morrall, le coordonnateur de l'*Inventaire des maladies des plantes au Canada*, a terminé l'édition 2001 qui est maintenant disponible en tant que document pdf sur le site Web du Centre de recherches du Sud sur la phytoprotection et les aliments de London, en Ontario (<http://res2.agr.gc.ca/london/pmrc/english/catalog.html>) et sur le site Web de la Société.

Publications

L'édition revue et corrigée de *Diseases of Field Crops in Canada* s'en vient et la date visée pour la parution est le début ou le milieu de l'été. Ce travail de révision est

coordonné par Karen Bailey et a demandé un effort exceptionnel à Karen et aux membres de son comité pour l'incorporation de tout le nouveau texte et des nouvelles photos. Nous tenons fermement à cette activité et nous soutenons le travail de ce comité parce que *DFCC* est une importante publication du CPS-SCP et que nous avons besoin d'une nouvelle édition améliorée.

Ce comité a aussi commencé la recherche pré-publication de commanditaires pour *DFCC* pour aider à défrayer une partie des coûts de publication. Si quelqu'un pense connaître un commanditaire potentiel, en particulier parmi ceux qui, dans le passé, auraient fait grand usage de la publication pour l'enseignement, la recherche ou la vulgarisation, s'il vous plaît, envoyer les noms et l'information pour les rejoindre à Robin Morrall.

Éducation et Phytopathologie

Le Comité d'éducation et de sensibilisation du public, dirigé par Jeannie Gilbert, a récemment mis à jour la section « Matériel éducatif » de notre site Web avec du matériel nouveau et des liens visant à faciliter l'enseignement de la phytopathologie dans les écoles. Une de ces nouveautés est une affiche intitulée « Plant Pathology in the Classroom. Plants get sick too! » qui comprend une illustration de cinq exemples de maladies de plantes et explique brièvement ce que sont les maladies des plantes et pourquoi elles sont importantes pour les canadiens. L'affiche peut être téléchargée en tant que fichier pdf et être vue sur un écran d'ordinateur ou imprimée pour en faire un document à afficher. Cette affiche est un excellent exemple du type de matériel qui peut être mis à la disposition des enseignants et des membres de la Société pour les aider à informer les gens sur les maladies des plantes et la phytopathologie.

Nous voulons favoriser le développement de plus de matériel et d'activités pour l'enseignement, et tous les membres de la CPS-SCP sont invités à examiner le matériel disponible et à penser à en développer d'autre. Par exemple, j'ai

récemment communiqué avec une personne-ressource en éducation qui est présentement impliquée dans le développement de projets scientifiques interactifs en classe et par l'Internet pour les écoles primaires et secondaires du Canada. Elle met au défi notre Société de concevoir une expérience qui impliquerait activement des élèves, de différentes régions du pays, dans la collecte et l'analyse de données. Les résultats pourraient être mis sur le Web pour une

évaluation et un suivi en continu pour une période prédéterminée d'un an, par exemple. Si quelqu'un avait une suggestion pour une telle expérience, s'il vous plaît, faites-le moi savoir.

Membres de soutien

Les membres de soutien de la CPS-SCP forment un rouage important de notre Société puisqu'ils jouent un rôle important en maintenant des liens entre nos membres et leurs organisations, et par leur apport financier qui aide à soutenir notre Société. Nous sommes toujours à la recherche de nouveaux membres de soutien et si vous avez des suggestions ou des contacts que vous pensez utiles pour la Société, s'il vous plaît, envoyez les noms et l'information les concernant à Gayle Jespersion, notre secrétaire à l'adhésion. De même, vous n'êtes peut-être pas au courant que les membres réguliers de la CPS-SCP peuvent aussi devenir membres de soutien et qu'une portion des frais est déductible d'impôt.

D'autres activités de la CPS-SCP

Le Conseil et les comités de la CPS-SCP travaillent aussi sur plusieurs autres dossiers, y compris :

- Une proposition de co-parrainage d'un atelier national sur les ressources génétiques et les banques de cultures microbiennes au Canada,

- Le développement d'un nouveau Prix CPS-SCP pour **Accomplissements dans la lutte aux maladies des plantes** (à être décidé par les membres de la Société à notre Réunion annuelle de juin), et

- Le transfert au CNR de la gestion des abonnements institutionnels au *CJPP*.

L'adhésion

Plusieurs membres de la CPS-SCP ont déjà renouvelé leur adhésion pour 2002, mais, pour ceux qui ne l'ont pas encore fait, ceci est un rappel pour vous demander de

renouveler votre adhésion aussi vite que possible pour continuer à recevoir la revue et le bulletin d'information. On peut se procurer

les formulaires de renouvellement auprès de Gayle Jespersion, la secrétaire à l'adhésion, et sur notre site Web. S'il vous plaît, notez que, cette année, il y a des frais pour renouvellement en retard (\$15).

Cette année, une nouvelle impression de la brochure de la CPS-SCP a été faite pour améliorer son apparence et pour tenir compte de notre nouvelle tarification. Une carte d'adhésion à la Société a aussi été conçue et peut être insérée dans la brochure. Vous avez reçu un exemplaire de chacun de ces documents avec le bulletin d'information de décembre. Vous pouvez contribuer à promouvoir notre Société en donnant la brochure et la carte d'adhésion à un collègue ou à un étudiant qui pourrait être intéressé à se joindre à nous. Des exemplaires supplémentaires de cette brochure peuvent être obtenus en s'adressant à Karen Bailey. De plus, les directeurs d'étudiants diplômés doivent se rappeler de la recommandation de la Société à l'effet que *l'on devrait offrir gratuitement une année d'adhésion aux nouveaux étudiants diplômés* comme moyen d'encouragement à l'adhésion et d'implication dans notre Société.

Tout bien considéré, la présente année est

“ Vous pouvez contribuer à promouvoir notre Société en donnant la brochure et la carte d'adhésion à un collègue ou à un étudiant qui pourrait être intéressé à se joindre à nous. ”

une année occupée et productive pour la CPS-SCP. Si vous avez des suggestions ou des idées sur des actions que la CPS-SCP pourrait entreprendre, sentez vous libres de m'en faire part.

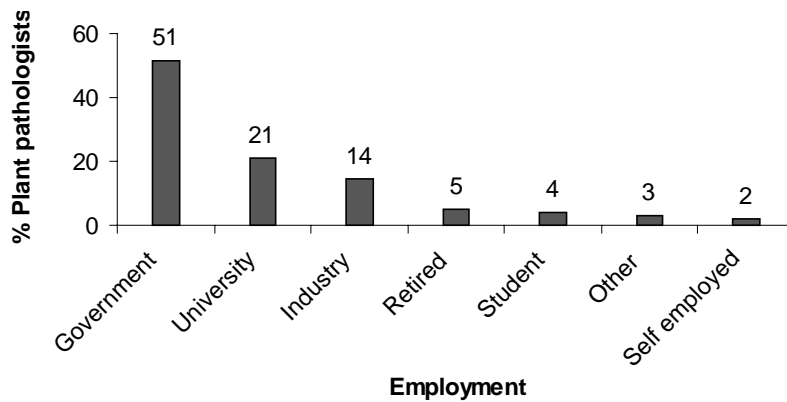
À la prochaine,

Greg J. Boland

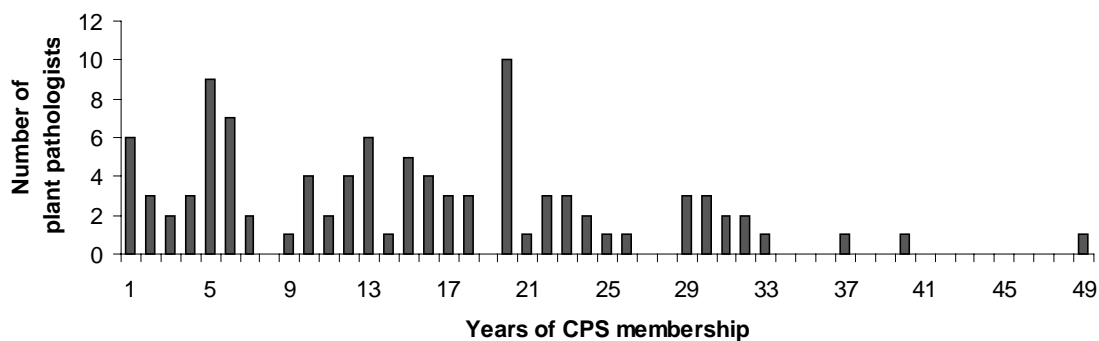
Evaluation of the CPS Annual Meeting

A questionnaire was included with the CPS News June issue 2001 regarding evaluation of the annual meeting of the Canadian Phytopathological Society. There were about 386 CPS members (282 regular, 51 emeritus, 34 student, 18 sustaining associates, 1 honorary). A total of 105 replies (27.2% return) were received by September 2001 and these are summarized below.

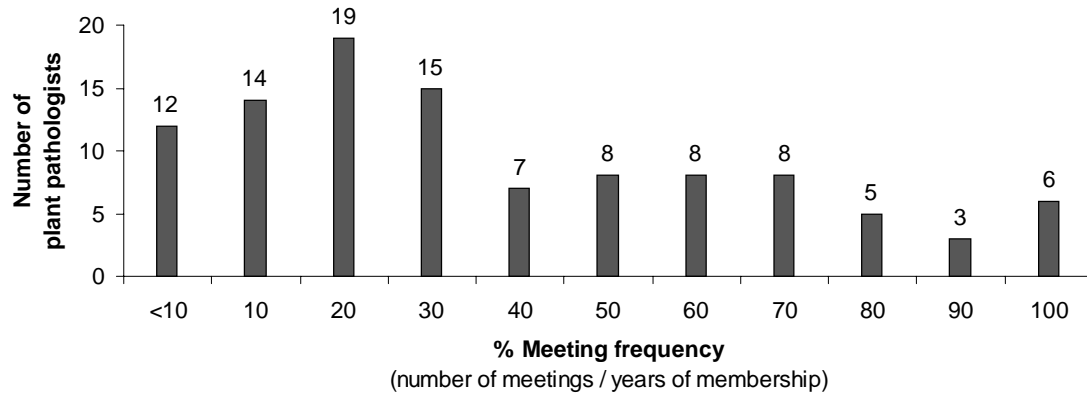
1. Your occupation?



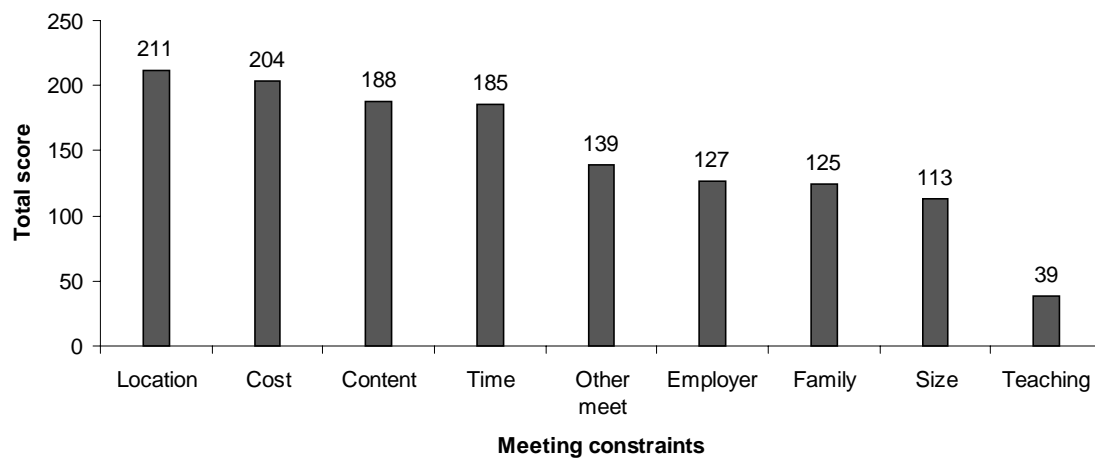
2. How many years have you been a CPS member?



3. How many times have you attended a CPS meeting?



4. Rate the following constraints on your attendance at the annual meeting on a 0-5 scale



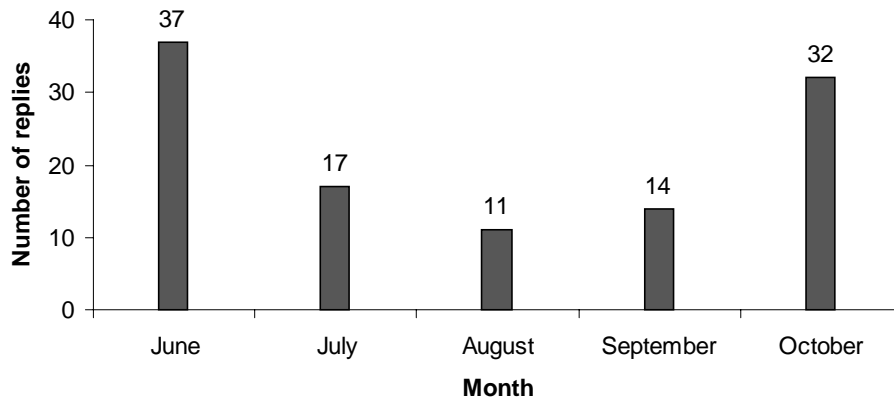
5. How do you rate the CPS annual meeting compared to other plant pathology meetings?

37 people replied that the quality of the CPS annual meeting was good or better than that of other pathology meetings; 10 said it was comparable (fair), and 2 found the meeting inferior to other meetings.
 31 people replied that the small size of the CPS annual meeting was a positive thing and that it provided a good opportunity to interact with colleagues; 4 replied that the small size was a disadvantage for them.
 5 people expressed satisfaction with the scientific content, while 22 plant pathologists found the scientific scope was too narrow.

6. Is student residency or other inexpensive accommodation important to you?

37 said yes and 63 replied no.

7. What time of year is most suitable for you to attend the CPS annual meeting?



8. Please make suggestions you find will help improve the CPS annual meeting

Replies (48 suggestions in 16 areas)

- 13 suggested to hold the CPS annual meeting jointly with other societies
- 8 suggested more workshops (hands-on and demonstrations, disease diagnosis)
- 6 suggested to reduce the registration fees, especially for students and emeritus members
- 5 suggested more symposia
- 4 suggested to invite world authority and/or key note speakers
- 3 people suggested meetings every 2 or 3 years; the following were related comments: change away from the spring meeting; avoid a fall meeting; rotate between spring and fall; do not rotate; April or November are better
- 2 suggested more student awards such as 1st, 2nd, and honourable mention
- 2 suggested more topics on extension and applied research
- 2 suggested a wider scientific scope
- 2 suggested meeting locations in bigger cities to reduce travel costs and add interest
- 1 each suggested the following: more time for discussion and fewer and better papers; cheaper accommodation; more social events; create diverse discussion groups; evening poster session; no evening sessions; more industry topics; muffins etc. served at morning break.

Conclusions

Of the 105 plant pathologist who replied, 51% were employed in government, 21% in universities, and 14% in industry (Question 1). 5% of the respondents were retired, and 4% were students. There was a wide range in the length of time that individuals had been members of CPS, from as short as 1 year, to as long as 49 years! (Question 2). Although the questionnaire was anonymous, several people signed their name including Dr. W. G. Benedict, Professor Emeritus, University of Windsor, Ontario, who is the 49-years CPS member. The single largest category was pathologists who had been members for 20 years (10 members, 9.5% of respondents), with membership for 5 years running a close second (9 members, 8.6%). Also, of the 105 respondents, 55 people attended the annual meeting regularly *i.e.*, every third meeting or more (Question 3). The challenge for CPS is to make our annual meeting more attractive to the remainder of members. The following four issues were considered to be major constraints to participation by most people: location, cost, scientific content and time of year (Question 4). CPS will have to keep these factors in mind when planning future meetings. The following five issues were of lesser importance: conflicts with other meetings, employer, family, small size of the meeting, and conflict with teaching; these five issues are for the most part out of the control of CPS Local Arrangements Committees.

Interestingly, 31 people commented on the positive aspects of attending a smaller meeting because of the ease of making contact with colleagues, fewer concurrent sessions, and the social aspect of meeting old friends (Question 5). Only 4 replied that the small size was a disadvantage. More importantly, was the large number of plant pathologists (22) expressing discontent with the scientific content, especially the lack of topics in forestry, virus diseases and biotechnology. However, 37 answered that the quality of the meetings was good compared to other meetings, 10 said they were comparable, and only 2 found the meetings inferior. Cost was a major reason for not attending (Question 5) and, when asked if inexpensive accommodation was important, 37% answered yes (Question 6). Regarding the best time of the year to hold an annual meeting, slightly more than a third of the answers were in favour of June and October, respectively (Question 7).

When given the opportunity to suggest improvement to the meeting most suggestions (13) were to meet jointly with other societies, primarily to gain a wider scientific scope. It was also considered important to reduce the registration fee (6). Other suggestions included: more workshops (8), symposia (5), and key note speakers (4). Several members suggested ideas which might be useful such as more students awards, topics in extension and industry, more time for discussion, and discussion groups.

Prepared by Lone Buchwaldt
(CPS Secretary, 1997-2001)

People and Travel

Dr. Lakhdar Lamari, University of Manitoba, took part in a survey of tan spot of wheat in Azerbaijan, Uzbekistan, Kyrgystan and Kazakhstan

Tan spot is a relatively recent disease problem compared to the other major diseases of wheat. This is particularly true for North America and Australia (late 1960's). The information we currently have on the virulence of the pathogen (*Pyrenophora tritici-repentis*) was obtained mostly from north American collections. A small survey conducted in 1993 in north Africa revealed that the pathogen was more variable than previously thought. Annual surveys in western Canada between 1990 and 2000 did not reveal new virulence patterns, beyond the four initial races, obtained in 1986-1987. It is with this backdrop that I decided on a "grand scale" survey of tan spot at or near the centre of origin of wheat. The great variability in the host would, theoretically, translate into a great diversity in the pathogen.

A great opportunity presented itself, when Dr. Amor Yahyaoui, senior plant pathologist at the International Centre for Agricultural Research in the Dry Areas (ICARDA, Aleppo, Syria), invited me to join him on his annual tour of Azerbaijan (Caucasus) and some central Asian countries (Uzbekistan, Kyrgystan and Kazakhstan), with a stop at the International Barley Yellow Rust Workshop in Karaj (Iran). I was on sabbatical leave at CRC, Winnipeg. The timing could not have been better! I had promised Dr. James Menzies (acting on behalf of CPS) that I would publish my travel diary in the CPS Newsletter. I was not disciplined enough to keep a journal (sorry). After 12 to 14 hours on the road every day, keeping a journal of daily events was not practical. I also promised Jim that I'd collect smut samples for him, which I did!

The trip lasted a little over six weeks (April 29-June 15, 2001) and covered a very wide area, stretching from Azerbaijan to the

eastern tip of Kyrgystan (near China). In each country we visited, we teamed up with local scientists and travelled to farmers fields and research stations where ICARDA maintains wheat and barley nurseries. A survey of tan spot in these regions was conducted jointly and leaf samples were collected for fungal isolation. We found evidence of tan spot in each of the countries we visited and are currently processing the samples. Keep posted!

The countries we visited became independent states after the breakdown of the Soviet Union, a decade ago. Russian is still spoken by most people, in addition to the national languages (Azeri, Uzbek, Kazak or Kyrgyz). We were fortunate to have with us, at all times, local scientists with some knowledge of English. Communication was not always easy, but the kindness and courtesy of the people we visited more than made up for it. In some regions, it was a custom to propose a toast (with vodka) at almost each meal and for each person around the table! My tolerance for liquor had alarmingly declined over the past decade and the gout, with which I was diagnosed a few years ago, is generally aggravated by alcohol. Dr. Yahyaoui took care of that, rather well. I was allowed to "cheat" with soft drinks or half strength vodka. The trip was a good opportunity to see, first hand, a part of the world that was off-limits to foreigners during the Soviet era. Notwithstanding the economic hardship they are going through, the people we met and worked with were the friendliest and most generous hosts. Should anyone be interested, be aware that visits are still difficult for individuals; ICARDA got my visas and took care of all the travel arrangements and accommodations. If you go, do not forget your import permits to bring back samples, make sure to do a thorough laundry and to clean your shoes as you move from one country to the other (we are professional plant pathologists after all). And of course, the Imodium tablets! Do not leave home without them.

In addition to a rich and unique collection of isolates of *Pyrenophora tritici-repentis* from the Caucasus and central Asia, I returned to Winnipeg on June 15, 2001 with an even richer experience and wonderful memories of countries and people. All in all, it was a wonderful trip.

I also gave seminars on tan spot at the Barley Yellow Rust workshop in Karaj (Iran), at a research station near Baku (Azerbaijan) and at ICARDA headquarters.

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On the web-posted version of this segment, you'll see a big hole, somewhat akin to "the dog ate my homework." For those who receive the paper copy, though, a special treatise on the perils of computing and computer maintenance.

One person's views on how things have changed in the practice of plant pathology.

Jim Rahe

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You've got to wonder whether people think you're getting outdated when they ask you to write on how things have changed over the years, but you probably don't need to worry until you start accepting such invitations. I think someone named Wyndham once said, "Life is change. Soon you will achieve the stability you strive for in the only way it is granted. A place among the fossils." In total disregard of this wisdom, I didn't say no when Jim Menzies asked me to offer some views for the CPS Newsletter on how things have changed in the practice of plant pathology.

I start by asking, "What is plant pathology, and has our perspective on this question changed in the past 20-30 years?" To me, plant pathology is an applied science whose objective is to understand plant-pathogen interactions for a practical purpose - to help humans produce and protect the food and fiber that we require to sustain ourselves, and the landscapes that we foster to enrich our lives. The realms of plant pathology are manipulated ecosystems: agriculture, and increasingly forestry as it takes on some of the characteristics of agricultural production. Plant pathology is thus a science biased by economics, because the nature of human societies and of agricultural production is strongly shaped by economics.

In the past 2-3 decades, the most notable change in agriculture in economically developed societies has been consolidation. Trends toward fewer and larger production units, increased monoculture, and increased production and efficiency have accelerated markedly during this period.

Major consolidations have also occurred in agribusiness industries. Concurrently, the willingness of governments to fund public interest research has declined markedly. Interactive agricultural extension services have been drastically reduced. Whether you see these changes as good or bad, they have occurred. The applied purpose of plant pathology, to enable humans to produce and protect food and fiber resources, remains more or less what it was 30 years ago, but the economic context of today is different, and for this reason the nature of plant pathology has changed.

In the '70's, it was relatively easy for a plant pathologist at a university or government lab in Canada to get funding from various government sources for research on almost any question. Knowledge was generated that led to improved control for many disease problems. Considerable research was also directed to more basic questions. To some this latter research was seen as esoteric, and this spin was effectively used by Provincial and Federal politicians to close most sources of research funding that did not have as a prerequisite some tangible industrial support, either cash or 'in kind'. Which brings us to the situation today.

Canada produces a diversity of high value crops including tree fruits, berries, field and greenhouse vegetables, woody and herbaceous ornamentals, flowers, etc. Collectively these crop industries generate billions of dollars of farm gate value, but individually few generate the profit needed to fund research. With the possible exceptions of softwood lumber, cereal grains, canola and potatoes, few of Canada's crop industries can support the kind of in-depth and sustained research that is needed to understand and manage the disease problems that affect these crops. Where an industry can provide the prerequisite funding, the research is likely to be strongly applied and short term, the kind that provides tangible deliverables, at short term milestones.

Consolidation of production has led to consolidation of marketing. In the case of specialty crops, niches are created by the limited flexibility of consolidated marketing and brokerage, compared with that of small scale marketing. The diversity of specialty crop industries is increased by a growing number of economically significant niche producers and markets within these industries: direct marketing, farm tourism, U-pick, corn mazes, organic production, direct-to-door deliveries, etc. The ability of specialty crop industries and of niche producers to support research to address their specific problems is close to nil. The existence of pest problems that limit production may be a blessing in disguise in some specialty crop industries, however, as it tends to suppress the kind of explosive growth in production and competition that leads to loss of profitability, such as has occurred in many of Canada's specialty crop industries in the past 10-15 years.

Farm consolidation has caused drastic reduction in the number of farms and increase in the average size of farms in most areas of Canada. The prairie hobby farmer of today is often a high school teacher farming two sections on the side. As the number of farmers declines the political influence of farmers declines, and the spin that using tax dollars to support research that benefits so few can't be justified gains credibility. Overproduction has also become an issue. Using apples as an example, the reality of today is that the biggest single problem of the apple industry is worldwide overproduction. This raises the question of whether production and pest management research is productive or counter productive. To ask this kind of a question is kind of like observing that the emperor isn't wearing clothes.

This analysis begs the question of what does the future hold for plant pathology and pest management research? For what it's worth, here's the way I see it! Overproduction is not a biological reality, but a manufactured economic problem for soci-

eties that choose to make it so. If food and fiber resources are shared among humankind, adequate production rather than overproduction will be the challenge of the future. Focused problem solving research will continue for those industries that can afford to support such research because it is an efficient way for governments to download costs, and it sells well to the taxpaying public. Widespread use of genetically engineered crops will lead to short term gains to agribusiness and consumers. It will also lead to further farm consolidation, and to long term pains that society will have to address with research. These problems will force a return to a better balance between industry sponsored and public interest funded research than exists at present. These changes will occur well before another 30 years have passed.

What is the greatest single change in plant pathology in the past 20-30 years? I think that it is the advent of molecular diagnostics: tools that allow us to quickly, accurately and economically detect the presence of a particular organism in a complex mixture of organisms, to distinguish among morphologically similar but different organisms, to discern genetic differences and infer phylogenetic relationships. With these tools, the kinds of questions that young plant pathologists of 30 years ago devoted their entire careers to can now be addressed and definitively resolved in weeks or months. This technology is changing plant pathology far more than any other in the past 30 years. This tool is as fundamental today as were (and still are) the microscope and Petri dish to the plant pathologist 30 years ago.

That's all that I want to say. And the best evidence that anything that I have said is of any value will be that you disagree with a lot of it!

A retired member read "How Things Have Changed" in the September 2001 issue of *CPS-SCP News* and was inspired to send his own contribution (Ed.):

First, have you encountered the "History of Plant Pathology in British Columbia" that I produced a few years ago? The first portion recounts all my exposure to and encounters with virtually all the U.S. and Canadian pioneers in Plant Pathology (except of course Erwin F. Smith). The remainder of the offering deals with the discipline and its practitioners in B.C. from the earliest beginnings to the modern era, primarily factual but at times anecdotal.

I can record, too, that while I was in Grad School at U. of Toronto I was able to visit several distinguished Plant Pathology grads including Dr. Lindsay Black in the Rockefeller Institute (one of the most distinguished virus pathologist in the U.S.), Dr. Jack Bickerton at Cornell, and Dr. James Menzies [not *our* Associate Editor, Jim - Ed.] in Washington D.C. (all grads of Dr. Frank Dickson at U.B.C. Lindsay Black and I both were on the Virus Classification and Nomenclature Committee of A.P.S. and were a minority deploring classification based on symptomatology (James Johnson and Kenneth Smith, and equally Holmes' binomial system). We maintained that eventually there should be means of classifying by biochemical criteria.

An earlier memory was of Frank Dickson excitedly cancelling the scheduled undergrad class (1937?) to explode the news that Stanley at the Rockefeller Institute had isolated TMV as rods of nucleoprotein.

There's a period in the history of CPS that probably has been long forgotten. In the mid-60s the Society had descended into a life-threatening crisis, short of membership, interest, finances and sense of mission. A number of members (notably Art Skolko, Dominion Plant Pathologist) were urging that we terminate the Society as such and apply to become a Region of A.P.S.

Professor S.E (Sax) and I volunteered to

form a committee to seek means of preserving the Society. With enthusiastic support from Sax, I canvassed all the plant pathologists in the country for interest, ideas, suggestions, explored finances and reviewed our mission. Our recommendations were endorsed at the next annual meeting - and my penalty was to be elected President for 1964-65.

I claim one other contribution. We always had been a one-language Society with never a word of French spoken or printed. I gave my Presidential Address in French as well as English. The several French-speaking members present came up afterward with their thanks (and proclaimed that my French was better than Mr. Pearson's and far better than Mr. Diefenbaker's). I believe I can claim that this was the beginning of a gradual transition of CPS to a fully bilingual Society.

This has been at risk of a bit of self-aggrandisement, but these have been valid parts of the history of the Society. It is gratifying to know that it still flourishes, and has become so effectively bilingual.

Please let me know if you would enjoy reading the B.C. history.

Sincerely,

Maurice Welsh