THE FIRST TWENTY-FIVE YEARS

A HISTORY OF
THE CANADIAN SOCIETY OF PLANT PHYSIOLOGISTS
LA SOCIÉTÉ CANADIENNE DE PHYSIOLOGIE VÉGÉTALE

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PREFACE

This History was written for the occasion of the 25th Anniversary of the Canadian Society of Plant Physiologists/La Société Canadienne de Physiologie Végétale at the request of the CSPP Executive. They kindly placed at our disposal the Society's archives and records, including copies of the minutes from all Business and Executive meetings. We undertook to write in chronological sequence because Paul Gorham was intimately involved with the "prehistory" and early years of the Society, while Tony Bidwell was more concerned with the later years of the Society's life. However, we have both read and edited each others contribution, and we take joint responsibility for its qualities - good or bad.

We should like to acknowledge the help of our President, Jim Craigie, who anxiously watched over the gestation of the manuscript and could be said to have provided admirable assistance as midwife during its birth. We are indebted to Connie Nozzolillo and Dorothy F. Forward for access to their collections of photographs, some of which we have been able to include. We are also most grateful to Dorothy Forward, whom we asked to read the manuscript with the view of ensuring the accuracy of its many arcane facts. Dorothy says that she prefers not to remember them all, but has given us the signal honor of her approval. Nevertheless, we do not hold her responsible in any way - except for her encouragement - for what happened.

It is our pleasure and honor to dedicate this History to those Canadian plant physiologists who have left us, and to those who will join the ranks of the Society during the years to come.

Paul R. Gorham, Edmonton
R.G.S. Bidwell, Halifax
April, 1983

Chapter 1

ORIGINS

The Canadian Society of Plant Physiologist/La Société Canadienne de Physiologie Végétale originated from two meetings of plant physiologists and plant biochemists that were held a year apart during the period of general reorganization that followed World War II. The first meeting was the "Colloquium on Problems of Plant Metabolism" convened by George H. Duff, Professor of Plant Physiology, at the Botany Department, University of Toronto, November 3-4, 1950. It was initially intended as a gathering limited to presentations by Drs. Duff and Dorothy Forward (Toronto), Dr. Gleb Krotkov (Queen's) and their graduate students. It was expanded, however, to include colleagues and former students at universities and government laboratories from Montreal and Ottawa to Guelph, London and beyond whom Duff though would be interested and, perhaps, able to attend. He sent invitations to colleagues in Manitoba and Alberta and one to Professor Emeritus G.W. Scarth, Botany Department, McGill University. Those from the West expressed interest and support for the idea of holding the Colloquium but all but one had to decline because of the timing and travel costs involved. Professor Scarth declined for a different reason, but he, too, hoped it would meet with success:

Macdonald College

October 10, 1950

Dear Dr. Duff:

It was good of you to remember an oldster and ask him to join with the gang.

I never cared very much for meetings and now I don't go anywhere. So, while I think the colloquium is a good idea, just because so many are interested, it is not for me. Unless you have changed, I rather suspect that your own activity in the matter is inspired by a sense of duty rather than by inclination. All the more reason why I should wish it to meet with success.

Regards,

G.W. Scarth

The colloquium was attended by 18 and had ten contributed papers on photosynthesis, respiration, bisynthesis of labelled amino acids, and growth inhibitors. The program ended with a discussion about future colloquia. It was unanimously agreed that: (1) such meetings were desirable, (2) the next meeting should take place in one year's time at the National Research Laboratories in Ottawa, and (3) the formal organization of a society was premature. There was a division of opinion, however, on: (1) the most desirable form of organization, and (2) the merits of having the National Research Council appoint an Associate Committee to promote fundamental work in plant physiology in Canada.

Duff sent copies of the program and a report on the discussion (Appendix I) to all who had been invited and to eight other colleagues at the University of British Columbia, the University of Saskatchewan, Laval University, the NRC Atomic Energy Project, Chalk River, and the Central Experimental Farm, Ottawa, for information and comments.

The "Second Annual Plant Physiology Conference" was held, as planned at the National Research Laboratories, Ottawa, November 4-5, 1951. It was convened by Duff's former student, Dr. Kenneth a. Clendenning, Head of the new Plant Physiology Section, Divison of Applied Biology, National Research Laboratories. Clendenning sent invitations to all plant physiologists and plant biochemists of record throughout the country. This resulted in an attendance of 50. A total of 20 contributed papers was presented on photosynthesis, respiration, CO_2-fixation, germination, nectar secretion, secondary product metabolism, frost hardiness, growth and development, and mechanisms of herbicide action.

The Conference concluded with a business meeting at which it was agreed that: (1) research conferences on plant physiology that were national in scope should be arranged annually, and (2) formation of a small organization, preferably a research committee, was now justified.

A motion was passed that "A recommendation be submitted to the National Research Council for the formation of a National Committee on Plant Physiology and Plant Biochemistry to serve as a central organization for the promotion and correlation of fundamental and applied research, and to act as a central consulting body to advise research organizations in Canada on problems and research projects in this field."

The meeting also recommended "that a letter outlining the business transacted should be sent to interested scientists, particularly those in Western Canada and the Maritimes, for their information and comment." This was done, but not until several months later, because, shortly after the conference Clendenning resigned and went to the Scripps Institution of Oceanography, La Jolla, California. The motion about a National Committee on Plant Physiology and Plant biochemistry was submitted to the National Research Council but action was dropped when it became apparent that the requested committee would have advisory powers only, and that travel expenses could be paid only to members of the executive. Pending further discussions, NRC made a Special Activities Award of $1,000 to Dr. W.H. Cook, Director, Division of Applied Biology, National Research Laboratories, Ottawa, to help finance a Research Conference on Plant Physiology in 1952, and it was indicated that similar annual grants could be expected for future conferences. Cook named Dr. Paul R. Gorham (Clendenning's successor as Section Head) to serve as Secretary of a Conference Committee that was to be elected. The Conference Committee was to be responsible for meeting arrangements, invitations, program policies and accounts, and prepare an annual report on Cook's behalf in accordance with Council regulations.

Chapter 2

FORMATIVE YEARS

Dr. Gleb Krotkov (Queen's), Dr. David Siminovitch (Science Service Laboratories, Ottawa) and Gorham undertook the planning of the Third Annual Research conference on Plant Physiology, since no Conference Committee had been elected. It was held at Queen's University, Kingston, Ontario, November 3-4, 1952, and approximately 60 scientists attended from 12 universities and 13 government laboratories.

A schedule of travel subsidies was circulated to universities and travel grants were paid to 20 delegates from five provinces from the Special Activities Award. Twenty-three papers were presented on a variety of topics. Professor F.C. Steward, one of three guests from Cornell University, Ithaca, N.Y., presented an especially interesting resumé of the work that he and his collaborators had done on the assay, isolated and structural determination of the family of plant growth factors present in coconut milk and the liquid endosperm of other seeds which, he speculated, might be of even greater significance than auxin.

The business meeting decided that future Conference Committees would consist of an elected Conference Chairman (representing the host institution for the next conference) a Vice-Chairman (to be appointed by the Chairman), and the Secretary (representing NRC) who would provide continuity. Questions of program were to be decided by the Conference Committee. The fact that funds available were not adequate to provide a regular travel grant to the Atlantic provinces and only two to the four western provinces on an alternating basis was deplored. The possibility of approaching other sources for additional funds was discussed. The following motion was passed for submission to NRC: "As the annual conference on Plant Physiology would greatly benefit from a more complete representation from the Universities of the western and eastern provinces, it is requested that consideration be given to providing a larger grant in order to accomplish this objective."

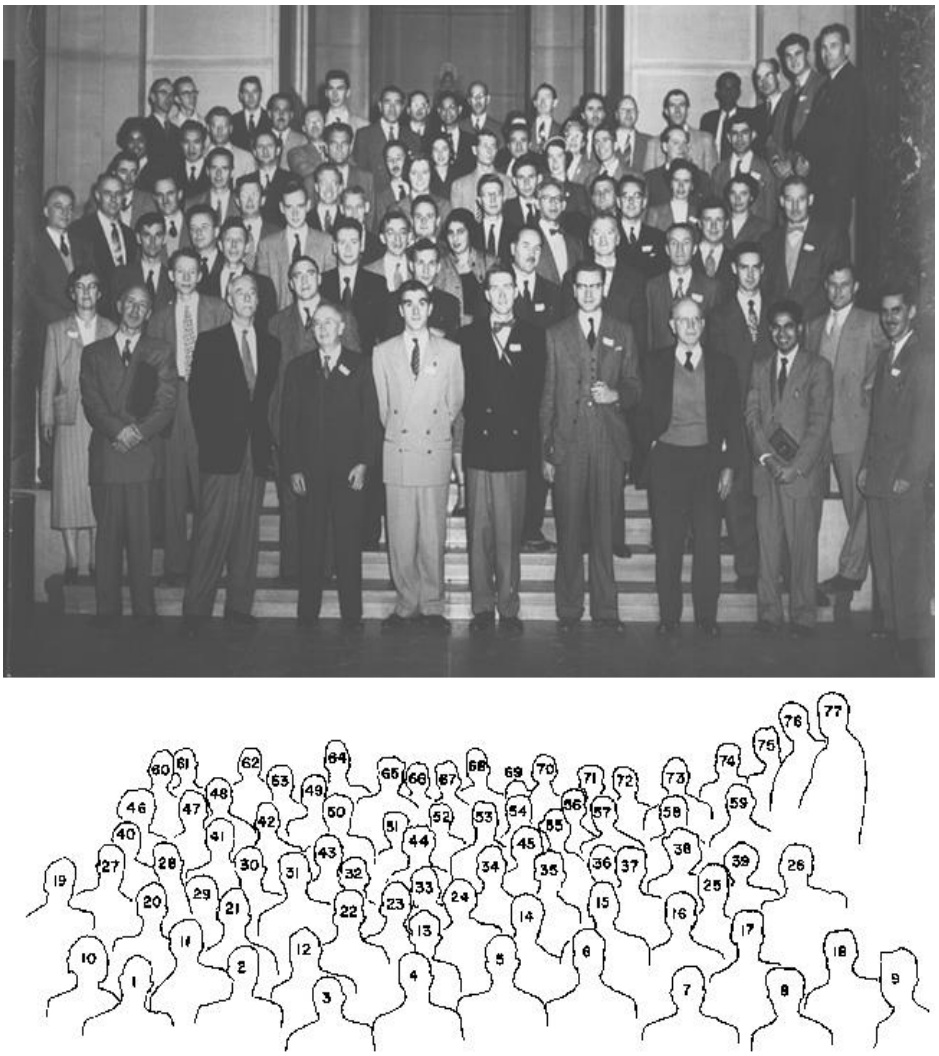
The request for a larger grant received a sympathetic but not fully adequate response from NRC. The award for each of the next five years was increased to $1,500. A travel grant policy was adopted at the next Conference which allocated approximately $500 to each of three sectors: (1) two Western delegates, alternated as to provinces, (2) an annually adjusted number of about 15 delegates from Ontario and Quebec, and (3) one Atlantic delegate, with residual funds to be used for guest speaker(s) or delegate(s)-at-large.

The next five Conferences were hosted, in turn, by universities and government laboratories in London, Montreal, Ottawa, Guelph and Hamilton (Table 1). During this period attendance grew from 55 to 100 and, at one Conference, as many as seven provinces and three states were represented. The numbers of contributed papers increased steadily from 20 to 36, making concurrent sessions necessary. Invitational lectures and a symposium or a colloquium became regular highlights.

The 5th Conference, jointly sponsored by McGill University and the Université de Montréal, took place in the immediate aftermath of a very unusual, damaging hurricane that struck the Lake Ontario and upper St. Lawrence River region. In Montreal, high winds and rain during the night caused only minor damage, so the Conference proceeded as planned. After an excellent symosium on "The Physiological Approach to Host Parasite Relationships," the Rector of the Université de Montréal, Mgr. Olivier Maurault, served a vin d'honneur. A group photograph was taken on the steps of the main pavilion of the Université de Montréal (Fig. 1). This picture shows the symposium speakers, the Conference organizers, and many of those who were

actively involved in the advancement of plant physiology and plant biochemistry in Canada during the 1950's and 60's.

Fig. 1 FIFTH ANNUAL RESEARCH CONFERENCE ON PLANT PHYSIOLOGY



MONTREAL, QUE., NOV. 2, 1954

1. F.S. Thatcher, 2. G.H. Duff, 3. D.L. Bailey, 4. F.R. Forsyth, 5. S.A. Brown, 6. P.K. Isaak, 7. J.H. Craigie, 8. S. Rizvi, 9. M. Cailloux, 10. D.F. Forward, 11. P.J. Allen, 12. E.R. Waygood, 13. D.J. Sambroski, 14. H. Prat, 15. D. J. Wort, 16. W.D. MacClement, 17. J.S. Craigie, 18. W.G. Barker, 19. J.B. Marshall, 20. M. Shaw, 21. R.A. Ludwig, 22. J. Russell, 23. P.R. Gorham, 24. E. Gaertner, 25. F.S. Cook, 26. D.A. McLarty, 27. R.O. Bibbey, 28. R.W. Shuel, 29. N. Good, 30. A.R.A. Taylor, 31. G.E. Connell, 32. G.M. Ward, 33. Z. Patrick, 34. J.J. Miller, 35. G. Krotkov, 36. Mr. Bursa, 37. H.M. Good, 38. L. Cowie, 39. J. Hoeniger (Whitaker), 40. R.T. Pelletier, 41. J.E. Fisher, 42. V.A. Helson, 43. R.L. Whitney, 44. C. Nozzolillo (Bennett), 45. W.A. Andreae, 46. M. Darby, 47. D. Wang, 48. O.H. Olsen, 49. D. MacDougall, 50. V. Slankis, 51. J.C. Sirois, 52. M. Wickson, 53. G.H.N. Towers, 54. P.V. Vittorio, 55. M. Cornett, 56. M. MacArthur, 57. R.G.S. Bidwell, 58. T.F. Cuddy, 59. R.A. Lewin, 60-62 unidentified, 63. A. Lafond, 64. C.D. Nelson, 65. L. Ujejski, 66. D. Siminovitch, 67. S.H.Z. Naqvi, 68. J.F. Johnston, 69. M. Wilson, 70. A.M. Admas, 71. M. Kates, 72. L.E. Lopatecki, 73. D.W.S. Roberts, 74. D.P. Burma, 75. D.C. Mortimer, 76. D.J.C. Friend, 77. W.H. Minshall.
Registered but absent or unidentified: G.A. Bell, F. Blank, J.G. Coulson, L. Kapica, J. Simard, A. Smith.

The 5th Conference was memorable for other reasons. McGill's Dean of Science, D.L. Thompson, a distinguished biochemist, made a very witty speech after dinner at the Faculty Club in which he described (in botanical terms) an unusual creature, *Homo incipiens*, found only on university campuses. The question of forming a society was discussed again. This time the matter got as far as examining the constitutions of one or two existing societies, and of considering the idea of widening the scope to make it a society for experimental botany. It was decided, however, to wait until 1958, since it had just been announced that the IXth International Botanic Congress would be held in Montreal in the summer of 1959. An Executive Committee consisting of Duff (chairman), Krotkov, Siminovitch, Towers, Cailloux and Gorham (Secretary), was elected to

speak for Canadian plant physiologists. The Committee was instructed to establish contact with the congress organizers and to consult appropriate Canadian, American and foreign societies about desirable physiological sessions for the 1959 Congress.

The 6th Conference featured a one-day colloquium on "Tree Physiology" organized by Siminovitch. Topics ranged from water relations and maple sap flow to mycorrhizal symbiosis and frost hardiness. The abstracts and a lecture by Dr. Paul J. Kramer of Duke University on "The Role of Physiology in Forestry" were published in the June and August issues, respectively, of *Forestry Chronicle*, 1956.

At the 8th Conference at McMaster University there was a well-attended symposium on "The Chloroplast and Photosynthesis" organized by Dr. A.S. Holt with Drs. Ruth Sager, Martin Gibbs and Allan H. Brown as authoritative participants. After lengthy debate, approval in principle was given to adopting a draft constitution for the Canadian Society of Plant Physiologists as proposed by the Advisory Committee. The Advisory Committee was instructed to "ascertain the wishes of the membership with respect to the particulars of said constitution," while a nominating committee was asked to bring in a slate of candidates for 1958 in accordance with the draft constitution.

Table 1 Annual Research Conferences on Plant Physiology, 1950 – 1958

*All Conferences took place during the last week in October or the first week in November.

No.	Date*	Institution	Conference Chairman	Attendance	Contributed Papers	Invited Lecturers and Symposium Speakers
1.	1950	Toronto	G.H. Duff	18	10	-
2.	1951	NRC, Ottawa	K.A. Clendinning	50	20	-
3.	1952	Queen's, Kingston	G. Krotkov	60	23	F.C. Steward (Cornell): "Coconut Milk Factor."`
4.	1953	Western; Sci. Serv. Labs., London	D.L. McLarty W.H. Minshall	55	21	C.S. Hanes (Toronto): "The Formation of Peptides in Enzymic Reactions." S. Aronoff (Iowa State): "Metabolism of Soybean Leaves"
5.	1954	McGill, Montreal	E.R. Waygood M. Cailloux	75	20	Symposium: "The Physiological Aspects of Host- Parasite Relations." D.L. Bailey (Chairman), P.J. Allen, P.K. Isaac, M. Shaw, R.A. Ludwig, W.A. Andreae, F.S. Thatcher P.J. Kramer (Duke): "The Role of Physiology in Forestry."
6.	1955	Sci. Serv. Labs, Ottawa	D. Siminovitch	101	16	*Colloquium*: "Tree Physiology." G.H. Duff (Chairman), R.D. Gibbs, K.N.H. Greenridge, J.W. Marvin, M. Cailloux, J.L. Farrar, D.S. Fensom, D.A. Fraser, G.H. Duff and N.J. Nolan, S. Shapiro, V. slankis, D. Siminovitch and A.P.J. Chater and I. Swann J.B. Hanson (Illinois): "Physiological Problems in Crop Production."
7.	1956	Guelph	R.O. Bibbey	65	30	Symposium: "Architecture and Biosynthesis of the Plant Cell Wall." G. Krotkov (Chairman), S.T. Bayley, K.C.B. Wilkie, D.C. Mortimer, S.M. Siegel, J.R. Colvin
8.	1957	McMaster, Hamilton	W.D. MacClement	92	36	Symposium: "The Chloroplast and Photosynthesis." A.S. Holt (Chairman), R. Sager, M. Gibbs, A.H. Brown G.A. Ledingham (PRL): "The Plant Rusts: Some Intriguing Problems they Pose."
9.	1958	Prairie Regional lab., Saskatoon	S.A. Brown	79	33	*Symposium*: "Biogenesis and Metabolism of Phenolic Compounds in Plants." G.H.N. Towers (Chairman), A.C. Neish, T.A. Geissman, K.V. Thimann.

Chapter 3

THE 9TH (AND FINAL) CONFERENCE

Repeated urgings and informal invitations to hold one of the Annual Conferences in the West had, until now, been declined because funds for travelling grants were so inadequate. The 9th (and final) Conference was at last held in the West. It marked the official opening of the new Plant Biochemistry Annex to the NRC Prairie Regional Laboratory (PRL) in Saskatoon. NRC increased the Special Activities Award to $3,500 with the extra funds providing 12 travel grants from the central and Atlantic provinces. The Conference, under the chairmanship of Dr. S.A. Brown, was highlighted by a lecture by the Director of PRL, Dr. G.A. Ledingham, a symposium on "Biogenesis and Metabolism of Phenolic Compounds in Plants" organized by Dr. A.C. Neish, and the opening of the Annex by Dr. J.W.T. Spinks, Dean of Graduate Studies, University of Saskatchewan. A draft of the proposed Constitution and By-Laws, with revisions incorporated, had been sent to all prospective members. With it was a letter of intent to join the new society which each person was asked to sign and return by September 30, 1958, or bring to Saskatoon in November if they wished to be included in the list of Founding Members. A copy of the original Constitution and By-Laws is included as Appendix II. It was much easier to describe the Society in those days than it is now!

The Business Meeting was opened with a tribute to the memory and devoted efforts of G.H. Duff who had died after a short illness on September 28, 1958, one year before his intended retirement. Following his death, his responsibilities as Chairman of the Program Sub-Committee for Physiology of the IXth International Botanic Congress were assumed by Krotkov (who had just been appointed Head of the Biology Department at Queen's).

The Society was officially founded on October 27, 1958, by a unanimous vote in favour of the following motion:

"It was moved by Dr. Waygood, seconded by Dr. Siminovitch, that the group assembled found a new society to be known as the Canadian Society of Plant Physiologists and that the proposed Constitution and By-Laws, as presented by the Advisory Committee fo the Annual Research Conferences, together with the amendments thereto, be adopted as the Constitution and By-Laws of the new society."

Both Duff and Krotkov, who had been leaders and strong supporters during the initial and formative conference years, had declined nomination as first President of the Society. All candidates that were nominated had devoted much time, talent and effort to making the Conferences a success and to shaping the new Society which had just been founded to carry on. The first officers elected were:

President: P.R. Gorham

Vice-President: E.R. Waygood
Secretary Treasurer: D. Siminovitch
Eastern Director: R.O. Bibbey
Western Director: S.A. Brown

For practical reasons it was decided that the Society would not hold a scientific meeting in 1959 so members could concentrate on attending the IXth International Botanic Congress in August of that year. The Congress program was nearing completion and included many physiology sessions organized in consultation with leading plant physiologists and biochemists from around the world. The Program Sub-Committee responsible for this had been appointed from the Executive Committee of Canadian Plant Physiologists elected in 1954. It was decided to hold the first Annual Business Meeting of the Society in Montreal in conjunction with the Congress.

A group photograph was taken on the steps of the Murray Memorial Library, University of Saskatchewan (Fig. 2) and a List of founding Members was prepared (Appendix III) which served to document the 9th (and Final) Conference and the founding of the Canadian Society of Plant Physiologists. An invitation from Dorothy Forward to have the Society meet at the University of Toronto in 1960 and have a Duff Memorial Symposium was accepted. The meeting concluded with a motion "that an expression of gratitude of university delegates be sent to Dr. W.H. Cook and the National Research Council for making funds available over a period of years which enabled them to attend the Annual Research Conferences. The success of this series of nine conferences was best illustrated by the formation of the new society which had just taken place."

Fig. 2 NINTH ANNUAL RESEARCH CONFERENCE ON PLANT PHYSIOLOGY

SASKATOON, SASK., OCT. 28, 1958

1. G.M. Ward, 2. G.H.N. Towers, 3. D.J. Samborski, 4. J.S. Craigie, 5. F.D.H. MacDowall, 6. L.R. Wetter, 7. P.K. Isaac, 8. A.R.A. Taylor, 9. J.E. Watkin, 10. R.O. Bibbey, 11. F.J. Simpson, 12. J.D. Jones, 13. D.A. Fraser, 14. V. Slankis, 15. V. Burrows, 16. J.E. Fisher, 17. J.M. Naylor, 18. F.S. Cook, 19. R.G.S. Bidwell, 20. R.L. Millar, 21. C.D. Nelson, 22. S.A. Brown, 23. B.G. Cumming, 24. E.R. Waygood, 25. J.A. Smith, 26. H.J. Perkins, 27. D.G. Wilson, 28. A. Lafond, 29. G.A. Ledingham, 30. D.E. Forsberg, 31. J. Clark, 32. M. Cailloux, 33. T.A. Geissman, 34. O.L. Gamborg, 35. R. Paquin, 36. D.C. Mortimer, 37. P.R. Gorham, 38. J.D. Banting, 39. W.A. Andreae, 40. W. Chorney, 41. K.V. Thimann, 42. M.S. Spencer, 43. V.C. Runeckles, 44. K. Lakshminarayan, 45. J.R. Colvin, 46. E.W.B. Ward, 47. B.I. Sahai, 48. D.J. Wort, 49. B.D. Sanwal, 50. M. Kates, 51. D. Wang, 52. W.B. McConnell, 53. D. Siminovitch, 54. R.H. Cormack, 55. R-L. Pelletier, 56. S. Zalik, 57. T. Atkinson, 58. N. Colotelo, 59. N. Rosa.

Registered but absent: J. Bakshi, E.R. Blakney, M.W. Cormack, D.s. Fensom, R.H. Haskins, R. Kasting, R. Naylor, A.C. Neish, K. Osaki, W.A. Quick, H.J. Reisener, D.W.A. Roberts, J. Russell, J.E. Smith, W. Taber, O. Vaartaja, T.C. Vanterpool, L.C. Vining, R.L. Whitney

Chapter 4

THE CSPP'S FIRST YEAR

Notices about the founding of the Society were sent to *Science*, *Nature*, and *Plant Sciences Bulletin*. They were also sent to the American Society of Plant Physiologists (ASPP), the International Association for Plant Physiology (IAPP), the American Institute of Biological Societies (AIBS), the Canadian Federation of Biological Societies (CFBS), the Canadian Society of Microbiologists, and the Agricultural Institute of Canada (AIC).

Correspondence was exchanged about affiliation or joining with the ASPP, IAPP, AIBS, CFBS and AIC. The Society became a member of the IAPP, and Gorham was appointed as representative for a four-year term. The *International Directory of Plant Physiologists and Biochemists*, containing over 600 names and addresses derived from correspondence and registrations for the Congress, was compiled and edited by Dr. D.C. Mortimer. It was jointly published by the CSPP and IAPP and distributed without charge to each plant physiologist or biochemist who registered at the IXth International Botanical Congress.

Admittedly, with no scientific meeting to plan, the first Executive did not have quite so onerous a burden as it might have had. Nevertheless, it was very busy. Its members had to come to grips with the concept of a society: what it meant, what it had to do, where it was going, and what sorts of activities and enterprises the Society should or should not undertake. Also, they had to help plan and run the IXth International Botanical Congress. They were responsible for the initial planning and negotiations for the 1960 Annual Meeting, including the arrangement for a grant from the National Research Council to support the proposed Duff Memorial Symposium. Finally, they managed to negotiate greatly reduced subscription rates for the Canadian Journals to the membership (believe it or not, $2.00 per year), a benefit we have enjoyed (if not quite so advantageously of late) ever since. The members of that Executive had plenty to do, and they did it.

Chapter 5

SETTING TRENDS

The first Scientific Meeting of the Canadian Society of Plant Physiologists was held June 1st-3rd, 1960, in Toronto, a fitting site for many reasons. It was the home of the late Dr. George Duff, the man most responsible for the Society's auspicious beginning. It was also the home of Dr. D.F. Forward, the Society's Secretary-Treasurer; that let her in for a number of social chores she may not have expected! Finally, it was the center from which developed one of Canada's major schools of plant physiology, later propagated through Clendenning, Krotkov, Waygood, Roberts and other students of Duff to universities and laboratories across Canada and throughout the world.

The meeting began auspiciously with an open house at Dorothy Forward's home in Toronto. More plant physiologists squeezed in and enjoyed memorable hospitality than would have been thought possible. This friendly and hospitable beginning seems to have set the stage for two of the most happy characteristics of the CSPP: its good fellowship and its outstanding spirit of cooperation. We were a small band in those days, without much clout in world affairs, but we stood together and enjoyed one another's company.

The scientific program got under way with the first of a long line of successful CSPP Symposia, the G.H. Duff Memorial Symposium on Development Physiology. Chaired by Dr. G. Krotkov the speakers were Dr. F.C. Steward, Cornell University, Dr. E. Bünning, University of Tübingen and Dr. G. Setterfield, National Research Council, Ottawa. This symposium set a number of precedents. First, it was of international caliber. Second, it featured a Canadian. We recognized and were prepared to assert that Canadian physiologists could stand alongside the world's best. Third, it was supported by a travel grant of $300 from the National Research Council of Canada. While that may seem small by present standards, $300 travelled a long way in 1960. Furthermore, the NRC and its successor, the Natural Sciences and Engineering Research Council (NSERC), have continued to support CSPP symposia until the present. It would have been very difficult for this important aspect of the Society's Scientific Meetings to have happened or to have been so effective without this generous help. Finally, the Symposium was published in its entirety in the *Canadian Journal o f Botany*. Thus began the initial moves of a long search – still going on – for a recognized Canadian journal for plant physiology. (This point will be further discussed in Chapter 10).

Following the Symposium, the Society went into parallel sessions to hear submitted research papers. The use of parallel sessions, which began with the Conferences, was not adopted lightly or without prolonged discussion. Some felt that a desirable "holistic" approach would be engendered by having only session, while parallel sessions would create sub-disciplines and undesirably narrow sessions. However, the large number of papers submitted (36 at the first Scientific Meeting of the CSPP) made parallel sessions unavoidable. In the early days speakers were allowed 20 minutes each to present their papers. By 1970 this had been decreased to 15 minutes, the present allotment. The more generous allotment had no effect on the ability of some speakers to fit their material to their time – there were as many clock-beaters in those days as today; perhaps more! The topics covered by the papers could only be described by presenting the entire Program. It is sufficient to say that many Canadian physiologists were clearly working at what were then the frontiers of their science; one or two were unquestionably ahead of their time.

Besides science, the Society had two other important functions to fulfill: business and social. To be sure, the social part – the Society Dinner – preceded the Business Meeting. While this arrangement proved very pleasant for many, it was changed in subsequent meetings because it was found that, having dined rather well, the majority of the Society was not deeply interested in business of any sort, particularly at a Business meeting. However, the Business Meeting did take place with a surprising 46 members present (initially), and it managed to conduct its business; considering several maters, amending the nearly new Constitution, discussing meeting places, guest lecturers (including a scheme to invite Russian plant physiologists to visit Canada), and electing new officers. An important decision was also taken that many young physiologists have had reason to be grateful for: a "clearing house" list of positions vacant was set up, the forerunner of the very successful placement service that functioned in the Society for a number of years.

When the meeting was over, many members, particularly those of the host institution, looked back with critical eyes to take stock. What they saw pleased them very much. This meeting had been an unqualified success. Registration at the meeting was 88 – in a society that boasted a total of 98 members (nine of whom, as the Secretary-Treasurer wryly remarked, had omitted to pay their dues)! The Society had become a member of the International Association of Plant Physiologists. It had held an internationally significant Symposium honoring the man whose efforts had been of major importance to its founding. It had presented a group of scientific papers that ranked with the best in the world. And it had had a thoroughly enjoyable experience. A more auspicious beginning could not have been hoped for, and the weary members of the Executive and the Local Committee were able to look back on the meeting with a feeling of complete satisfaction in a job very well begun.

Chapter 6

THE CANADIAN WAY

It would be tedious and inappropriate to describe all the meetings of the Canadian Society of Plant Physiologists in detail. Instead, it seemed best for the purposes of this narrative to cover only the highlights that illustrate how the Society developed and changed in response to the social and scientific pressures of the past 25 years. In doing this, choices have been made with which not everyone will agree. Some decisions appeared momentous at the time they were taken, but in retrospect they now seem trivial. Conversely, some decisions that were lightly taken have had important consequences for the welfare of the Society. In this Chapter we will attempt to outline the origin and development of the major characteristics that set the tone of today's Society.

Meeting places were (and still are) chosen with care, to reflect the Society's response to the regions of Canada, acknowledged centers of physiological research, the distribution pattern of the plant physiological population, cost of travel, and so on. It was agreed that the Society should meet in centers all across Canada, alternating between the central regions and the east or west. The record of the Society's meeting places during the past 25 years, outlined in Table 2, will show that these considerations have been pretty well met. The time of meeting, usually early June, was agreed upon from the first. It was only varied for special reasons, such as a joint meeting with another Society. While every Canadian university has not had the opportunity of hosting the CSPP, some 16 have had that honour, and five had done so more than once. On the whole, the CSPP can be said to have distributed its favors fairly.

Speaking of favors, the Society has also received much assistance in various forms from its most gracious host institutions. Initially (until the cost became prohibitive) the host university or agency provided a banquet for the whole meeting. In later years it has been the custom for the host to provide "hospitality" in the form of a cocktail party, social evening, wine-and-cheese, or some similar function. In addition to this "direct" support, various universities and laboratories have provided much-needed assistance in the form of secretarial help, mailing privileges and organizational facilities both to members of the Executive and to Local Committees. For all this generous and welcome assistance, the Society is most grateful.

An early tradition of the CSPP, initiated at its second Scientific Meeting at Carlton University in 1961, was to invite a distinguished plant physiologist to give a special lecture. These are listed in Table 3. In the early 1970's the practice was abandoned, largely because the number of symposia at each meeting increased about this time to two or three, and also because Gold Medal addresses began to take the place of special invited lectures.

Symposia have been an important part of every scientific meeting of the CSPP (Table 4). The organizers of the 1970 meeting at Laval University, striving to "satisfy a diversity of interests…and yet attain a greater coherence of content and participation," introduced the practice of having two or more non-concurrent symposia, noting that the newly instituted Regional Meetings provided a forum for the short papers thereby excluded from the program. From that time, usually more than one and sometimes as many as three or four symposia were held on diverse subjects at each meeting. Some of the symposia were published as a unit in the *Canadian Journal of Botany*. While many foreign experts have participated in the symposia, particularly on occasions when the Society met with a foreign organization, the majority of speakers have been Canadian.

Great care was taken in choosing the topics of symposia, and this matter occupied much of the attention of early Executives. As a rule the topics chosen related to the major theme of the meeting, which was usually determined by special interests of the host institution, the prospect of a special visitor, some important national or international scientific or socio-scientific debate, or a major scientific development that needed expounding. Some jointly sponsored symposia were mounted at joint meetings, examples of the best kind of both interdisciplinary and intersocietal cooperation. The list of symposia in Table 4 shows how interested focused on one and then another area of plant physiology, and provides an instructive insight into the development of the discipline in Canada during the past 25 years.

An important factor in the success of the symposia was the steady support they received from the first from NRC and then from NSERC. The initial grant, for the Duff Memorial Symposium, was $300; inflation and increasing interest in this aspect of scientific meetings has resulted in much larger grants in later years. During the past few years support for CSPP symposia has averaged over $2,000 per year. The Society has often expressed its sincere appreciation to NRC and NSERC for their support of one of the most important aspects of its scientific and educational program, and takes this opportunity to do so again.

A major part of the scientific program of the CSPP since 1970 has been the holding of Regional Meetings in the East and West each year in addition to the Annual Meeting. The idea had been tested by D.S. Fensom, who ran a very successful "unofficial" regional meeting at Mt. Allison University in 1969, when the Annual meeting took place as an adjunct of the IXth International Botanical Congress in Seattle. The idea was officially proposed by Dr. F. Wightman and adopted at the 1969 Business Meeting. The first Eastern and Western Regional Meetings were held at McGill University and the University of Alberta, respectively, in January, 1970. The midwinter date, approximately half-way between Annual Meetings, has become traditional. It was hoped that more student members could attend and present papers, and that more time would be available at Annual Meetings for symposia, workshops and discussion sessions. There were a number of arguments for and against Regional Meetings, and more than once the suggestion has come to abandon them. But they have proved their worth, and many young plant physiologists who might otherwise have been prevented from attending CSPP meetings have launched their careers at an Eastern or Western Regional Meeting.

It should not be thought that the Regional Meetings are of lower caliber than the Annual Meeting. The importance of publishing the abstracts of papers from Regional Meetings in the Society's Annual Proceedings was recognized from the start. Regional Meetings are usually smaller than Annual Meetings (though the first Eastern Regional Meeting had 80 registrants – almost as many as the first Annual Scientific Meeting in 1960) but the CSPP's traditional insistence on excellence has resulted in symposia, invited lectures and scientific programs of international quality. In spite of this, the Executive's early dictum that Regional Meetings should not exert a financial drain on the Society has nearly always been met.

Other activities of the CSPP should be mentioned briefly. The Society began to publish a Newsletter in 1965, and this most useful service has continued to the present. At times it has been the forum of debate, and in the last decade it has served the function of providing news about positions vacant. From the earliest days of the Society, P.R. Gorham provided a most useful series of Placement Lists giving information about positions available to those who needed it. The Placement Service was taken over and expanded by R.G.S. Bidwell in 1969, but by 1973 the number of available positions had decreased to so few that the service was discontinued. Instead, vacancies were announced by the Secretary in the Newsletter, as is now also the practice of the American Society of Plant Physiologists. The Newsletter, now published several times per year, continues to be the main avenue of communication between the Executive of the Society and its Members

and (on occasion) among Members. At one time it was the hope of the Executive that the Society's life would be made miserable by the number of Letters to the Editor he would have to deal with. There's always hope!

Table 2. Meeting places of the Canadian Society of Plant Physiologists 1958-83.

Date	Proceedings Volume	Joint with	Place
1958	---*	---	NRC/PRL, Saskatoon, Sask.
1959	---*	Int. Bot. Cong.	McGill U., Montreal, P.Q.
1960	1	---	U. of Toronto, Toronto, Ont.
1961	2	---	Carleton U., Ottawa, Ont.
1962	3	---	U. Laval, Ste.-Foy, Que.
1963	4	---	U. of Manitoba, Winnipeg, Man.
1964	5	---	Queen's U., Kingston, Ont.
1965	6	---	U. of New Brunswick, Fredericton, N.B.
1966	7	CBA, CPS	U. of British Columbia, Vancouver, B.C.
1967	8	CBA, CPS	U. of Ottawa, Ottawa, Ont.
1968	9	---	U. of Western Ont., London, Ont.
1969	---*	Int. Bot. Cong.	U. of Washington, Seattle, Wash.
1970	10	---	U. Laval Ste.-Foy, Que.
1971	11	---	U. of Toronto, Toronto, Ont.
1972	12	CBA	Dalhousie U., Halifax, N.S.
1973	---	ASPP	U. of Calgary, Calgary, AB
1974	---	CFBS	McMaster U., Hamilton, Ont.
1975	15	---	U. of British Columbia, Vancouver, B.C.
1976	16	---	U. of Guelph, Guelph, Ont.
1977	---	ASPP	U. of Wisconsin, Madison, Wisc.
1978	---	CPS	U. of Manitoba, Winnipeg, Man.
1979	19	---	Mount Allison U., Sackville, N.B.
1980	20	IAPP	U. of Calgary, Calgary, Alta.
1981	---	ASPP	U. Laval, Ste.-Foy, Que.
1982	---	CBA	U. of Regina, Regina, Sask.
1983		---	U. of Waterloo, Waterloo, Ont.

*Business meeting only

Table 3. Special Lecturers at CSPP meetings (not including Gold Medal Addresses, Table 5)

Year	Speaker and Topic
1961	C.D. Nelson (Queen's University). "Translocation in Plants."
1963	B.G. Cumming (Canada Dept. of Agriculture). "Photocontrol of Seed Germination and Floral Initiation."
1964	M. Shaw (University of Saskatchewan). "G.W. Scarth: Plant Physiologist" (President's Lecture).
1965	P.M. Ray (University of Michigan). "Biochemical Mechanisms Involved in Cell Wall Expansion."
1966*	V. Krajina (University of British Columbia). "Biogeoclimatic Zones of British Columbia." R. McMinn (Canada Dept. of Forestry). "Forest Ecology and Disease" Hon. R. Williston (B.C. Dept. of Lands and Forests).
1967*	J.E. Varner (Michigan State University). "How Does the Cell Control Enzyme Secreation?" R.O. Earl (Queen's University). "100 Years of Canadian Botany."
1971	A.D. Allen (University of Toronto). "Nitrogen Fixation by Ruthenium." J.A. Basham (University of California). "Control of Photosynthetic Carbon Metabolism." E.R. Waygood (University of Manitoba). "A Thermostable Phosphoenolpyruvic Acid Carboxylase in Photosynthetic Carbon Metabolism." G. Maclachlan (McGill University). "Control of Cellulose Metabolism by Growth Hormone." D.J. Armstrong (University of Wisconsin). "Cytokinins and Transfer RNA."
1982	D.J. Osborne (Weed Research Organization, Yarnton, England). "Plant Growth in the Absence of Gravity." J.S. Rowe (University of British Columbia). "Beauty and the Botanist."

* Joint meetings.

Table 4. CSPP Symposia

1960	G.H. Duff Memorial Symposium: Development Physiology. G. Krotkov (Chairman), F.C. Steward, E.T. Bünning, G. Setterfield.
1961	Biochemistry and Physiology of Auxin Action. W.A. Andreae (Chairman), F. Wightman, D. Adamson, A.C. Leopold.
1962	Protein Metabolism. R.G.S. Bidwell (Chairman), G.D. Novelli, J. Bonner, R.M. Smillie.
1963	Photosynthesis. A.S. Holt (Chairman), F.R. Whatley, N.E. Good, D.C. Mortimer.
1964	Respiration. D.F. Forward (Chairman), D.F. Parsons, W.D. Bonner, G. Krotkov.
1965	Problems in Marine Algal Physiology. P.R. Gorham (Chairman), J.S. Craigie, L. Provasoli, R.T. Wilce.
1966*	Alterations in Cytology, Biochemistry and Genetics of the Host Plant by Disease. R.A. Ludwig (Chairman), M. Shaw, C. Person, H.W.J. Ragetli, L. Siminovitch.
1967*	Translocation. C.D. Nelson (Chairman), R.F. Evert, M.H. Zimmermann, J.A. Webb, C.A. Swanson.
1968	Circadian Rhythms and Physiological Phenomena in Plants. B.G. Cumming (Chairman), E.K. Pye, B.M. Sweeney, F.A. Brown, B.G. Cumming.
1970	Plant Water Relations. M. Cailloux (Chairman), M. Cailloux, J. Dainty, M.T. Tyree, D.S. Fensom. Differentiation of Cells and Tissues.

T. Steeves (Chairman), A. Lang, A. Haber, P.K. Hepler, G. Bernie, M. McCully, I.M. Sussex.
Frost Resistance of Plants
D. Siminovitch (Chairman), D. Simovitch, J. Levitt, P.L. Steponkus, R.J. Bula.

1971 Photorespiration.
D.T. Canvin (Chairman), R.G.S. Bidwell, N.E. Tolbert, W.L. Ogren, O. Björkman.

1972* Aspects of Tissue Culture and Cell Hybridization.
O.L. Gamborg (Chairman), H.E. Street, W. Halperin, R.A. Miller.
Aspects of Productivity in Aquatic Communities.
J.S. Craigie (Chairman), C.E. Boyd, W. Radforth, K.H. Mann, D. Patriquin.

1973* Flowering.
W.S. Hillman (Chairman), M.J. Schneider, R.P. Pharis, C.F. Cleland, J.A.D. Zeevaart.
Recent Advances in Ion Transport in Plant Cells.
J. Dainty (Chairman), R.M. Spanswick, J.A. Raven, N. Higinbotham, W.P. Anderson, R.J. Poole

1975 Physiological Problems of Tree Growth and Development.
R. Van den Driessche, D.P. Lavender, J.H. Rediske, H. Brix.

1976 Plant Physiology and the World Food Shortage.
C.M. Switzer (Chairman), G. Strobel, T.C. LaRue, J.H. Mulse.

1977* Organization, Transcription and Modification of Plant Genomes.
J.L. Key (Chairman), W.F. Thompson, L. Bogorad, T.J. Guilfoyle, J. Jendrisak, J. Schell.
Growth Regulating Substances and Their Role in Plant Development and Regulatory Processes
F. Wightman (Chairman), G.M. Simpson, J. Hillman, J. Bruisma, K. Raschke.
Cytokins.
C.O. Miller (Chairman), C.O. Miller, N.J. Leonard, D.J. Armstrong, T. Murashige.

1978* Roots and the Rhizosphere.
J. Dainty, J.D. Gerdemann, T. Kommedahl.

1979 Contractile Proteins in Plants.
D.S. Fensom, T. Sawa (Chairmen), R. Allen, S. Hatano, E. Kamitsubo, R.E. Williamson, B.A. Palevitz, N. Allen, M.T. Vahey, R. Kollman, M.V. Parthasarathy, J. Willenbrink, R.G. Thompson, D. Aikman.

1980* Nitrogen and Crop Yield.
R.G. Hageman (Chairman), J.S. Pate, L. Schrader, J. Rigaud, B.J. Miflin.
Interactions of Carbon and Nitrogen Metabolism.
L. Beevers (Chairman), R.C. Valentine, P. Filner, J.A. Bassham, D.T. Canvin.

1981* Plant Water Status in Relation to Environmental Stress.
M.K. Pomeroy (Chairman), C.R. Olien, J.D. Bewley, C. Rajeshakar, M.J. Burke, P.L. Steponkus.
Hormone Dynamics: Quantitative and Qualitative Regulation.
P.W. Morgan (Chairman), R. Bandurski, E.G. Jaworski, W.K. Purvis, J. Zeevaart, B.O. Phinney, R.P. Pharis.

1982* Seed Biology.
J.B. Phipps, S. Zalik (Chairmen), T.A. Steeves, I.M. Sussex, J.M. Naylor, D.J. Osborne, P.B. Cavers.

*Joint meetings.

Chapter 7

PLACES AND FRIENDS

The CSPP has met in 15 major Canadian cities, in every province except Prince Edward Island and Newfoundland, and twice in the United States of America (Table 2). Of the past 24 meetings, 12 were held solo and the other 12 were held together with one or more other societies or organizations. So the Society has had a number of "affairs" with other societies, but has firmly resisted the temptation to give up its independence permanently. The Society's image was pretty well submerged at some of these joint meetings. However, at the more successful ones "Canadian" and "Plant Physiologists" came through loud and clear, in spite of the size and organizational machine that characterized some of our partners.

The CSPP carried on a flirtation with the Canadian Federation of Biological Societies for a number of years. The Society has always been ambivalent about belonging to such an umbrella organization. Benefits include a large and effective meeting schedule and organization, the opportunity of meeting with colleagues in related sciences, and the capability of exerting real political clout by belonging to a larger, more powerful group. On the negative side stand such issues as the loss of identity, the impersonality of a huge, structured meeting, and the pleasure and camaraderie of meeting in a small, cohesive group. The Society approached this issue very cautiously: in 1962 the CSPP met sequentially with the CFBS, and mounted a joint symposium. The reaction to this experience was not strongly positive, and a large-scale experiment was not tried until 1974 when the CSPP met with the CFBS in a fully integrated meeting. While this was undoubtedly a fine scientific meeting, a majority of the members agreed that the interests and objectives of the CSPP would be served better if the society retained the option of meeting by itself or with other societies on an ad hoc basis. The biggest problem was the loss of autonomy and identity suffered in the large, fully integrated CFBS meeting. Not everyone agreed, but it was felt by many plant physiologists that the sheer size of CFBS meetings make them less enjoyable and less conducive to effective scientific and social exchange. The Society voted to remain independent, but friendly.

The CSPP has held joint meetings with two other Canadian Societies: The Canadian Botanical Association and the Canadian Phytopathology Society, either together or independently. These joint meetings have always enhanced the scientific program, making possible joint symposia, special lectures, and interactions at every level. Such joint meetings will undoubtedly continue to be an important, if occasional, feature of the CSPP.

The CSPP has also taken part in international meetings. Its first appearance on the scientific scene was in 1959, when it held its Business Meeting at the IXth International Botanic Congress in Montreal. Although no formal Scientific Meeting was held that year, many Canadian plant physiologists took an active part in the Congress. The procedure was repeated 10 years later, when the CSPP deferred to the XIth International Botanical Congress held in Seattle, Washington, and again held no Scientific Meeting. It was felt that the majority of Canadian physiologists could not afford, in those lean years, to go to two meetings in one summer. However, in an International Congress the members are individuals, and societies or associations are not recognized as such. Recognition was much more satisfactory when the CSPP held a joint meeting with the International Association for Plant Physiology at Calgary in 1980. The program was fully integrated, many distinguished members of the IAPP attended from England, Europe, Australia, USA, and other distant countries, and two most effective international symposia were held.

We saved the best bit for the last! In 1970 the late Dr. W.S. Hillman, then Secretary of the American Society of Plant Physiologists, wrote to the CSPP executive suggesting a joint meeting of the two societies. The suggestion was enthusiastically supported by the Executive and later by the Society, and the first joint meeting was held in 1973 in Calgary. The local committee produced a superb meeting: Calgary is a beautiful city, we were treated to a society banquet that outdid anything before or since (more on that in the next Chapter), and the weather cooperated so well that one local plant physiologist was suspected of employing witchcraft or communing with the gods from the top of the nearby Rocky Mountains! The scientific aspect of the meeting was no less enjoyable and profitable, and it was universally agreed that this experiment should be repeated.

The next joint CSPP-ASPP meeting took place four years later at the University of Wisconsin, and the most recent was at Université Laval, Quebec in 1981. It is now a firmly established tradition that the two societies will meet together at four-year intervals, alternating between Canadian and USA locations. This form of joint venture appears to be the best possible level of cooperative association between the two societies, allowing the Canadian society its full independence and individuality, but permitting it the pleasure of a large, wide-ranging meeting at intervals. Furthermore, this kind of cooperation does not prevent the Society from undertaking joint meetings with other groups or societies as the occasion arises.

Chapter 8

THE LIGHTER SIDE

We must state at the outset: this Chapter will not be exhaustive, or it would run to several thousand pages! However, it does seem appropriate to mention a few of the lighter moments that have helped to weld the Society so effectively together. It we have missed some of the better ones, that's too bad. At least, we deliberately left out the worst!

In its earlier days the Society was rather staid. It enjoyed its banquets and a number of interesting excursions without (on the face of it, at least) committing any indiscretions. This situation changed abruptly in 1963 when the Society met at the University of Manitoba in Winnipeg. Dr. E.R. Waygood, Chairman of the Local Committee, conceived the happy idea of an evening excursion on the Red River aboard the *S.S. Kenora* in lieu of the usual banquet. The evening was magnificent, the scenery was beautiful, the bar was inexhaustible, and not every plant physiologist was aware when the excursion was finally over. The story is told of one eminent plant physiologist doing his best to undermine the sobriety of one of his colleagues; who deftly poured her drinks down a ventilator shaft whenever her assiduous host was not looking. It is reported that one member initially misunderstood the point of the excursion and tried to start a discussion about intermediary metabolism. His misapprehension was soon clarified (if that is the right word…)

Another memorable aquatic evening occurred some years later when the Society met in Vancouver in 1975. On this occasion the entire membership of the Society boarded the *Princess of Vancouver* and set sail for Nanaimo, on Vancouver Island. On the way over we had our Annual Banquet, and during the return voyage Dr. G.H.N. Towers gave his Gold Medal Address in the ship's lounge. His talk was illustrated, as all good scientific lectures are, by slides of data. It happens that Dr. Towers has many interests beside science, and on a recent trip to India he had photographed a number of unusual temple carvings. In some unaccountable way his slides of these very interesting (!) scenes got mixed up with his data slides, much to the approval of his audience. This history does not record the subject of that evening's lecture, but the slides were terrific! It is also to be recorded (with approval) that the Local Committee kindly arranged for next morning's sessions to be delayed an hour in view of the fact that the boat did not return until 2:30 a.m., and many of the plant physiologists did not get back until much later than that.

Perhaps the most memorable meeting, and the one carried out with the greatest panache, was the 1973 meeting at Calgary. The CSPP was hosting the ASPP at our first joint meeting, and everything was superbly organized, including the weather. The highlight of the affair was a Western-style barbecue at a foothills ranch in the Rockies. Whole oxes were roasted, and much excellent food and wine was consumed by the many plant physiologists who attended. However, the ranch site was several thousand feet above sea level, and this caused the first problem: alcohol is surprisingly more effective at high than at low altitude. In truth, most of us did not consider this to be a serious problem.

The second problem was a consequence of latitude rather than altitude. After the barbecue and a suitable number of speeches by the presidents and other members of both societies, Dr. A.A. Benson was expected to delivery the ASPP's prestigious Stephen Hales address. For this purpose he had brought a slide projector and many beautiful photographs of the algae he was planning to talk about. Unfortunately, the barbecue site had no buildings – only a tent. The weather was perfect – so perfect that the sunlight lingered and lingered in the

clear air of this northern, June night. Finally it got dark enough to show slides in the tent, and we were about to plug in the slide projector when we discovered to our consternation that there were no plugs. There was no electricity at the barbecue site; the nearest outlet was six miles away!

Finally, a 300-watt generator used by the band for its audio system was pressed into service. The projector had a 300-watt bulb which the generator handled perfectly, but it was an up-to-date machine and had an automatic slide advancer. The extra load this put on the generator was too much for it, and its fuse blew every time a slide was changed. Eventually, with a new fuse and manual operation, the show went on. It is a matter of record that Dr. Benson was most relaxed and understanding about these little difficulties.

Joint meetings always present their problems. At a recent one with the ASPP in Ste-Foy, Quebec, Dr. Martin Gibbs hosted (as always) a banquet for the Editors and Associate Editors of the ASPP Journal, *Plant Physiology*. He felt it necessary to explain to his fellow countrymen that things are done differently in Canada, and they should expect the unusual. For example, the salad would be served after the meat instead of before, and coffee would not appear until after the meal was over. But there would be compensations: brandy would be served with the coffee! Perhaps there's a message here...

Chapter 9

MATURE SOCIETY

The mark of maturity in a society is that it begins to take a broad, objective look at its accomplishments and its role in the social and political context. This usually results in three sorts of activities: it begins to make its voice heard in public places, it undertakes to help its members in various ways to overcome specific difficulties associated with such problems as language minority, indifference and hostility in high places, or breaking into the field at the start of a career, and it begins to recognize its own illustrious members, both alive and dead.

To be sure, the Society did go public and announce its birth in the newspapers (see Chapter 4), but initially it was strongly introspective and preoccupied with its own affairs. By the middle 1960's, however, the Society began to look outside itself. In 1965 a committee was established to survey plant physiology in Canada, and in 1967 Drs. D.T. Canvin, D.R. McCalla, E.R. Waygood, and G. Krotkov produced an effective and hard-hitting report that was eventually, after much discussion within the Society, forwarded to relevant government agencies. The report analysed the growth of the discipline, research support, areas that needed reinforcement, and the training of new plant physiologists. Its recommendations were fair and its demands wholly reasonable. In fact, they are as applicable (and as necessary!) today as they were then. Whether they had any impact on government or any other persons in positions of power is hard to say. One of the most discouraging aspects of any efforts to alert the government to requirements or urgent necessities (whether for science or for the country as a whole) is its stony absence of response.

The Society became a subscribing member of the Biological Council of Canada in 1966, and enthusiastically endorsed its objectives. Several Canadian plant physiologists have served as officers of the BCC over the years, and have helped to develop its programs. Its efforts at lobbying for improved recognition and support for biological science in Canada were not rewarded by spectacular successes, but it did considerable service just keeping these issues alive and before the government, which acted as if it wished they did not exist. The Society also cooperated with the CFBS, the Royal Society of Canada and SCITEC in attempts to press important issues with the Canadian Government. As usual, not all these efforts were immediately visible or fruitful. However, there is no question that the constant maintenance of pressure prevented more serious erosion of the position of science in Canada during the late 1960s and 1970s, and may even have helped advance it a little in some areas.

The Society published (together with the IAPP) an international list of plant physiologists in its first year of existence. Later, it published its full membership in its Annual Proceedings, a practice it has had to abandon recently because of cost. Early in its development it considered publishing a booklet for schools describing career opportunities in plant physiology. However, it was thought better to support the re-publication and distribution of the BCC booklet, *Why Biology*, which was considered to be more appealing to students because it was more general in scope. Nevertheless, the Society has always responded to public need, political or social, as strongly as it could.

Perhaps the clearest sign of maturity came in 1964 when the Society was renamed The Canadian Society of Plant Physiologists/La Société Canadienne de Physiologie Végétale. This change went far beyond merely recognizing the fact of bilingualism, or accommodating our French-speaking colleagues. It was the unanimous expression by the English-speaking majority in the Society of the equality in fact, if not in numbers, of the two

founding cultures and languages of Canada. However, it was not until 1970, at the Ste-Foy meeting in the Province of Quebec, that a French translation of the Constitution appeared, ably carried out by Roger Paquin. It was formally adopted next year, on a motion by A.C. Neish and D.S. Fensom.

Although the Society is now formally bilingual, the low proportion of French-speaking members from Quebec has been a cause for concern over the years. Plant physiology is inadequately represented as a discipline in the francophone institutions of the Province of Quebec, and francophone students of plant physiology have very few opportunities either for study or for employment in Quebec. This is doubly unfortunate since some of Canada's most distinguished plant physiologists, including several members of the Executive (see Appendix IV) have been members of the francophone community. Recent action by Dave Fensom and others has served to bring this problem into the open; its solution is not yet in sight.

The recognition of merit is a sign of maturity: Dr. D.C. Mortimer remarked when the first Gold Medal was struck that "the Society has finally come of age." As far back as 1964 the question was raised whether an award honoring the early Canadian plant physiologists G.W. Scarth and G.H. Duff would be appropriate. In 1966 it was deemed that "the time was not ripe" for such an award, but nevertheless a committee was formed under the chairmanship of Dr. M. Shaw to explore the idea. This committee worked quickly, and the "Canadian Society of Plant Physiologists Medal" to be awarded for "outstanding public contributions" and "distinguished service to plant physiology…in Canada" became enshrined in our Constitution in 1967. The design of the medal was left to the Executive under Don Mortimer as President, and he continued to work on this project long after he left that office. A final design was produced in 1969, and was adopted as the formal insignia of the Society in 1970, appearing on official Society documents and letterheads. The now familiar face of the medal, which represents a montage of plant physiological themes, adorns the cover of this book. The less familiar obverse bears a charming representation of the twin-flower, *Linnaea borealis* (said to be Linnaeus' favorite flower), and a space for engraving the name of the recipient and the date of the award.

The first CSPP Gold Medallist was Dr. A.C. Neish, a most appropriate choice. Dr. B.G. Cumming, who as President of the Society in 1970 announced the award, started a delightful tradition by keeping the name secret until the very end of his award speech, dropping clues as he spoke, but so artfully disguised that many of his hearers did not become aware of the recipient's name until the last. It was established, and is now traditional, that the Gold Medallist gives his gold Medal Address at the next Scientific Meeting following his receipt of the award. These traditions have been followed for all the subsequent Gold Medallists, who are listed in Table 5. This custom of honoring its distinguished members also serves to bring recognition to the Society as a whole by drawing the attention of plant physiologists all over the world to its accomplishments.

Initially the medal was awarded every year (Table 5), but the fear that we might eventually run out of eminent plant physiologists and concerns about the price of gold soon changed this to every two or three years. In fact, the first fear proved to be groundless, while the second became a pressing reality. The medals are now made of silver, plated with gold. The initial medal, of solid gold, cost $315.00, and the Chairman of the Medal Committee complacently observed that "there was no advantage to having a bunch banged out and putting them in storage." He is certainly our nominee for the Muddy Crystal Ball of the Year award!

Besides the Gold Medal, which tends more to honor the "elder statesmen" of the Society, a move began some years ago to develop an award that would recognize the "brilliant younger men" who are still developing their careers. At the same time, the new award was to honor the memory of C.D. Nelson, one of Canada's most outstanding plant physiologists, whose tragic death occurred in his forty-first year in 1968. Accordingly, in

1977 the C.D. Nelson Award was established to recognize young plant physiologists (the age limit was then 35, later revised to 40) whose "outstanding research contributions" showed "originality and independence of thought." Dr. Derek Bewley was the first scientist so honored, and two other young Canadian plant physiologists have since received this distinguished award (see Table 6).

One last brief point. The attainment of maturity implies growth and development. These have certainly taken place. The Society is five times larger than it was 25 years ago, now having well over 400 members, and it has developed in many ways. As a consequence of its growth, that willing dog's body of the Executive, the Secretary-Treasurer, found his labors becoming more and more intense. The breaking point was reached in 1972, when this useful officer was dissected and the separate offices of Secretary and Treasurer were created (see Appendix IV). It is a nice example of well established principle of plant physiology. Growth and development: one seldom occurs in a health organism without the other!

Table 5. Gold Medallists of the Canadian Society of Plant Physiologists

1970	A.C. Neish	National Research Council, Halifax, N.S.[1]
1971	M. Shaw	University of British Columbia, Vancouver, B.C.
1972	D. Siminovitch	Agriculture Canada, Ottawa, Ont.[2]
1973	G.H.N. Towers	University of British Columbia, Vancouver, B.C.
1976	O.L. Gamborg	National Research Council, Saskatoon, Sask.[3]
1979	R.G.S. Bidwell	Queen's University, Kingston, Ont.[3]
1981	D.T. Canvin	Queen's University, Kingston, Ont.

1Deceased 2Retired 3Moved

Table 6. Winners of the C.D. Nelson Award

1978	J.D. Bewley	University of Calgary, Calgary, Alberta
1979	M.T. Tyree	University of Toronto, Toronto, Ontario
1982	J.D. Mahon	Prairie Regional Lab., N.R.C.C., Saskatoon, Sask.

Chapter 10

LOOKING AHEAD

On the whole, the story of the CSPP has been one of accomplishment and success. But we cannot say that all the questions and problems that beset the Society – and plant physiologists – have been resolved. The future may bring more successes, and it will undoubtedly bring some difficulties and disappointments. One thing is certain: Canadian plant physiologists will continue to work, as they have during the past 25 years, to make the Society and the lot of plant physiologists as good as it can possibly be made.

A few major concerns will need to be tackled in the near future, and it may be worthwhile to examine them briefly here. Perhaps the most difficult are the direction of research, funding levels and sources, government control of research, the problem of pure versus applied research, and the erosion of the Canadian research base. The allied problems of student intake, employment, and the state of the universities are going to need some savage thinking. Finally, there is the vexing and long standing question of a "special" place for the publication of Canadian plant physiological papers.

Research directions have swung periodically over the years from "wholist" to "divisionist" extremes. During the period covered by this history we have traveled from the whole plant physiology to the biochemical extreme, and are now well on the way back. However, it now appears that the trend of modern molecular biology may serve to rationalize and unite these points of view in a way that has hitherto been difficult or impossible. For a time it looked as if plant physiology might virtually disappear in a welter of conflicting and almost unrelated sub-disciplines of development, metabolism, translocation, etc. But the new Renaissance the true holistic approach seems to have been sparked by the new insight into plant behaviour at all levels of organization provided by molecular physiology and biophysics. This is the "new biology" that we have been waiting for.

The support of research seems to be fluctuating fitfully and without purpose, in terms of both levels and overall directions of research support. It is inevitable that the institution (or government) supplying the funds will exert some control over research. How much that control can be shaped or modulated by scientists for the advance of science depends in large measure on the success of scientists in satisfying national goals. This does not mean that only "goal oriented" research should be pursued. Pure science is a perfectly good goal in itself. But much depends on what the government, politicians, and ultimately the population, perceive to be the national goals. Surely scientists must work more vigorously and more effectively than ever to modify public opinion about the values, quantities and directions of science.

Universities are now altering their basic character in response to the demands of a changing society. Just how these changes will affect plant sciences, and plant physiology in particular, is difficult to predict. The needs of world agriculture as it responds to the pressures of growing population and environmental deterioration (caused by the "improvement" of life style) must be met increasingly by high technology. In our case, high technology (or biotechnology) really means good sound plant physiology. However, to produce good plant physiologists, as we now can and do, is not enough. They must have both the motivation and the facilities, including funds, to do the required research, and the universities must have the facilities and funds to train them. These requisites will only come as the population at large begins to appreciate the need for them, and when that will happen is hard to foresee.

A specific problem that faces Canadian plant physiologists is their rather low level of funding relative to the USA and other developed nations. While Canadian scientists are reasonably well served by their granting agencies, the scope of support is far too narrow. It is acceptable that some scientists, for whatever reasons, should not receive very large grants. But it is wholly unacceptable that virtually none of our top ranking scientists should receive funding that is adequate in terms of their ability, and relation to foreign competition. To have, train, and maintain first class scientists while paying them only enough to work at a fraction of their capacity is poor economy. Apart from all else, it stifles initiative. Furthermore, many Canadian scientists have had the discouraging experience of losing good ideas to large research groups in other countries before their own limited resources could develop them. This problem faces all Canadian scientists, and plant physiologists in particular need to work on a remedy. The cost of doing big research at the forefront of the field is getting very large. While this may not be for everyone, it should not be denied to everyone.

We shall end our gazing into the crystal ball with a mention of publishing. As long ago as 1959 the President was urging members to "publish in the *Canadian Journal of Botany*, indicating by footnotes all papers presented at CSPP meetings." The question of a Canadian journal of plant physiology was raised then and frequently during the next decade, but it was recognized that the volume of papers would be insufficient to support a reputable journal. In 1966 the Editor of *Plant Physiology* suggested that the Proceedings of the CSPP (which are often cited) should be published in the *Canadian Journal of Botany*, but the Editorial Board of the NRC refused on the grounds that what is done for one society must be done for all.

Recently the editorial policy of the *Canadian Journal of Botany* has been to group papers with a section on "Plant Physiology and Biochemistry." This at least serves to focus attention on papers in this group, and it partly answers the problem. However, in view of the successful *Australian Journal of Plant Physiology*, the suggestion has come forward from time to time to found a comparable Canadian journal, not only to publish the papers of Canadian plant physiologists but equally important to catalogue the activities, Proceedings, etc. of the CSPP. This question may be a hard one to settle, and it will doubtless be raised from time to time in the future.

The problem with prophesy is that people love to play the game "cheat the prophet" by doing just the opposite of what was prophesied. If the prophets are in conflict, people still manage to confound them by following none of the prophesies, and just continuing to do what they were doing before. That will probably be the way with the CSPP. It seems safe to say that Canadian plant physiologists will continue to grow and develop as a health organism should. Let us end this history with a toast to the future: May the next twenty-five years be as good for Canadian plant physiologists and for the CSPP as the first twenty-five years!

APPENDIX I. Announcement, Program and Minutes of the First Colloquium.

University of Toronto

TORONTO, CANADA

DEPARTMENT OF BOTANY

November 20, 1950

Dear Sir:

A colloquium of Canadian workers in Plant Physiology was held in the Department of Botany, University of Toronto on November 3 and 4, 1950. For your information and record I enclose copy of the programme of scientific papers read on this occasion and also brief minutes of a discussion on the desirability and feasibility of future meetings of this kind.

You will observe from the minutes that there was a strong unanimous feeling in favour of future meetings but that the best form of organization for the future was not so readily apparent. For the purpose of a meeting in 1951 no formal organization is essential. Accordingly, nothing more was decided than that the meeting would be held in the Division of Applied Biology, National Research Council. Dr. K.A. Clendenning kindly agreed to be responsible for the business and correspondence. We hope that you will be able to attend and, if possible, contribute.

Yours sincerely,

George H. Duff,

Professor of Plant Physiology

GHD/HGM

PROGRAMME OF COLLOQUIEM

Room 203, Botany Building

University of Toronto

Friday, Nov. 3, 1950, commencing at 10:00 a.m.

K.A. Clendenning.	Photosynthesis: A review of recent investigations.
P.R. Gorham.	Stabilization of isolated chloroplasts for indefinite periods. Chloride stimulation of isolated chloroplasts.
E.R. Waygood.	Properties of ascorbic acid oxidase. Enzymes in photosynthesis.
W.H. Minshall and V.A. Helson	Effects of oils on the time course of photosynthesis and respiration.
D.W.A. Roberts.	Distribution of invertase activity in the wheat leaf.

Saturday, Nov. 4, 1950, commencing at 9:00 a.m.

D.G. Wilson and G. Krotkov.	Biosynthesis of radioactive asparagine.
G.H. Duff, Miss D.F. Forward and Miss J. Scorgie	Respiration and growth in the isolated radicle tips of maize.
V.C.J. Quesnel and G.H. Duff.	The effect of inhibitors upon the respiration of radicle tips of maize.

Discussion of future colloquia.

Minutes of the Discussion

Regarding future Colloquia

1. That future meetings were desirable was unanimously agreed.
2. It was agreed that a meeting should be arranged for in November 1951 and that the meeting should be held in the National Research Laboratories, Ottawa. It was the consensus of opinion that the subject matter of future meetings should be determined by the current interests of the workers participating in the meeting.
3. The consensus of opinion was that the formal organization of a society at the present time would be premature.
4. Opinion was divided on the suggestion that when the time was ripe the most desirable form of organization would be that of a Canadian Section of the American Society of Plant Physiologists. But the merits of the proposal were made clear and the meeting left the decision to the future.
5. Opinion was also divided on the suggestion that an Associate Committee of the National Research Council might be organized to promote Canadian work in plant physiology and that the colloquium might take place at the annual meetings of this Committee. The advantages of this proposal for the University Laboratories were clear and for this reason it was thought desirable to meet in 1951 at the place where the suggestion could be most readily explored.

November, 1950.

APPENDIX II

THE CANADIAN SOCIETY OF PLANT PHYSIOLOGISTS
CONSTITUTION (October 27, 1958)

Article 1
Name: The NAME of this Society shall be the Canadian Society of Plant Physiologists.
Article 2
Object: The OBJECT of the Society shall be to encourage research and education in the field of Plant Physiology and its application.
Article 3
Membership: The MEMBERSHIP shall consist of persons having a scientific interest in Plant Physiology. The founding members shall be eligible persons who have signified, in writing, their intention to join the Society prior to or within 30 days of the founding meeting.
Article 4
Executive: The EXECUTIVE of the Society shall consist of the President, the Past-President, the Vice-President, the Secretary-Treasurer and two Directors, one from Eastern and one from Western Canada.

BY-LAWS (October 27, 1958)

By-Law 1.Amendment of Constitution and By-Laws
a)Notice of motion for amendment to either the Constitution or By-Laws shall be delivered in writing over the signatures of at least two members to the Secretary-Treasurer at least six weeks prior to the date of the annual business meeting at which it is to be considered. Such notice shall be sent by the Secretary-Treasurer to the members at least three weeks prior to the said meeting.
b)Changes in the Constitution shall require the assent of two-thirds of the members present at the annual business meeting.
c)Changes in the By-laws shall require a majority vote of members present at the annual business meeting.

By-Law 2.Membership
a)Application for membership sponsored by one member shall be made to the Secretary-Treasurer. Applications shall be reviewed by the Executive, which shall have the authority to accept candidates or not according to the best interests of the Society.
b)Members who are one year in arrears in payment of their dues shall be removed from membership but may be reinstated on payment of current dues and the back dues for one year.
c)Any member who has resigned may be reinstated on payment of his annual dues.

By-Law 3.Nomination and Election of Officers and Auditors
a)The Executive shall appoint three members as a nominating committee which shall prepare a slate of officers to be submitted to the annual business meeting. The appointments shall be made at least two months prior to the annual business meeting.
b)Additional nominations shall be accepted over the signatures of two members or from the floor at the time of the election.
c)All nominations must have the assent of the nominees.
d)Where more than one candidate is nominated for position, an election by secret ballot shall be held at the annual business meeting.
e)Two auditors shall be named at the annual business meeting.

By-Law 4.Terms of Office
a)The President shall hold office for one year and then assume the office of Past-President for one year. The Vice-President and Secretary-Treasurer shall hold office for one year. The two Directors shall each hold office for two years, one Director being elected at each annual business meeting.
b)Any vacancy occurring in the Executive shall be filled by appointment of the Executive. The appointee shall hold office only until the next annual business meeting and any unexpired term shall then be filled by election.
c)The first Director from the East shall hold office for one year only.

By-Law 5Finances
a)The fiscal year shall be from the conclusion of one annual business meeting to the conclusion of the next.
b)The annual fee shall be five dollars, due at the first of the fiscal year and payable to The Secretary-Treasurer of the Society.
c)The necessary expenses of meetings of the Society shall be defrayed by the Society and a registration fee shall be charged for scientific meetings.
d)Each new Secretary-Treasurer shall be empowered by motion at the annual business meeting to open a bank account in the name of the Society, to sign cheques, and pay all accounts.
e)The President also shall be empowered at the annual business meeting to sign cheques and pay all accounts. This power shall be used only when the Secretary-Treasurer is unable to perform these duties.
f)An annual audit shall be made and distributed to the membership.
g)At the annual business meeting the Secretary-Treasurer shall present a report on the current status of the Society's finances.
h)An outgoing Secretary-Treasurer shall have 30 day's grace in which to close the books, have them audited, and transfer all accounts to the incoming Secretary-Treasurer.

By-Law 6.Meetings
a)Scientific meetings and an annual business meeting shall be held at times and places to be decided upon by the Executive after consideration of the advice given by the members at a preceding business meeting.
b)Special meetings may be called at the discretion of the Executive.
c)Executive meetings shall be called by the President or his designate.
d)Notification of scientific meetings and of the annual business meeting shall be mailed to all members at least three months in advance.

By-Law 7.Quorum
a)Fifteen members shall form a quorum at any meeting of the Society.
b)Three members shall form a quorum at any meeting of the Executive.

By-Law 8.Definition of Eastern Canada and Western Canada
The boundary between Eastern Canada and Western Canada shall be the Ontario-Manitoba border.

By-Law 9.Definition of Plant Physiology
Plant Physiology shall be defined as the study of the physical and chemical processes involved in the growth, development and functioning of plants.

APPENDIX III

THE CANADIAN SOCIETY OF PLANT PHYSIOLOGISTS
FOUNDING MEMBERS (December 12, 1958)

Andreae, W.A., C.D.A., London, Ont.
Atkinson, T.G., C.D.A., Lethbridge, Alta.
Banting, J.D., C.D.A., Regina, Sask.
Bayley, S.T., N.R.C., Ottawa, Ont.
Bibbey, R.O., O.A.C., Guelph, Ont.
Bidwell, R.G.S., N.R.C., Halifax, N.S.
Boll, W.G., McGill U., Montreal, Que.
Bonga, J.M., Mcmaster U., Hamilton, Ont.
Brown, S.A., N.R.C., Saskatoon, Sask.
Burrows, V., C.D.A., Ottawa, Ont.
Cailloux, M., U. Montréal, Montréal, Que.
Clark, J., C.D.A., Fredericton, N.B.
Colotelo, N., U. Alberta, Edmonton, Alta.
Cook, F.S., U. Western Ontario, London, Ont.
Coulombe, L.J., C.D.A., Ste. Anne-de-la-Pocatiere, Que.
Craigie, J.S., Queen's U., Kingston, Ont.
Cuddy, F., C.D.A., Ottawa, Ont.
Cumming, B.G., C.D.A., Ottawa, Ont.
Durzan, D.J., Hamilton, Ont.
Ebell, L.F., D.N.A. & N.R., Victoria, B.C.
Farrar, J., U. Toronto, Toronto, Ont.
Fensom, D.S., Ridley College, St. Catharines, Ont.
Fisher, E., C.D.A., Ottawa, Ont.
Forest, B., C.D.A., Ste. Anne-de-la-Pocatiere, Que.
Forsyth, F.R., C.D.A., Winnipeg, Man.
Forward, D.F., U. Toronto, Toronto, Ont.
Fraser, D.A., D.N.A. & N.R., Chalk River, Ont.
Friend, D.J.C., C.D.A., Ottawa, Ont.
Gamborg, O.L., N.R.C., Saskatoon, Sask.
Gage, R.S., O.A.C., Guelph, Ont.
Good, N.E., C.D.A., London, Ont.
Gorham, P.R., N.R.C., Ottawa, Ont.
Harris, G., U.B.C., Vancouver, B.C.
Hay, J.R., C.D.A., Ottawa, Ont.
Helson, V.A., C.D.A., Ottawa, Ont.
Holt, A.S., N.R.C., Ottawa, Ont.
Isaac, P.K., U. Manitoba, Winnipeg, Man.
Johnston, F.B., C.D.A., Ottawa, Ont.
Jones, J.D., Queen's U., Kingston, Ont.
Kasting, R., C.D.A., Lethbridge, Alta.
Kates, M., N.R.C., Ottawa, Ont.
Kelley, B.W., Waterloo College, Waterloo, Ont.
Krotkov, G., Queen's U., Kingston, Ont.

Lafond, A., Laval U., Quebec, Que.
Lakshminarayan, K., U. Manitoba, Winnipeg, Man.
Macdowall, F.D.H., C.D.A., Ottawa, Ont.
von Maltzahn, K.E., Dalhousie U., Halifax, N.S.
Marshall, J.B., N.R.C., Ottawa, Ont.
Millar, R.L., C.D.A., Ottawa, Ont.
Miller, J.J., McMaster U., Hamilton, Ont.
Minshall, W.H., C.D.A., London, Ont.
Mortimer, D.C., N.R.C., Ottawa, Ont.
Neish, A.C., N.R.C., Saskatoon, Sask.
Nelson, C.D., N.R.C., Ottawa, Ont.
Nozzolillo, C., U. Ottawa, Ottawa, Ont.
Paquin, R., C.D.A., Ste. Anne-de-la-Pocatiere, Que.
Pelletier, R.L., Macdonald College, Que.
Perkins, H.J., C.D.A., Lethbridge, Alta.
Roberts, D.W.A., C.DA., Lethbridge, Alta.
Rosa, N., U. Alberta, Edmonton, Alta.
Runeckles, V.C., Imperial Tobacco Co., Montreal, Que.
Samborski, D.J., C.D.A., Winnipeg, Man.
Setterfield, G., N.R.., Ottawa, Ont.
Shaw, M., U. Reading, Berks, England
Shuel, R.W., OA.C., Guelph, Ont.
Siminovitch, D., C.D.A., Ottawa, Ont.
Sirois, C., C.D.A., Ottawa, Ont.
Slankis, V., C.D.A., Maple, Ont.
Spencer, M.S., U. Alberta, Edmonton, Alta.
Stern, H., C.D.A., Ottawa, Ont.
Swan, H.S.D., Pulp and Paper Res. Inst., Montreal, Que.
Switzer, C.M., O.A.C., Guelph, Ont.
Taylor, A.R.A., U.N.B., Fredericton, N.B.
Thimann, K.V., Harvard U., Cambridge, Mass., U.S.A.
Towers, G.H.N., McGill U., Montreal, Que.
Truscott, J.H.L., Hort. Prod. Lab., Vineland Stn., Ont.
Van Fleet, D.S., U. Toronto, Toronto, Ont.
Wang, D., U. Manitoba, Winnipeg, Man.
Ward, E.W.B., U. Alberta, Edmonton, Alta.
Ward, G.M., C.D.A., Ottawa, Ont.
Watkins, J.E., N.R.C., Saskatoon, Sask.
Waygood, E.R., U. Manitoba, Winnipeg, Man.
Wetter, L.R., N.R.C., Saskatoon, Sask.
Wilson, D.G., U. Western Ontario, London, Ont.
Wort, D.J., U.B.C., Vancouver, B.C.
Zalik, S., U. Alberta, Edmonton, Alta.
Total number of Founding Members: 86

APPENDIX IV

Officers of the Canadian Society of Plant Physiologists/La Société Canadienne de Physiologie Végétale

Date	President	Vice-President	Secretary-Treasurer	Eastern Director	Western Director
1958	P.R. Gorham	E.R. Waygood	D. Siminovitch	R.O. Bibbey	S.A. Brown
1959	E.R. Waygood	W.A. Andreae	D.F. Forward	K. von Maltzahn	″
1960	G. Krotkov	S.A. Brown	"	"	M. Shaw
1961	W.A. Andreaae	A. Lafond	C.D. Nelson	G. Setterfield	″
1962	D.F. Forward	P. Isaac	″	″	H.J. Perkins
1963	M. Shaw	C.D. Nelson	R.G.S. Bidwell	R. Paquin	D.W.A. Roberts
1964	G. Setterfield	A.R.A. Taylor	″	M. Cailloux	M.S. Spencer
1965	G.H.N. Towers	D. Siminovitch	D.T. Canvin	A.R.A. Taylor	″
1966	D.C. Mortimer	F.R. Forsyth	″	″	E.B. Tregunna
1967	F.R. Forsyth	A.C. Neish	R.A. Fletcher	F. Wightman	″
1968	A.C. Neish	B.G. Cumming	K.W. Joy	″	E.A. Cossins
1969	B.G. Cumming	A. Lafond	D.S. Fensom	G.A. MacLachlan	″
1970	A. Lafond	M.S. Spencer	″	″	V.C. Runeckles
1971	M.S. Spencer	R.G.S. Bidwell	C. Willemot	C. Nozzolillo	″
1972	R.G.S. Bidwell	G.A. MacLachlan	C. Willemot R. Paquin	″	O.L. Gamborg
1973	G.A. MacLachlan	D.T. Canvin	E.A. Cossins ″	J.S. Craigie	″
1974	D.T. Canvin	O.L. Gamborg	″ A. Oaks	″	R.P. Pharis
1975	O.L. Gamborg	E.A. Cossins	D.J. Durzan ″	B. Colman	″
1976	E.A. Cossins	R. Paquin	″ E.B. Dumbroff	″	J. King
1977	R. Paquin	R.P. Pharis	R.D. Hill ″	D.P. Ormrod	″
1978	R.P. Pharis	F. Wightman	″ P. Jolliffe	″	J.D. Bewley
1979	F. Wightman	D.S. Fensom	W.C. Kimmins ″	A. D'Aoust	″
1980	D.S. Fensom	S. Zalik	″ R. Ibrahim	″	S.S. Malhotra
1981	S. Zalik	J.S. Craigie	R.F. Horton ″	J.E. Thompson	″
1982	J.S. Craigie	J. King	″ B. Colman	″	W. Vidaver

Photograph #1. First Gold Medal: Presented to Art Neish by Don Mortimer, Ste.-Foy, June 1970.

Photograph #2. Animated discussion between Michael and Jean Shaw and Dave Siminovitch, Halifax, June 1972.

Photograph #3. Dave Fensom and Roger Horton at Carleton University in Ottawa, June 1971.

Photograph #4. Dave Canvin, Don Ursino and Andre D'Aoust, Hamilton, June 1974.

Photograph #5. Gold Medal Award: Dave Siminovitch and Mary Spencer, Halifax, June 1972.

Photograph #6. Nestor Rosa and Marlene Phillips, McMaster University, Hamilton, June 1972.

Photograph # 7. Connie Nozzolillo, Johan Hellebust, and Fathey Sarhan, Montreal, January, 1974.

Photograph #8. Frank Whightman, Gordon McLachlan, and George Setterfield, Carleton University, Ottawa, January, 1970.

Photograph # 9. Roger Paquin, and Don Mortimer, Guelph, June 1976.