THE CANADIAN BEEKEEPERS' COUNCIL

(Representing all Canadian Beekeepers)

MINUTES AND PROCEEDINGS

TWENTY - FIRST ANNUAL MEETING

CHARTERHOUSE HOTEL, WINNIPEG

DECEMBER 3 - 6, 1961

OFFICES: 219 Queen Street, Ottawa 4, Ontario

Telephone CE 3-8491

The Canadian Beekeepers' Council

REPRESENTING ALL CANADIAN BEEKEEPERS IN MATTERS OF COMMON INTEREST

219 QUEEN STREET, OTTAWA 4, CANADA

MARITIME BEEKEEPERS' ASSOCIATION

ASSOCIATION DES APICULTEURS DE LA PROVINCE DE QUEBEC

LES PRODUCTEURS DE MIEL DU QUEBEC

ONTARIO BEEKEEPERS' ASSOCIATION

ONTARIO HONEY PRODUCERS CO-OPERATIVE LTD.

MANITOBA BEEKEEPERS' ASSOCIATION

MANITOBA CO-OP. HONEY PRODUCERS LTD.

SASKATCHEWAN BEEKEEPERS' CO-OP. ASSOCIATION

SASKATCHEWAN HONEY PRODUCERS CO-OP. LTD.

ALBERTA BEEKEEPERS' ASSOCIATION

ALBERTA HONEY PRODUCERS CO-OP.

BRITISH COLUMBIA HONEY PRODUCERS ASSOCIATION

CANADIAN HONEY PACKERS ASSOCIATION

MARITIME BEEKEEPERS' ASSOCIATION	M.S. Horsburgh Cambridge Station, N.S.
ASSOCIATION DES APICULTURES DE LA PROVINCE DE QUEBEC	Rene Brasseur 306 E. Craig St., Montreal, P.Q.
✓ LES PRODUCTEURS DE MIEL DU QUEBEC	J.A. Beaudry Montebello, County Papineau, P.Q.
ONTARIO BEEKEEPERS' ASSOCIATION	Victor Mesley Kemptville, Ontario
ONTARIO HONEY PRODUCERS CO-OP. LTD.	M.W. Harvey Codrington, Ontario
MANITOBA BEEKEEPERS' ASSOCIATION	E.J. Burnett Box 131, Roland, Manitoba
MANITOBA CO-OP. HONEY PRODUCERS LTD.	Paul Uhrin Austin, Manitoba
SASKATCHEWAN BEEKEEPERS' ASSN.	C.E. Meilicke Box 773, Prince Albert, Sask.
SASKATCHEWAN HONEY PRODUCERS CO-OPERATIVE LIMITED	R.M. Pugh Tisdale, Saskatchewan
ALBERTA BEEKEEPERS' ASSOCIATION	F.E. Boswell Brooks, Alberta
ALBERTA HONEY PRODUCERS CO-OP. LTD.	H.J. Philpott Brooks, Alberta
B.C. HONEY PRODUCERS ASSOCIATION	J.P. Hodgson 7925 - 13th Ave, New Westminister, B.C.
B.C. HONEY PRODUCERS ASSOCIATION	G.W.H. Reed R.R. 1, Glenmore Drive, Kelowna, B.C.
CANADIAN HONEY PACKERS ASSN.	P.F. Pawlowski Alta. Honey Producers' Co-Op. Ltd. 10971 - 102nd St., Edmonton, Alta.

CANADIAN ASSOCIATION OF APICULTURISTS
(Consultants to the Canadian Beekeepers' Council)

J. Corner, Provincial Apiarist, B.C. Department of Agriculture, Vernon, B.C.
J. Edmunds, Supervisor of Apiculture, Alberta Department of Agriculture, Edmonton, Alberta

P. Pankiw, Apiculturist, Canada Department of Agriculture, Beaverlodge, Alta.
D.M. McCutcheon, Provincial Apiarist, Saskatchewan Department of Agriculture, Regina, Saskatchewan

E. Bland, Assistant Provincial Apiarist, Regina, Saskatchewan
D.R. Robertson, Provincial Apiarist, Manitoba Department of Agriculture, Winnipeg, Manitoba

D. Smith, Assistant Provincial Apiarist, Winnipeg, Manitoba
Dr. J.C.M. L'Arrivee, Apiculturist, Experimental Farm, Brandon, Manitoba
Professor G.F. Townsend, Provincial Apiarist and Professor of Apiculture, Ontario Agricultural College, Guelph, Ontario

P.W. Burke, Assistant Provincial Apiarist, Ontario Agricultural College, Guelph, Ontario

Dr. T.A. Gochnauer, Chairman, Apiculture Section, Canada Department of Agriculture, Central Experimental Farm, Ottawa, Ontario

Dr. R. Boch, Apiculturist, Canada Department of Agriculture, Ottawa, Ontario
Dr. B. Furgalla, Apiculturist, Canada Department of Agriculture, Ottawa, Ont.
R. Brasseur, Quebec Department of Agriculture, 306 Craig Street East, Montreal, P.Q.

F.R. Armstrong, Supervisor, Honey and Maple Products, Fruit and Vegetable Division, Canada Department of Agriculture, Confederation Bldg., Ottawa, Ontario

J.M. Gray, Agriculture Division, Dominion Bureau of Statistics, Ottawa, Ont.
D.F. Pinnock, Apiculture Fieldman, N.B. Department of Agriculture, Fredericton, N.B.

E.A. Karmo, Apiarist, Nova Scotia Department of Agriculture, Truro, N.S.
D. MacLean, Provincial Apiarist, P.E.I. Department of Agriculture, Charlottetown, P.E.I.

THE CANADIAN BEEKEEPERS' COUNCIL

PAST PRESIDENTS

1940-1	W.R. Agar, Brooklyn, Ontario
1942	S.M. Deschenes, Montreal, P.Q.
1943	J.W. Braithwaite, Brandon, Man.
1944	P.C. Colquhoun, Maple Creek, Sask.
1945	A.T. Brown, Peterborough, Ont.
1946	W.E. Phillips, Dauphin, Man.
1947-9	F.R. Garland, Winnipeg, Man.
1950-1	J.N. Dyment, Smithville, Ont.
1952	P. Kowalski, Edmonton, Alta.
1953-4	W.H. Turnbull, Vernon, B.C.
1955-6	H.C. Allen, Toronto, Ontario
1957-8	S.J. Lye, Oakville, Manitoba
1959-60	V. Mesley, Kemptville, Ontario

HONORARY MEMBERS

C.B. Gooderham, Ottawa, Ontario
G.H. Pearcey, Kelowna, B.C.
T.H. Shield, Toronto, Ontario
J.N. Dyment, Smithville, Ontario
Mrs. H. Grace, Madison, Wisconsin, U.S.A.
F.R. Armstrong, Ottawa, Ontario
W.H. Turnbull, Vernon, B.C.

PAST SECRETARY TREASURERS

1940	W.T. Patterson, Winnipeg, Man.
1941-8	R. M. Pugh, Tisdale, Sask.
1949	W.G. Le Maistre, Edmonton, Alta.
1950-9	R.M. Pugh, Tisdale, Sask.

THE CANADIAN BEEKEEPERS COUNCIL

TWENTY - FIRST ANNUAL MEETING

THE CHARTERHOUSE HOTEL

WINNIPEG, MANITOBA

DECEMBER 3 - 6, 1961

The President of the Canadian Beekeepers' Council, Victor Mesley, called the general meeting to order, welcomed and introduced the Representatives and guests. All Representatives were in attendance. P.W. Burke and D.M. McCutcheon were appointed scrutineers.

The Secretary presented the minutes of the 1960 Annual Meeting, held in Ottawa, and outlined the financial situation of the association presenting the audited financial statement.

Moved by Burnett, seconded by Horsburgh and carried:

1. THAT the minutes of the 20th Annual Meeting held in Ottawa December 6-8, 1960 be adopted as published.

Moved by Harvey, seconded by Reed and carried:

2. THAT the audited financial statement for the fiscal year ending October 31, 1961 be approved. (See Appendix I)

Moved by Philpott, seconded by Horsburgh and carried:

3. THAT the auditors for the 1961 - 62 Council year be the firm of George A. Welch & Company, Ottawa.

The President, Mr. Mesley, outlined the work of the Association and of its Executive over the past year. He stressed in particular the improved liaison between the Council and Government and other allied industries. He also detailed the success of Canadian sales of honey to Britain. This and the President's Report on the Financial Committee are to be found in Appendix VIII.

Moved by Burnett, seconded by Uhrin and carried:

4. THAT Council wishes to record its appreciation of the work of Messrs. Mesley and Harvey who have been instrumental in re-instating the levy in Ontario.

Mr. J. Grossman, of Billy Bee Honey Products Ltd., Secretary of the Canadian Honey Packers Association, expressed his interest in the activities of Council. He agreed to subscribe $250.00 in support of the work.

5. G.W.H. Reed presented and moved the adoption of the Statistics Committee Report, seconded by Philpott and carried. (Appendix II)

Mrs. Harriett M. Grace, Director of the American Honey Institute described the work of her organization in honey promotion. She illustrated the success of the work with newspaper tear sheets, requests from food editors and broadcasters, housewives, and so on.

..... 2

Please Note: Honey For Breakfast Week April 22 - 28, 1962
National Honey Week October 29 - November 4, 1962

Council holds a "sustaining membership" in the A.H.I., benefiting from a broad honey information and promotion campaign. For materials contact the Secretary or write directly to Mrs. Grace (Commercial State Bank Building) Madison 3, Wisconsin.

6. R.M. Pugh presented and moved the adoption of the Grading Committee Report, seconded by Hodgson and carried as follows:

In view of the fact that Dominion Grading Regulations will not be prepared and ready for presentation to Council and the Trade for some time, your committee feels that another review of grading is unnecessary at this time. However, the following were reviewed:

(a) the possibility of changing the honey grade names to Fancy, Choice and Standard.

(b) substitution of the letter "P" for the word Pasteurized as presently required.

(c) changing the moisture requirement of a #1 grade pasteurized honey from the present 20%.

After consideration your committee does not recommend any changes in Council's present position on these points. (See 1958 Report). The committee did make three recommendations which after discussion were tabled, re-drafted and presented in motion form. These are collected here.

Moved by Pugh, seconded by Horsburgh and carried:

7. THAT grading and grading marks be not required on bulk honey shipments between producers and packers or packers and packers within a Province or between provinces.

Moved by Burnett, seconded by Brasseur and carried:

8. THAT Council commend the Federal Department of Agriculture for its intention of holding a consumer survey on honey preferences and that Council recommend that the survey be conducted in a minimum of four main centres in Canada such as Montreal, Toronto, Winnipeg, and Vancouver.

Moved by Harvey, seconded by Hodgson and carried:

9. THAT a beekeeper or packer be required to substantiate all wording used by him on a retail honey container.

Moved by Pawlowski, seconded by Reed and carried:

10. THAT motion #38 of the 1958 minutes be confirmed

38-58 RESOLVED that representation should be made to the Federal Department of Agriculture requesting that the interpretation of the regulations covering package marks should be that such marks are required on one panel only, of any package.

..... 3

Moved by Harvey, seconded by Boswell and carried:

11. THAT the Canadian Beekeepers' Council request that the honey grading regulations of the Canada Department of Agriculture provide that registered packers may have the choice of (a) using the word "pasteurized" in conjunction with the grade or (b) using the letter "P" in conjunction with the grade or plant registration number on consumer container labels.

12. M.W. Harvey presented and moved the adoption of the Fairs and Exhibition Committee Report, seconded by Reed and carried.

Highlights of the report shown in Appendix III included record sales totals for the C.N.E ($6,125.00) and R.A.W.F. ($2,140.38).

Moved by Harvey, seconded by Pawlowski:

13. THAT Council establish a "Premier Exhibitor Award" at the Pacific National Exhibition.

An amendment was moved by Philpott, seconded by Boswell and carried:

THAT the award be financed by reducing the prize at the Royal Agricultural Winter Fair and that a certificate of merit be given as part of both awards.

Moved by Reed, seconded by Meilicke and carried:

14. THAT Council record its sincere appreciation for the work of both Maurice and Mrs. Harvey at these fairs.

Moved by Pugh, seconded by Uhrin and carried:

15. THAT Council attempt to make other arrangements for the C.N.E. and Royal Promotion booths and in any event,

THAT Council discontinue its responsibility in this regard.

16. J.P. Hodgson presented and moved the adoption of the Publicity Report, seconded by Brasseur and carried. (Appendix IV).

17. M.S. Horsburgh presented and moved the adoption of the Pollination Committee, Report, seconded by Reed and carried. (Appendix V)

P.W. Burke conducted the election of officers for the 1961 - 62 Council year. The following were elected without opposition:

President	Victor Mesley
Vice-President	Earl J. Burnett
Executive Member	Roy M. Pugh

A press conference was held at the conclusion of the election. Many Representatives of all media attended and showed a gratifying interest in the work.

Summaries of Present Research in Apiculture were presented by Professor G.F. Townsend of the Ontario Agricultural College and Dr. T.M. Gochnauer, newly appointed Chairman of Apiculture, Research Branch, Ottawa.

These are reported in Appendix VII.

..... 4

18. E.J. Burnett presented and moved the adoption of the Report of the Research Committee, seconded by Brasseur and carried as reported in Appendix VI.

Moved by Burnett, seconded by Philpott and carried:

19. Whereas the apicultural research carried on by the Research Branch, Canada Department of Agriculture is contributing to the advancement of Canadian Agriculture,

Resolved that the Canadian Beekeepers' Council express its appreciation of the work being carried out and request that present projects be continued and expanded, especially in the study of Nosema and other bee diseases.

Moved by Burnett, seconded by Harvey and carried:

20. That Council renew its request for action on Resolutions 15, 16 of the 1960 minutes concerning honey research. (physical behavour of processed honey)

Moved by Burnett, seconded by Reed and carried:

21. Whereas an adequate method of straining honey would resolve a major problem of the beekeeper,

Resolved that Council request research on this application of knowledge on early granulation.

Moved by Burnett, seconded by Pawlowski.

22 Whereas it is desirable to avoid duplication in Research work between the limited number of federal apicultural research workers, it is resolved that the Canada Department of Agriculture take steps to provide greater co-operation in Apicultural Research within the present framework.

An amendment was moved by Pugh, seconded by Horsburgh, tabled and subsecarried:

22A. That the Department of Agriculture Research on Apiculture be co-ordinated under a senior officer.

Moved by Boswell, seconded by Philpott and carried:

23. That federal researchers investigate the possible control of bee diseases by radiation.

John Corner, retiring President, Canadian Association of Apiculturists commented upon the good relations between that body and Council. He referred to recommendations presented in 1958 (Page 25 Report) which have with few exceptions been implemented.

Later their incoming President, Jack Edmunds, encouraged Council to take a positive approach to its two major problems, Finance and Marketing.

Moved by Pugh, seconded by Meilicke and carried:

24. That Council receive for consideration the proposal of the C.A.A. that the Annual Meeting open on Wednesday morning with Committee work held

..... 5

that afternoon, and that an Agenda be prepared thirty days in advance.

Moved by Pugh, seconded by Horsburgh and carried:

25. That Council explore and promote the organization of an international co-operative group to study the effect of nosema disease on the Canadian - American package bee industry.

Moved by Burnett, seconded by Pugh, and carried:

26. That Council express its appreciation to the Canadian Association of Apiculturists for the valuable work being carried out on behalf of the Beekeeping Industry and especially for their contribution to the success of this Council and its meetings.

The following budget was presented asaa basis for discussion.

THE CANADIAN BEEKEEPERS' COUNCIL

BUDGET 1961 - 62

A	Basic Expenditure			
	Canadian Horticultural Council			
	Service Charge	$1,800		
	Council Membership	300		
	Secretary-Treasurer	2,000		
			4,100	
	Travel			
	Annual Meeting	3,800		
	Executive and Secretary	1,100		
			4,900	
	General			
	Contributions	400		
	Office Supplier, Telephone Etc.	400		
	Awards and Publicity Newsletter	200		
			1,000	
				$10,000
B	Honey Publicity			
	American Honey Institute		$3,500	
	Canadian Program		1,000	
				4,500
				$14,500.00

Moved by Hodgson, seconded by Pawlowski and carried:

27. That Council accept the proposed budget.

Moved by Pawlowski, seconded by Philpott and carried:

28. That the Secretary set out a publicity release showing Council's financial requirements and the history of net loss over the past two years. Further, Council's accomplishments and plans should be outlined urging full support. Upon approval by the Representatives, this release is to be distributed through newsletters of the provincial apiculturists and other media.

Past President, F.R. Garland, discussed the role of the independent honey packing firms in our work. He suggested that these firms had "something to offer" and that Council consider appointing associate members. This was discussed briefly.

Moved by Harvey, seconded by Pawlowski

29. That Council explore the proposal to accept independent packing firms as associate members.

Moved by Boswell, seconded by Pugh and carried:

29A That the motion be tabled for one year for consideration by the whole Council.

Moved by Pugh, seconded by Harvey and carried:

30. That two similar motions concerning representation presented by the Provincial Association of Alberta and Saskatchewan be received and that the Secretary notify both groups of the terms of the Constitution and By-Laws.

Moved by Burnett, seconded by Brasseur and carried:

31. That Victor Mesley, who now serves as a Director of the Canadian Horticultural Council continue as the Canadian Beekeepers' Council's representative to the association.

Moved by Meilicke, seconded by Uhrin and defeated

32. That Council's meeting be held during the week of January 15th in the future.

Moved by Meilicke, seconded by Reed and carried:

33. That the President appoint a Resolutions Committee on the opening day of subsequent annual meetings of Council.

Moved by Meilicke, seconded by Uhrin and carried:

34. That Council confirm the President's authority to appoint a Chairman at Annual Meetings.

Moved by Boswell, seconded by Harvey and carried:

35. That the 1962 Annual Meeting be held in the Province of Quebec, the Executive to make and announce arrangements soon.

..... 7

Moved by Reed, seconded by Boswell and carried:

36. That Mr. Mesley form a committee to report on helpful tax and accounting information for beekeepers.

Moved by Hodgson, seconded by Uhrin and carried:

37. That Council express its appreciation for the recent payment made by the Agricultural Stabilization Board to Canadian beekeepers.

Mr. Meilicke presented a motion passed by his association requesting a wider distribution of future deficiency payments. In view of the fact that the Canada Department of Agriculture has already outlined its agreement to implement such a policy in the 1960 - 61 crop year, the Secretary was asked to ascertain the progress to-date and notify both Council and those concerned in Saskatchewan and Ontario.

Moved by Harvey, seconded by Burnett and carried:

38. That Council urge that the Honey work of the Marketing Service, Canada Department of Agriculture be placed under a Chief with responsibilities not only for the supervision of grading, but also the development of the marketing services to the Honey Industry.

Moved by Hodgson, seconded by Pugh and carried:

39. That the present weekly Canada Department of Agriculture weekly market report on Honey is entirely inadequate and that Council would appreciate an accurate quotation.

Moved by Pawlowski, seconded by Horsburgh and carried:

40. That Council express its thanks to B.C. Tree Fruits Limited who provided Sparton apples at the meeting.

Moved by Boswell, seconded by Beaudry and carried:

41. That Council, through its Secretary also thank all those who made this visit to Winnipeg so pleasant.

Moved by Harvey, seconded by Uhrin and carried:

42. That Council express its greetings and appreciation to Mr. H.C. Allen upon the occasion of his retirement from active beekeeping and the Directorate of the Ontario Honey Producer's Co-Operative Limited.

Moved by Reed, seconded by Boswell and carried:

43. That Council express thanks to Mr. Hodgson and the Publicity Committee for the wide coverage obtained for the meeting. Three T.V. Shows, three radio "tapes", and a press conference were reported. Mr. Hodgson pointed out the work of Don Robertson in this regard.

Moved by Burnett, seconded by Hodgson and carried:

44. That the Representatives, in addition to their "per diem" allowance of five dollars, be allowed twelve dollars per day for hotel, meal and other expenses during the meeting.

..... 8

Mr. Reed presented a motion passed by his association requesting extension of Government Farm Credit to beekeepers. Since this matter has been under review, the Secretary was instructed to obtain the latest information and forward it to Mr. Corner for distribution in B.C.

Moved by Reed, seconded by Hodgson and carried:

45. Whereas the storage and movement of bulk honey requires the use of large reusable containers not used for retail sales, and,

Whereas the production of bulk honey is increasing thereby requiring additional purchase of such large bulk storage containers, and,

Whereas the production of honey is an agricultural crop requiring considerable cash investment

Therefore be it resolved that strong representation be made to the proper authorities in the Federal Government to remove the 11% federal tax on bulk containers which are to be used for the transportation or storage of bulk honey from producers to packing plants.

The President announced appointments to Committees for the 1961-62 year. He stressed the importance of the work and the need for activity early in the new year.

The responsibilities of Representatives in conveying information to beekeepers was emphasized.

Terms of reference have been revised. The first named is Chairman in each case.

1. Fairs and Exhibitions: M. Harvey, P.W. Burke, Ed. Bland

To encourage displays of honey and sale booths at all fairs and especially the National shows. To encourage honey competitions and exhibitions. To publicize this work and to encourage Canadian beekeepers to participate. To encourage uniform judging, and entry requirements. To encourage and publicize 4 H Honey Bee Clubs.

2. Statistics: G.W.H. Reed, Mel Gray

To gather and encourage publication of all statistics useful to Council or beekeepers generally.

3. Grading: R.M. Pugh, P.F. Pawlowski, J.A. Beaudry, R. Brasseur, P. Uhrin, W. Mesley

To survey the working of Dominion and Provincial Honey Grading regulations, and encourage uniformity of legislation. To prepare and recommend to Council changes to grading regulations and to convey the opinion of the Industry to government officials on Council's behalf.

4. Pollination: M.S. Horsburgh, Geo. Reed, J. Corner, G.F. Townsend, E.A. Karmo, C.E. Meilicke

To gather and co-ordinate publicity material on the value of honey bees as pollinators.

..... 9

This to embrace statistics of increased use of pollination on a commercial basis and information on fees. To report to Council on needed pollination research, promotion etc. which should be requested and to report results to the Industry.

5. Publicity and Public Relations: J. P. Hodgson, Eric Boswell, R.M. Pugh, D.M. McCutcheon, R. Brasseur

To initiate and co-ordinate the Publicity and Public Relations program of Council. Methods to include - information provided to Representatives for their presentations at meetings of beekeepers; news items for the Apiarists and others who issue Newsletters; articles for beekeeping publications; encouragement of press and broadcast publicity, direct publicity at the Annual Meeting.

6. Research: E.J. Burnett, D.R. Robertson, Jeff Philpott

To ascertain from ~~beekeepers~~ the Industry, research projects most needed by ~~them~~. To follow progress of current research and encourage proper distribution of results to beekeepers. To encourage an integrated research program in Canada and accordingly to recommend policy to Council.

7. Finance: V. Mesley, J.A. Beaudry, P. Uhrin, C.E. Meilicke, E. Boswell

To develop full support of the Canadian Beekeepers' Council in all provinces and payment of levy on all types of honey containers. To find equitable, workable solutions to the financial problems of the association.

8. Marketing Committee: P. Uhrin, J.W. Edmunds, F.R. Garland

To establish terms of reference in order that this important phase of Council activity be explored in a positive fashion. To study marketing activities of other producer groups.

The meeting adjourned at 5 p.m. on December 6th, 1961.

The audited Financial Statement of Geo. A. Welch and Co. follows.

THE CANADIAN BEEKEEPERS' COUNCIL

STATEMENT OF ASSETS AND LIABILITIES

as at October 31, 1961

ASSETS

Cash in bank		$ 3,330.78
Inventory of honey containers - at cost		930.16
Government of Canada 4¼% bonds - due 1972 - par value and cost	10,000.00	
Accrued interest and uncashed coupons	281.50	
		10,281.50
		14,542.44

LIABILITIES AND SURPLUS

Accounts payable			645.00
Surplus			
Balance, October 31, 1960		18,461.36	
deduct:			
Excess of Expenditure over Income for year	4,282.67		
Loss on sale of bonds	281.25		
		4,563.92	
			13,897.44
			14,542.44

We have examined the books and records of the Council for the year ended October 31, 1961. As in similar organizations, it was not possible to verify the revenue from all sources.

The bonds are in bearer form and were in the custody of officials of the Canadian Horticultural Council.

Subject to the foregoing we report that, in our opinion, the above Balance Sheet and attached Statement of Income and Expenditure are properly drawn up as to show a true and correct view of the state of the Council's affairs at October 31, 1961, and the result of its operations for the year ended on that date, according to the best of our information and the explanations given to us and as shown by the books.

CHARTERED ACCOUNTANTS.

Ottawa, November 23, 1961.

THE CANADIAN BEEKEEPERS' COUNCIL

STATEMENT OF INCOME AND EXPENDITURE

for year ended October 31, 1961

Income:			
Contributions:			
Continental Can Company Limited		8,016.51	
Ontario Honey Producers		500.00	
Association Des Apiculteurs du Quebec		700.00	
B.C. Honey Producers		55.73	
			$ 9,272.24
Bond interest			595.85
Refund from Canadian Horticultural Council - re prior year			316.68
			10,184.77
Expenditure:			
Canadian Horticultural Council:			
Service charge	1,800.00		
Membership fee	300.00		
Secretary-treasurer	2,000.00		
		4,100.00	
American Honey Institute - Sustaining Membership		3,601.27	
Travelling expense:			
Annual meeting	3,283.15		
Secretary-treasurer	86.95		
President (including U.K. Trade Mission)	951.50		
		4,321.60	
Contributions and fees:			
Audubon Society of Canada	10.00		
Bee Research Association	150.50		
Apimondia	28.07		
Maritime Beekeepers' Association	213.84		
		402.41	
"Story of Honey" booklet - net		75.60	
Honey exhibits and awards		238.09	
Annual meeting - exclusive of travelling		77.50	
Stationery and printing		96.64	
Postage		47.40	
Telephone and telegraph		33.15	
Net cost of Display Booths - per attached:			
Canadian National Exhibition	1,126.14		
Royal Winter Fair	180.28		
		1,306.42	
Miscellaneous		167.36	
			14,467.44
Excess of Expenditure over Income			4,282.67

THE CANADIAN BEEKEEPERS' COUNCIL

1961 CANADIAN NATIONAL EXHIBITION - DISPLAY BOOTH

Honey sales		$ 6,125.40
Cost of sales:		
Honey	3,544.20	
Containers and labels	1,742.06	
Supplies	429.54	
	5,715.80	
Inventory at end	930.16	
		4,785.64
Gross Profit		1,339.76
Expenses:		
Booth rental	845.00	
Wages	507.90	
Manager's fee	300.00	
Advertising booklets	649.10	
Truck rental	25.00	
Other operating expenses	138.90	
		2,465.90
Net Cost		1,126.14

1960 ROYAL WINTER FAIR - DISPLAY BOOTH

Honey sales		$ 1,808.64
Cost of sales - honey purchases		1,351.08
Gross Profit		457.56
Expenses:		
Booth rental	200.00	
Wages	169.00	
Advertising booklets	83.25	
Travelling expenses	156.65	
Other operating expenses	28.94	
		637.84
Net Cost		180.28

Appendix II

BEEKEEPING STATISTICS FOR CANADA

	Beekeepers No.	Colonies No.	Production Per Colony (Lbs.)	Total Production (000 lbs.)	Price Per Bulk Lb. to Producer (¢)	Total Value ($000)
1956	14,410	333,000	74	24,272	18	4,419
1957	15,040	325,700	98	32,051	18	5,906
1958	13,150	332,700	93	27,509	19	4,632
1959	14,180	330,700	95	31,527	-	-
1960(Prel)	12,574	327,340	98	32,224	-	-

Total carry over of honey as of July 1, 1961 - #7,000,000 approximately.

BEESWAX

	Production (000 Lbs.)	Average Farm Price $ per Lb.	Total Farm Value ($000)
1956	355	.51	180
1957	473	.53	253
1958	408	.46	187
1959	459	.48	222
1960	479	.45	214

IMPORTATION OF PACKAGE BEES

	No. of Packages	Value $
1956	131,781	471,626
1957	138,589	507,661
1958	139,728	525,017
1959	142,832	541,623
1960	145,980	552,177
1961 (June)	145,195	590,217

IMPORTS INTO CANADA OF HONEY AND BEESWAX

	Honey		Beeswax	
	Quantity Lbs.	Value $	Quantity Lbs.	Value $
1956	3,345,173	529,744	412,119	268,419
1957	4,496,713	700,743	307,021	197,884
1958	4,842,870	700,918	246,176	148,376
1959	4,528,740	616,496	322,352	172,311
1960	2,658,467	456,747	290,005	160,337
1961 (June)	592,176	94,885	141,600	81,425

EXPORTS FROM CANADA OF HONEY

	Quantity Lbs.	Value $
1956	1,008,887	149,669
1957	467,493	68,936
1958	244,644	39,952

..... 11

(Exports Continued)

	Quantity Lbs.	Value $
1959	864,965	136,401
1960	2,673,000	387,796
1961 (June)	972,548	166,231

BEEKEEPING STATISTICS FOR U.S.A.

	Colonies No.	Production Per Colony (Lbs.)	Price Per Bulk Lb. to Producer	Total Production (000 Lbs.)	Stocks on Hand for Sale by Producers (000 Lbs.)
1959	5,438	45.5	17	247,523	Dec. 15 - 62,979
1960	5,430	47.9	-	260,128	Sept. 15 - 93,575
1961(Pre)	5,517	50	-	275,979	Sept. 15 - 104,457

1961 Crop 275,979,000 lbs. 6% more than 1960 and 13% above the 1955 - 59 average.

A record crop exceeding the previous record of 1952 by 1%.

George Reed

Appendix III

FAIRS AND EXHIBITIONS

CANADIAN NATIONAL EXHIBITION BOOTH 1961

The total sales for 1961 at $6,125.00 were about $2,000.00 more than the previous year and probably the highest ever. Cash deficit was more than last year as there was a management fee of $300.00 for T.H. Shield and $375.00 for booklets The Story of Honey.

This years exhibit was based on the plastic squeeze bear, just over 5,000 of these were sold. Three weeks before the Exhibition opened a less expensive squeeze bear was introduced in supermarkets. This reduced sales, and lowered the price per unit.

The booth was freshly painted with a mounted bear on a turn table holding a pail of honey and surrounded by cedar trees. While nothing elaborate, the booth was clean and attractive.

ROYAL AGRICULTURAL WINTER FAIR BOOTH 1961

The booth location at the Royal was the same as last year next to the Commercial and Exhibitor displays. Total sales were $2,140.38 three hundred more than the previous year.

The squeeze bears were the reason for increased sales at both Fairs. Customers stopped and bought a bear for gifts and children that otherwise would have passed by. We gave thousands of people a taste of creamed honey in samples.

The deficit shown by our auditors for the C.N.E. did not take into account the full inventory. When the final report is made after the next audit, it will show a deficit for both fairs of about $130.00

..... 12

Honey Exhibitions:

Briefly, the shows in Ontario showed divided success. Only 18 entries were made at the C.N.E. and this valuable display space will be lost unless interest is maintained. The Royal show was stronger than ever, reflecting the time of year and general interest in this international exhibition. Successful shows were reported from Ottawa, London and Peterborough.

Considerable interest is shown in Quebec with particular attention to the Honey King title. Shows in Manitoba and Saskatchewan faced the severe drought and found limited success.

FAIRS AND EXHIBITIONS IN BRITISH COLUMBIA

In British Columbia this year, there was a noticeable increase in the number of the exhibitors at the various fairs and exhibitions. Exhibits in all fairs were much better prepared and there was an increase in the larger display exhibits which add greatly to the attractiveness of any honey show or exhibition of honey.

The work in British Columbia with 4-H Honey Bee Clubs, and in particular their interest in honey shows, really bore fruit this year. 4-H exhibitors contributed much to the success of the honey show at the P.N.E.

At other fairs Honey Bee Clubs staged very large exhibits. As usual there was 4-H judging of honey as well as demonstrations.

The Committee wishes to record its appreciation for the outstanding work from B.C. and for the thorough report from Mr. Corner which has been the basis of our planning in committee work.

Maurice Harvey

Appendix IV

PUBLIC RELATIONS REPORT

During the past year your committee has had much of its work done by willing workers who were not committee members. Our Secretary has been sending information to the Canadian Bee Journal telling some of the work Council has done. We highly recommend this as the best and quickest method of distributing general information. We also welcome the more complete news letters that are sent to Council members so they can pick out certain pertinent items that may be told to their local associations.

The subsidy payments would never have been given without the work done by Council and an item has been sent to the Bee Journal reminding producers that they should show their appreciation by paying their share of the levy which is 1/10 cent per pound on their total production. This was printed in the December issue. Most of you are already receiving the Bee Journal. If any are not, I hope that you will subscribe - the cost is slight.

I understand that a lot of research work has been done in recent years and the results have not been published. These will be reported in the Journal from time to time.

..... 13

In British Columbia I have visited seven of the twenty-two divisions of the Honey Producers Association to tell them of Council work. Our Provincial Apiarist, his inspectors and George Reed have visited others.

Special thanks go to Don Robertson who has engineered the publicity work for this meeting in Winnipeg, and to Mr. Garland.

For the coming year, we wish to emphasize that all Council members are on the Publicity Committee. Each one knows how important the Council is to the industry and should give the news to the beekeepers in their respective districts. The more we do for Council, the more Council will do for us.

Percy Hodgson

Appendix V POLLINATION COMMITTEE REPORT

British Columbia reports extensive use of honeybee colonies in pollination of tree fruits, small fruit and legumes. Three hundred and fifty colonies used on sweet cherries and Red Delicious trees were rented at $7.00 by orchardists. Early work shows good results in Blueberry pollination.

In Peace River tests, legume yields have been held at 150 pounds above the local average (cleaned seed). A new bulletin has been distributed to Seed Growers.

Alberta reports no pollination problems - plenty of bees!

Saskatchewan reports five known instances where producers of Cumino Sweet Clover have been well satisfied with commercial pollination. (One hive per acre)

Manitoba reports no organized commercial pollination.

Ontario:

Research has shown that the use of pollen inserts to distribute streptomycin is 80% effective in control of blossom blast. Two circulars on fruit and legume pollination were distributed widely.

Over 3,071 colonies were used for commercial pollination. One hundred and fifty of these were used in Cucumber work in greenhouses; 2,915 in orchard pollination and the balance in field cucumber, melon, and legume crops.

Quebec:

No record of pollination work but the Quebec Pomological Society are taking an active interest due to inadequate fruit set on the 1961 apple crop.

Honey Bees are used in blueberry pollination in Nova Scotia and in cucumber pollination in Prince Edward Island.

Nova Scotia:

Close to 50% of all colonies participated in the orchard, small fruit and greenhouse pollination...

..... 14

Nova Scotia (Continued)

Annapolis Valley with its orchard belt is adequately provided with honeybees to meet the demand for pollination. Pollination fee has stabilized at about $10 - per colony of 6 - 8 combs of brood.

Cross-pollination of apples is mostly ascertained in orchards consisting of mixed, compatible varieties. In some cases, where the pollen sources (pollinizing varieties) are marginal or lacking, processed pollen in pollen inserts have been used since 1954. The trend now is towards alloting less money for processed pollen and using it instead on renting more bees. Orchardists generally are realizing that consistently high yields are attainable. To quote Dr. F.W. Walsh, N.S. Deputy Minister of Agriculture:

> "On apples alone, the thinking of growers in the past five or six years has entirely changed. At one time, they felt that if they could average about 300 bushels an acre, year in and year out, they were doing fairly well. Today, some of these same growers are not satisfied unless they harvest an average of 500 to 600 bushels an acre, and of course, some get yields close to 1,000 bushels to the acre." Such growers are willing to rent more bees than they used to.

Trials and experiments in lowbush blueberry production have shown proper pollination in a prerequisite in high yields. Results of extensive tests in apple and other pollination are available.

About seven or eight years ago our N.S. apple industry reached the low. We had fair crops one year and lighter ones the next. About that time we started using bees for pollination in our area. We have never had a light crop since we began using the bees and other areas are now using colonies of bees for pollination.

Previously, we had much mis-shapen fruit through improper fertilization. Today this has been almost eliminated. Regular sized crops have helped our marketing problem overseas and with this encouragement we have many of our growers and particularly the younger men setting our new plantings.

If we look into the future, it will be evident that the beekeeping industry will have its biggest opportunities in the pollination field and it is in the interest of the whole beekeeping industry to keep pollination in front of the public. We can count on support from many of our allied agricultural industries

In Nova Scotia the President and Secretary of the Fruit Growers Association attend our Beekeepers' Annual Meeting. The committee feels that wherever possible representatives from seed growers and fruit growers organizations should be invited to sit in on our Provincial Annual Meetings.

Appendix VI RESEARCH COMMITTEE REPORT

During the past year the research committee sent a questionnaire to beekeepers trying to get a cross section of Canada and to see if there were one or two problems that concern all beekeepers.

Research Committee Report (Continued)

In last year's questionnaire we asked for the problems but received general answers, but this year we asked for specific information.

These questions were sent to the directors of all the Provincial Associations in Canada. From the 75 or more letters that were sent out only 16 replies were received. Here is where every member on Council could work in his own province by urging the beekeepers to answer any questionnaire or other letter they receive.

The Research Committee again met with the Canadian Association of Apiculturists to discuss what research has been done and what is being done on these problems.

The following are some of the problems suggested by the beekeepers.

1. Granulation in straining
2. Bee Poisoning
3. Handling Wax Cappings
4. Supersedure
5. Use of Cyano Gas
6. Wintering
7. Swarm Control

Some of these problems have already been covered by research and others are being done by the research divisions.

The Research Committee would like to recommend that all terms of reference should be published in the Council report in order that future committees have these on which to base their reports.

Earl Burnett

Appendix VIII

PRESIDENT'S REPORT

The following summarizes the Report of the President on the affairs of Council and the activity of the Executive and Secretary:

The Canadian Beekeepers' Council continues to represent the Industry in matters of common interest on a national basis. There is, now, a greater need for a Council - to safeguard the interests of beekeeper and honey packer, to maintain and to improve both their position and their contribution to the national good.

Recent achievements include:

Extension of Farm Improvement Loan Legislation to include beekeeping; assurance from the Department of Health that the word "Honey" will be protected in label regulations; affiliation with the national association representing all segments of the fruit and vegetable industry, the Canadian Horticultural Council, and representation by their national office in Ottawa; publicity assistance from the Canada Department of Agriculture including excellent coverage in the releases of the Consumer Section;

President's Report (Continued)

The price support program which resulted in a deficiency payment exceeding $91,000 on the 1959 - 60 crop; appointment of a qualified Chairman of Apicultural Research; support of the Bee Research Association by Commonwealth Governments.

The Processed Food Trade Mission to Britain has proven most profitable. Ten percent of the Canadian crop has been exported in the first year of activity. Most of this has been shipped as 12 ounce consumer pack - with a good return to the beekeeper.

The future of the Canadian Beekeepers' Council depends on our preparation now. We must call on the best of our men and work co-operatively for continued progress. I feel that the problem of marketing through the all powerful food chains is of primary importance.

Publicity opportunities are many and should be taken up and actively sought out. With an improved situation in marketing and a more limited world-wide supply of honey, we are at a turning point where advancement is possible.

Victor Mesley

FINANCIAL COMMITTEE

Last year a President's committee was established to find a solution to the levy collection situation in Ontario. Considerable work was carried out, especially by Mr. Harvey who obtained support from the co-operative.

At the recent Annual Meeting of the two Ontario Council Members, overwhelming support was given to a formal vote asking the Provincial Government to implement a compulsory levy on all retail honey packed in the province. Meetings with the new Minister and Deputy will continue and should result in early collection of levy.

Since Ontario packs about ten million pounds annually, substantial support is expected. As expression of intention the Ontario Beekeepers' Association's cheque for $500 was forwarded to Winnipeg. The Ontario Co-Operative had paid $500 during the summer as well.

Thus support is now assured in all national areas and should result in collections meeting the $17,000 basic minimum required for operation.

..... 17

Appendix VII

RESEARCH REPORT
CANADIAN ASSOCIATION OF APICULTURISTS

The following summarizes Apiculture research in Canada and is taken from the confidential report of the Canadian Association of Apiculturists Meeting, December 1 - 3, 1961.

Detailed reports are in the hands of all Provincial Apiarists and the federal research workers. Notes from a symposium on nosema disease are also attached:

British Columbia:

Pollination tests were conducted at Oyama, B.C. using Reed's automatic pollen inserts and hand collected pollen. The colonies were placed in a block of red delicious apple trees which had not been producing to capacity. A technique was used involving one branch of each side of the tree where blossoms were counted and fruit counted when set.

Preliminary observations: This insert should not be used on populous colonies; bees should use the insert entrance for a few hours before the hopper is loaded with pollen; Balsa hopper slides must move easily; the sliding cover warps easily.

Viability and germinability of pollen are of first importance. Studies showed marked variation in laboratory germination of some commercial sources of pollen.

Beaver Lodge, Alberta:

Studies on pollination of 14 legume crops are being carried out. As well, wintering experiments conducted in four cold rooms continue. European foul brood continues to be a problem and there is some concern that drug resistance is developing. Nosema tests on humatin were inconclusive. The effect of length of day light on colony build up is being studied with photographic records.

Saskatchewan:

Emphasis is being placed on close work with those concerned with insect control on rape seed crops. A "sticker" has been prepared warning growers of the danger of Endrin, to bees. This is attached to insecticide cans distributed by the Saskatchewan Department of Agriculture. Preliminary work was done on confining bees during insecticide application.

Management: Plans for a cheap, easy to construct super storage are available. The corrugated cardboard winter case has been used successfully in Southern Saskatchewan for two years. Cases are painted black and a two inch slab of styrofoam is used. The Killion deep bottom board for comb honey production was found to work well with one brood chamber. Beekeepers are still subject to the dangers of using Cyanogas.

Experimental Farm, Brandon, Manitoba:

Pollen collecting behaviour of honey bee colonies was again under study. Early results indicate that inbred stock tended to have a more uniform ranking for pollen collecting behaviour and had a lower value. High ranking results were obtained from a hybrid tested during 1961.

Queens are produced from the Hastings Strain Caucasian bees. During 1961, 31 queens were artifically inseminated while 38 queens were naturally mated at an insolated apiary. These queens are being over wintered and will be characterized for various behaviourial traits.

Ontario Agricultural College:

Management - M.V. Smith: One hundred and thirty-six nuclei and 72 single story colonies were moved into a dark isolated building and held under simulated cellar conditions over winter. It was found that a heater was not required since this number of units in a building only 15 - 6 feet in size gave off sufficient heat to maintain inside temperature above freezing. Ventilation was the essential factor and a very large fan had to be installed. Actual wintering was good. Both nuclei and singles built up into good two brood chamber colonies, comperable in strength at the end of the season.

Queen rearing and stock improvement - M.V. Smith: Four lines of hybrid stock were again mated on Pelee Island. Four hundred and forty mated hybrid queens were shipped from the Island for testing. All were mated to the M 1 drone line.

In June 1961 a stock importation project was carried out on a co-operative basis between the Ontario Department of Agriculture and the U.S. Department of Agriculture. Honey bee eggs, larvae and pupae were imported from Rothamsted Experimental Station England, to Baton Rouge, Louisiana. Survival of all stages was excellent due to the success of the portable battery incubator which was developed. Tests are being conducted on two lines of stock, at Baton Rouge, Madison and Guelph.

Royal Jelly - M.V. Smith, R.W. Shuel, S.E. Dixon: Production of Royal Jelly continues on a limited basis. Studies continue on laboratory rearing and larval nutrition - particularly on the effect of ether - soluble components of royal jelly on larval growth and development. Studies continue on certain high molecular weight water soluble organic acids found in royal jelly and in worker jelly.

Studies on the in vitro Antitumor Activity of the Esters of Acids Closely Related to 10-Hydroxy-2-decenoic Acid from Royal Jelly Against Transplantable Mouse Leukemia - G.F. Townsend

Previous studies have shown that whole royal jelly, a fraction from royal jelly (10-hydroxy-2-decenoic acid), and certain closely related dicarboxylic acids, some of which are also found in royal jelly, will inhibit the development of transplantable AKR leukemia when the pH is below 5.6.

..... 19

The ester of 10-hydroxy-2- decenoic acid from royal jelly was found to be just as effective against AKR leukemia cells as the acid itself, with the added advantage that it could be used at neutrality.

Through the testing of a series of mono- and dicarboxylic acids, as well as other closely related compounds, the activity has been shown to be associated mainly with 9- and 10-carbon straight chain monocarboxylic acids either saturated or unsaturated. Slight variations in the structure either reduce or destroy the activity.

Pollination and Blossom Blast Control - M.V. Smith: This work is discussed in the Pollination Report which is attached.

Research Facilities: The Apiculture Department Building, O.A.C. is being remodelled so that additional laboratory and library space will be available.

Nova Scotia:

Bee Disease: European foul brood was found for the first time in Nova Scotia in 1960. In 1961 the same commercial operator again experienced some E.F.B. and 16 new instances cropped up during the summer in different parts of the province. In some cases there was no possible contamination from outside the isolated areas. Mostly the disease showed up in colonies where the queen was not performing well.

Management: Small capacity dehumidifiers have proven useful in lowering the moisture content of honey prior to extraction. A lever arrangement to lift supers for inserting bee escape boards has proven to be satisfactory. Producers are using the 1 1/2 pound package colony with many starting the 1 pound unit. Yields indicate that such colonies are capable of building up strength and producing good crops. The management is greatly simplified due to the negligible amount of swarming. With the smaller units, the queen seems to last longer.

Pollination: has been discussed previously. Detailed summaries are available either from Mr. Karmo or the Ottawa office.

Apiculture Section, Ottawa:

Honey Bee Behaviour: Comparative tests were conducted on the foraging preferences of caged honey bees. Preliminary evidence shows that bees may prefer nectar with certain ratios of simple sugars. Once these ratios are known the information can be applied to plant breeding programs to obtain better bee visitation.

The effect of additives on consumption of sugar syrup was studied. The addition of small amounts of maltose stimulated consumption while tartaric acid strongly suppressed feeding. It was also found that under some conditions, maltose retarded the crystallization of non-heated honey syrups.

A study of the distribution of nurse bees of known age on brood of known age showed that the younger nurse bees tended to frequent the brood frames containing younger brood.

..... 20

The constitution of the brood food may be related to the age of the nurse bees. The behavioral pattern of the nurse bees may be involved in the nutritional development of the larval bee.

Bee Disease: Studies made in Minnesota and transferred to Ottawa indicate no evidence of resistance to Terramycin in colonies which responded poorly to treatment for AFB disease. Testing for resistance to drugs will be carried on in order that recommendations can be shifted should resistance appear.

Different strains of Bacillus Larvae from AFB can now be identified on the basis of their susceptibility to viruses.

Studies on the Bacillus Larvae toxin which can kill honeybee larvae and adults without the presence of the bacillus itself were carried forward and new methods developed for separating the active compounds. If it can be shown that this toxin is responsible for death of larvae in actual infection, new methods of control based on destruction of the toxin may be possible.

NOSEMA SYMPOSIUM

Summary of discussions by Canadian Association of Apiculturists on nosema disease, Winnipeg, December 2, 1961:

The problems involved both in research on and practical control of nosema disease make this infection the most difficult to combat of those present in North American beekeeping. The development of infection within a colony is sometimes uncertain, and dependant on weather conditions the beekeeper seldom notices any but the most obvious flareups of infection; these symptoms may appear in severe outbreaks as excessive winter losses with dysentery, severe spring dwindling of wintered or package colonies, or as queen supsedure, especially in package bees. A brief review of the course of infection within the individual bee may be of value here. Nosema apis, the cause of nosema disease, is a microscopic parasite of the adult bee, and is very distantly related to Endamoeba histolytica, the cause of amoebic dysentery in humans. Indeed, many of the drugs used in attempts to control nosema have been chosen because of activity against the human parasite. Of these, only fumagillin has been found active.

Unlike the amoeba, Nosema apis forms a spore during its resting stage. The spores are less resistant that those of AFB, but can remain infective under cool storage for many months or even years. Revell (1960) found water suspensions of spores still infective after 7 years' storage in the refrigerator. The spore, when swallowed by the bee, germinates rapidly in the gut and penetrates the cells lining the gut. It multiplies therein and in about 6 - 7 days forms large numbers of new spores which are shed into the gut, and are voided with the feces. One approach to decontamination combs smeared with such feces is to fumigate with glacial acetic acid. Another is to prevent growth of the nosema organism through some antibiotic.

Harder and Kundert (1951) and Hammer and Karmo (1947) found that even a slight infection could reduce the nectar gathering of colonies

..... 21

significantly. The use of fumagillin was confidently expected to bring about increases in yields of field colonies by suppressing these chronic cases of nosema infection.

Fully documented reports of such increases in yields were not obtained and the question naturally arose: Why not? One answer that has been suggested is that field tests were not done with full laboratory support. That is, in many instances the fumagillin fed may not have had any disease to combat, and increases in yield, under the circumstances, could hardly be expected. Another possibility suggests itself. Many drugs or antibiotics are toxic when fed at certain levels. Unless there is a disease to be controlled, a reduction in yield may actually follow drug treatment. Therefore, it is of utmost importance that checks be made of disease levels before and after treatment. Lastly, as in other diseases, it can be predicted that preventive treatment would be found superior to attempts to cure fullblown infections.

Ottawa:

Quantitative aspects of nosema disease and its treatment:

There is a distinct need for more fundamental studies on the nature of the nosema organism, its growth and development, and its response to treatment measures. To a large extent, work in North America has been limited to trials of various agents in efforts to get quick practical control.

Nosema disease is another case where lack of knowledge in its fundamental aspects has led to serious problems in field control of the disease. Although the antibiotic fumagillin has been on the market for a number of years, its sales have been limited. This lack of thorough going acceptance by the beekeeper results from some of these factors:

1. Convincing published data on increases in honey yields following use of fumagillin are scarce indeed;

2. Early variations in dosage recommendations have resulted in a "wait and see" attitude by the beekeepers;

3. Extension workers have been hesitant to recommend the drug, because they have not been given data on which to base solid recommendations.

At ottawa, we decided to re-evaluate the nosema-fumidil situation. A simple but quantitative research method to measure infection was the first need, in order that various treatments could be realistically compared. We found that individual inoculation of test bees with known spore dosages markedly reduced variation in the development in nosema in test bees; further, quantitative counts of spores produced in test bees could be made. Such spore counts, which reached into the 10's of millions per untreated bee were comparable between treatments; furthermore, such counts have more meaning to beekeepers than simple ratings of light, medium, and heavy infections.

By these techniques we were able to show that as few as 1,000 spores fed to a bee led to the death of that bee almost as quickly as 100,000 spores.

..... 22

The significance of the term "light" as applied to an infected bee becomes questionable in terms of these results.

Further testing, using these methods, were made on the effectiveness of Famidil B. Bees inoculated individually with spore suspensions and fed various levels of drug were completely protected by levels of 500-100 milligrams actual fumagillin per gallon of syrup. Fumagillin levels as low as 16-20 milligrams activity significantly depressed nosema buildup in test bees.

The next question that arose was: If the antibiotic is active at such low levels, should it not be quite active in the hive, when fed at levels at 100-200 milligrams per gallon. Spectraphotometric studies by the late G.H. Austin had suggested a half life for fumagillin of about 36 days; thus, 100 milligrams activity per gallon should fall to 50 milligrams in 36 days, 25 in 72 days, and 12.5 in 144 days. Syrup was prepared with 50,100, and 200 milligrams fumagillin activity respectively, and fed to colonies in the fall of 1960. Surplus syrup harvested from the colonies the following spring. This syrup was fed to inoculated, caged bees and reduced nosema buildup 20,60, and 300 fold compared with that of appropriate controls. Thus it seems the antibiotic, or some active breakdown product, remained active for many months in the bee stored syrup. The longer bees have access to treated syrup, the greater the suppression of infection.

The effects of inoculation of queens with known spore levels was also followed. Queens were inoculated and introduced to nuclei. The queens were removed and examined when dead, superseded, or when preparations for supersedure were initiated. Less than 1,000 spores was found to be an infective dose; the levels of spore buildup in the queens required to bring about supersedure varied. Some queens were superseded at low levels, while others supported high levels of spores before supersedure was begun; it seems possible that some queens have the ability to tolerate higher levels of infection than do others. In general, the larger the dose of spores fed, however, the greater the proportion of queens superseded. Certainly, the level of inoculum required to produce infection and generate supersedure was less than that reported by Eckert and co-workers (unpublished data). Perhaps environmental differences or other factors play a role in relation of infection to supersedure of queens. This point deserves further exploration.

The effects of inoculation on worker bees which were marked and introduced to nuclei was drastic. Losses of marked bees due to unknown causes were high. Few marked inoculated bees were lost by drifting. Most simply disappeared. In any event, the recovery of the inoculated bees was far less than that from the brood rearing experiments.

Studies were carried out on type of storage on infectivity of spores. They were stored at room temperature and at refrigerator temperatures in water suspension and as a dry film. All spore crops were viable for at least 6 months under all four conditions. Spores kept in water at room temperature for two years, however, lost their infectivity. Further study is planned for this problem.

..... 23

In summary, work on nosema is a continuing concern of research at Ottawa. Severe outbreaks of disease may occur with relative infrequency, but cause severe losses when they do occur. Since the infection level varies from place to place and from year to year, we must determine whether preventive measures will pay their way over the long run. Research on this aspect will continue. These studies involve problems in timing and application of fumagillin for best results; they also require screening of other antiamoebic compounds and compounds from other sources for potential anti-nosema activity. The list of inactive compounds is long.

Nova Scotia - E.A. Karmo

Observations were made on the development of the disease with the course of the year in Nova Scotia. In this province, the disease reaches its peak in the period from mid May to the end of June. It was estimated that damage from the disease was equal to losses from all brood diseases in Nova Scotia.

Ontario Agricultural College - M.V. Smith

Nosema built up to a high level of infection in colonies held in an insulated building over winter. This was in spite of the Fumidil-B treatment in medicated syrup in the fall. Dust application of Fumidil-B in icing sugar (1 to 6), at a dosage of 32 mg. fumagillin activity per nucleus, and double this amount for each single brood chamber colony, was carried out on February 1st. This appeared to effectively reduce the infection until spring.

Outside-wintered colonies checked for Nosema did not seem to show any build-up of infection comparable to those inside the building.

Brandon, Manitoba - J.C.M. L'Arrivee

A preliminary study in 1961 on ten queens and their attendants showed that four were free of Nosema Apis spores. Five queens were slightly infected and one was heavily infected. The attendants all showed some infection with very heavy infection in five cases.

Sterilized hive equipment whose brood combs had been fumigated with acetic acid were used with packages of bees from nosema free, over wintered colonies. Two thirds of these remained disease free while there was light infection in the remainder.

Tests were conducted to determine if nosema disease was more severe where old shipping cages were used. On the basis of the 12 colonies tested, their appears to be heavier incidences of disease when the shipping cages are reused.

Thirty-three colonies which were wintered under controlled temperature and humidity were treated with fumagillin syrup in late September. No nosema was found the following spring. Colonies wintered outside had considerable nosema infection when placed in shaded areas as compared to colonies in sunny areas - other conditions being equal.

..... 24

Southern Saskatchewan - D.M. McCutcheon

A practical field test was made on 180 colonies established with package bees to test the usefulness of fumidil-B. There appeared to be no advantage to using fumidil-B in the spring of 1961 in southern Saskatchewan. Full details of the test are available.

NOSEMA SYMPOSIUM CONTINUED

Provincial apiarists in the western provinces have been actively cooperating with studies being carried on by Dr. Eckert of the University of California on the extent of nosema in package shipping yards in that state and the development of infection in packages once installed in the west. J. Corner, in British Columbia, followed the course of infection in 8 colonies. Under conditions in 1961, there was no marked buildup in the colonies. Samples of 30 bees from each colony were taken, and rated. At the end of the season, in August, there was no infection remaining in the colonies. J.W. Edmunds, of Alberta, arranged to have samples from 10 beekeepers returned to California for sampling. These results, while not yet published, indicate that, during 1961, California package shipping yards were low in nosema, and that no buildup in infection occurred in the colonies after hiving.

D.M. McCutcheon, tested the effects of Fumidil-B on development and honey production of package colonies, in Saskatchewan. His report is typical of what might be expected in a situation where nosema levels are low or nil. Any antibiotic may, in the absence of an infection, have some toxic or growth inhibiting influence on the test animal. The growth promotion effects are most prominent when the test colonies suffer from some disease controllable by drug therapy. Terramycin is a case in point. It can, in colonies free of foulbrood, reduce package colony development to a considerable extent. Conversely, when brood disease such as EFB is present, terramycin may be essential for any development of the colony.