CANADIAN ASSOCIATION OF

PROFESSIONAL APICULTURISTS

L' ASSOCIATION CANADIENNE DES PROFESSIONELS DE L' APICULTURE

Proceedings 2006

QUÉBEC CITY, QUÉBEC
JANUARY 2006

CAPA PROCEEDINGS 2006

CONTENTS

CANADIAN ASSOCIATION OF PROFESSIONAL APICULTURISTS
ANNUAL MEETING
QUÉBEC CITY, QUÉBEC
JANUARY 25, 2006

MINUTES

Members present
C. Boucher, R. Bannister, R. Currie, J. Gruszka, E. Guzman, B. Halsall, E. Houle, R. Lafrenière, C. Maund, D. McRory, J. Moran, M. Nasr, S. Pernal, A. Skinner, J. Tam, P. van Westendorp

Guests & Speakers
H. Clay, D. Fishbein, T. Hauschild, A. Moyen, K. Randall, D. van Engelsdorp,

MEETING CALLED TO ORDER BY President R. Currie.
R. Currie welcomed everyone to the CAPA and CHC joint morning session and conducted a round-table introduction.
Motion: **Moved by J. Gruszka and seconded by A. Skinner to accept the agenda as presented**
CARRIED

President's Report
Rob Currie

Bienvenue à la ville du Québec. Je voudrais remercier nos collègues au Québec d'organiser ce qui promet d'être une excellente réunion. Welcome to Quebec City.

This meeting will mark the end of my second two-year term as President of CAPA. To quote a former Prime Minister of Canada, "I will not be letting my name stand for re-election" but I will work closely with the transition team to assist the incoming President with the duties of the office. The last four years have been rewarding and I have enjoyed working with the dedicated committee chairs and our members who are responsible for making this organization so successful. The new President will need the full support of all CAPA members so the goals of our organization can be fulfilled. In the past, CAPA has not shied away from taking a leadership role in promoting and supporting apiculture in Canada and I hope that with your continued support for we will continue to do so in the future.

One of CAPA's objectives is to foster the dissemination of apicultural knowledge. In recent years we have been focusing on two major activities. The first which is now "well-established" is the development of a website, www.capabees.ca. This website has greatly increased the profile of our organization and is a great vehicle for enhancing our extension efforts. Adony is to be commended for his efforts in this area. I hope that all of you will continue to contribute material for the website when Adony calls upon you for your assistance in developing content. Our second major effort involves the revision of the disease publication. This is being carried out under the leadership of Steve Pernal. After some prodding from Steve, many of the revised sections were delivered to him this past summer. However, it is my understanding that additional sections material may still be outstanding. I would urge any of you that have committed to write a section(s) that is not yet complete to finish your revisions quickly so the revised publication can be sent to the printer. For those you who contributed sections, I thank you for your efforts. This publication has given our organization world-wide exposure and has been a tremendous vehicle for communicating information about bee diseases.

Our research committee chair Cynthia Scott-Dupree has also been busy collecting information on bee research and bee research funding across the country. As Chair, Cynthia initiated a new system last year which I believe is very useful. Cynthia wishes to step down from her role as chair of this committee so I would like to take this opportunity to thank her for her efforts. One of the activities of the research chair

has traditionally been to organize a research workshop every five years. Since the last one was held in conjunction with the meeting in Moncton in 2001, the membership will have to consider whether another workshop should be held one at next years meeting.

We continue to recognize excellent service within our own organization. Last summer Don Nelson was presented with the CAPA outstanding service award at the Beaverlodge annual field day. Don was thrilled to receive the award and wrote a letter of thanks to the membership.

In closing, I would like to express my thanks to the other committee chairs and members who have contributed to activities throughout the year. We have a busy week ahead of us. I hope that you all enjoy it and have a productive meeting.

Motion: Moved by J. Gruszka and seconded by P. van Westendorp to accept the President's report as presented

CARRIED

CHC Report

Alain Moyen

CHC President, Alain Moyen provided a brief account of the activities that council had been involved in over the past year, such as honey labelling, Working Residue Limits (WRL), farm income, Advance Payment Program (APP), oxalic acid registration, antidumping, and filling out grant/funding applications. Alain reported that CHC held a stakeholder meeting on January 24th, 2006 to develop an action plan to help council continue to meet the challenges facing the beekeeping industry today and into the future. CHC will be consulting with CAPA to help provide direction on identifying emerging issues.

R. Currie thanked Alain for his report and wished them the best with the remainder of their meeting.

PMRA Report

Kurt Randall

The PMRA reviewed the documentation submitted by the CHC for the registration of oxalic acid. This product was given Ministerial Approval for use by beekeepers for the treatment of varroa mites on October 3, 2005.

CheckMite+ Emergency Use registration (EUR) was granted for all provinces in 2005. One submission was received from CHC on behalf of all provinces. This allowed the PMRA to respond to the request on a timely basis.

Bee repellents have been the subject of a review. The PMRA decided that they are not pesticides but food residues must be complaint with the Food & Drug MRL of 0.1 ppm for Agriculture chemicals.

Comment:
Discussion revolved around the status of oxalic acid registration. For example, is Ministerial approval granted for a specific time limit? No, therefore full registration may not be necessary

The question regarding the difference between scheduled for registration and registered? It would appear that a product like formic acid which is scheduled to registration is not officially registered and may no longer be allowed to remain under the classification of “scheduled for registration” indefinitely.

The cost associated with changing a label is$265.

Bee repellant are currently under review and it is unknown how long the review will be and which agency will ultimately be responsible for registering these products, PMRA or Veterinary Drug Directorate (VDD)?

CFIA Report – Honey Report

Tom Hauschild

HONEY REGULATIONS
Why change?
- Need to modernize to meet current honey marketing practices
- Reflect current inspection practices
- Increase consistency with international standards
- Majority of proposals have been accepted at pre-consultation stage
- Respects commitments already made to industry

Registration of Honey Establishments
Will require the following programs to be developed and implemented in order to become registered:
- Sanitation
- Quality Assurance
- Recall Program
- Pest Control Program
- Water Quality

Conditions Respecting Registered Establishments
- Surrounding area
- Construction requirement
- Appropriate food contact surfaces

Operation and Maintenance of a Registered Establishment
- Sanitation practices for employees
- Appropriate materials and coatings used within the establishment
- Lighting and Plumbing requirements
- Vehicles used to transport honey

New standards of identify:
- Raw Unprocessed Honey
- Honey with Comb
- Comb Honey
- Flavoured Honey
- Honey with added ingredients

Definitions
- New definitions
- Eg. Codex definitions and standard for honey
- Deleted definitions
- Eg. “Pasteurization” replaced with “heat treated”

Colour Classification
- golden changed to amber

WHAT WILL STAY THE SAME?
Health and safety provisions

- Reference to Food and Drug Regulations

Packing
- Retain standard container sizes
- Retain Ministerial exemptions

Trade
- Keep export certification optional
- Maintain exemption for bulk honey movement across provincial boundaries if shipped to a registered establishment

LABELING OF HONEY

Industry Viewpoints

Some members of industry think the Country of Origin and the grade should appear on the principle display panel. Other members feel the current labelling requirements are just find the way they are.

- More consumer input required

FOCUS GROUPS

To obtain consumer opinions and perceptions about the labelling of honey. To be carried out by a third party contractor – hired by the CFIA
- Focus groups to be carried out in at least two Canadian cities – minimum of 4 separate sessions
- Consumer feedback and industry input will be used to establish position on country of origin labelling provisions
- While focus groups are conducted, CFIA will continue to work with Dept of Justice on regulatory rewrite (except for labelling)
- After focus group feedback is received and analyzed, industry consultations will take place
- Drafting instructions on labelling requirements will be developed
- Both labelling and other amendments to proceed as one regulatory package

TIMELINES
- Focus groups to be conducted – Winter/Spring 2006
- Results to be shared with industry – Spring 2006
- Complete drafting of regulatory changes Summer/Fall 2006
- Finish preparation for publication in Canada Gazette Part I Fall 2006

WORKING RESIDUE LIMITS

WRLs are recommended safe levels for drug residues in honey
- Health Canada has determined that at these levels there is no undue risk to human health
- These same antibiotics are used in other food-producing animals for which there are tolerances for these drugs in either the tissue or the food product derived from food-producing animals

This is policy only
- WRLs are not found in regulations
- Honey that contains residues is in violation of the Food and Drug Act and Regulations
- Provide CFIA with enforcement guidelines
- Avoids unnecessary detention of honey found with low residue levels considered not to cause undue risk

WRLs are not intended to encourage the use of antibiotics in beekeeping
- Application of antibiotics for honey bees should be conducted in consultation with professionals (Provincial Apiarist or veterinarians)

WHY THESE SPECIFIC VETERINARY DRUGS?
- WRLs have been established for antibiotics for which CFIA tests under its National Chemical Residue Monitoring Program for honey
- These antibiotics have been approved for use in other food producing animals
- No WRLs for banned substances

WORKING RESIDUE LIMITS
CFIA ACTION: Residues within WRL
Notification to producer/owner
- Product is in violation of the regulations although does not pose a risk to human health
- Reminded to work with provincial apiarists and/or veterinarians to minimize or eliminate the risk of introducing residues into the honey
- Notification to provincial apiarist for their follow-up as required

CFIA ACTION: Residues above WRL
- Results forwarded to Health Canada for a Health Risk Assessment
- Subsequent actions based on the Health Risk Assessment
- Detention, recall, disposal, prosecution
- Results brought to the attention of the provincial apiarist

WHAT ABOUT IMPORTS?
WRLs also apply to imported honey
- Importers are encouraged to implement Good Importing Practices to ensure the products they import are in compliance with Canadian requirements
- Non-compliant honey may be destroyed or returned to the country of origin
- Honey from certain countries may be sampled more frequently by CFIA

NEXT STEPS
Information Bulletin and Questions & Answers are being prepared
- Will be shared with national industry associations, sent to all CFIA registered establishments and posted in CFIA's website

CFIA will continue with its chemical residue monitoring program

WRLs will be reviewed to reflect new scientific information and could be subject to modification or cancellation by Health Canada

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CFIA Report – Importation of Honey Bees

Maria Perrone

The CFIA Legal department has developed Memoranda of Understanding, which were offered as a template to each Canadian province.

The amendment to the importation legislation was the result of many years of work. The CFIA would like to maintain the current conditions for a t least a few full import seasons, so assess the adequacy of the current import conditions.

The most significant change for the 2005 import season was affected by the new American Rule on the importation of honeybees (to the USA). The United States has opened its importation to Australian and New Zealand bees, which could have the effect of limiting the supply of bees to Canada.

AAFC Report – Honey Production and Import/Export Statistics

Farid Makki

According to the preliminary data released by Statistics Canada, Canadian honey production in 2005 reached 33, 918 metric tonnes (MT), representing a 1% decrease from the previous year mainly due to a

lower production in Alberta and British Columbia. Yields decreased nearly 3%, due to the 15% yield drop in Alberta, Canada's largest honey producing province.

The 2005 honey crop in Alberta which is estimated at 13,041 MT, dropped by 14% compared to 2004, due primarily to a cold 2005 summer. Production in Manitoba reached 5,715 MT, representing a 7% increase compared to 2004, but still 10% below the 5-year average. Saskatchewan experienced a 20% increase in production with a honey production of 8,165 MT, thanks to a 20% jump in yields which reached 180 pounds per colony. Honey production in BC dropped by25% reaching 1,514 MT, due to a 28% decrease in yields. Although this could appear as a significant drop, it is worth noting that this year's production is only 7% below the 5-year average and that the 2004 BC honey crop was unusually high due to ideal climate conditions which led to above-average yields.

In Québec and Ontario, honey was extracted from a higher number of colonies. Ontario's production is estimated at 3,543 MT, up 3% from the previous year, while Québec had the largest increase in honey production among all provinces, with an estimated production of 1,500 MT which represents a 63% increase from 2004. This increase was primarily due to ideal weather conditions which promoted higher yields (110 pounds per hive), as well as to an increase in the number of colonies which reached 30,000, 11% higher than in the previous year. It appears that the Québec beekeeping industry has been able to restore the number of hives to the pre-2003 level (the particularly harsh winter in 2003 wiped out almost 30% of the bee colonies) much faster than anticipated.

Honey Bee population

The Canadian honey bee population peaked at about 700,000 hives in the mid-eighties and dropped to around 500,000 hives in the early nineties. However, in the past decade the number of hives has slowly risen to reach just over 600,000 in 2001. Preliminary estimates indicate that the number of hives was 609,645 in 2005, representing a 2% increase compared to the 5-year average.

The number of Canadian beekeepers continues its downward trend and is estimated to have fallen to 7,895 in 2005, which is 0.4% lower than in 2004 and 9% below the 5-year average. This clearly indicates that while there are fewer beekeepers, the average number of hives per beekeeper is on the increase. For 2005, it is estimated that on average there were 77 colonies per beekeeper, up from 75 in 2002. Alberta had the highest average in 2005 with 357 hives per beekeeper, while BC had the lowest average with 21 hives per beekeeper.

Honey Yields and Prices

With the exception of 1998, which was a record year for honey production with an average yield of 180 pounds per colony, the average yields have been in the 117-142 pounds per colony over the last 10 years. The estimated average yield for 2005 is 123 pounds per colony, down 2.4% from the previous year, but well within the last 10-year average. With an average of 180 lbs per hive, Saskatchewan has still the highest yields in the country, followed by Manitoba (150 lbs/hive) and Alberta (115 lbs/hive).

Estimates of the value of the 2005 Canadian honey crop are not available yet. However, historical data show a continuing upward trend in the average producer prices for bulk raw honey, rising steadily from $0.86/lb in 1999 to a peak of $2.04/lb in 2003. The price of honey has increased during that period on account of a world shortage of honey, due in part to drought in major producing areas, loss of Chinese honey from the market caused by antibiotic residue concerns as well as anti-dumping actions against China and Argentina in the U.S. However, this upward trend was abruptly reversed in 2004 as a result of a massive influx of low-priced Chinese honey on world markets and particularly in the US, which accounts for about 85% of our export market. According to Statistics Canada, the average producer price for bulk honey had fallen to $1.60/In in 2004 and we expect that when the data for 2005 is released it will show an average price of well below $1.00/lb.

The availability of large amounts of low-priced Chinese and Argentinean honey on the world market has encouraged most North American honey packers to source an ever-increasing portion of their needs from offshore, particularly China. This has resulted in an unprecedented build-up of Canadian honey inventory levels. this factor along with a worldwide decrease in honey consumption has triggered a rapid decline in honey prices in Canada, as well as in our traditional markets, namely the United States and Europe.

Imports and Exports

Canada is a net exporter of honey. Total Canadian honey exports for the calendar year 2005 were 12.2 million kg, up 2.3% from 2004. Imports of honey into Canada peaked at 13.4 million kg in 1996, and then levelled off to about 2-3 million kg until 2000 and have been growing steadily since then reaching 8.9 million kg in the calendar year 2004. Total Canadian honey imports for the calendar year 2005 were 8.2 million kg, down 7.4% from 2004.

Argentina captured 38% of the Canadian import market for honey, while imports from China represented 30% and Australian honey captured 19% of that market in 2005. Although China and Argentina together account for 70-80% of our imports in the last few years, it appears that since 2002, following the CFIA recall of Chinese honey related to chloramphenicol residues, Argentina has taken the lead from China.

Canadian honey exported in 2005 fetched an average of $1.12/lb, 38% less than in 2004, while imported honey fetched an average of $1.07/lb on the Canadian market in 2005, 8.5% lower than in 2004. Imported honey from China fetched an average of $0.62/lb in 2005, compared to $0.98/lb a year earlier (37% lower), while the average price of honey imported from Argentina was $0.79/lb I 2005 compared to $1.18/lb in 2004 (33% lower).

Given the uncertainty surrounding the size of the current year's honey crop in the world's major honey producing areas, the magnitude of North American honey imports in the next few months and the Canadian exchange rate, the best we might be able to conclude at this point in time is that after the abrupt collapse in honey prices in the world and particular in North American, prices might have bottomed out or be close to reaching those levels. Even if Canadian prices do get higher, the upward movement is very likely to be short lived and not sustainable as packers can always switch to using more, cheaper imported honey.

Comments:

Rob thanked everyone for their reports and thanked the CHC directors for their attendance and wished them well with the remained of their meeting.

Motion: **Moved by D. McRory and seconded by A. Skinner to accept the reports as presented**
CARRIED

Motion: **Moved by S. Pernal and seconded by D. McRory to accept the agenda as presented**
CARRIED

Motion: **Moved by P. van Westendorp and seconded by J. Moran to waive the reading of the minutes and accept the minutes as circulated.**
CARRIED

Financial Report

Rhéal Lafrenière

CAPA 2005 FINANCIAL STATEMENTS

Opening balance(01/01/05)					**10,149.97**
				Jan. 01, 2005 - Dec. 31, 2005	
REVENUE				$	
2005 Membership (19 for 2005 + 1for 2004)					
16	Full @ $40			640.00	
4	Assoc @ $20			80.00	
2004 Meeting registration (Saskatoon)					
13	@ 53.5			695.50	
Publication sales (1215 units)				4,212.32	
GIC				16,720.42	
GST					
Interest					
	Bank account			0.01	
				22,348.25	32,498.22
EXPENDITURES					
Proceedings (2004 + 2005)					
	Printing				
	Mailing				
Publications					
	S/H charges			638.94	
IBRA donation (2004 + 2005)					
Awards					
	Student award (Morandin)			500.00	
	Merit award				
CAPA website (Adony)				113.04	
Misc. (postage, receipt book, cheques)					
GST				103.59	
GIC investment				22,750.00	
Bank charges				60.00	
				24,165.57	24,165.57
Closing Balance (31/12/05)					**8,332.65**
EQUITY					
GIC					
TD GIC	$14,000.00	2.50%	1 year	350.00	14,350.00
TD: GIC (MM)	$8,750.00	2.05%	1 yr redeemable	179.38	8,929.38
Bank account					8,332.65
				TOTAL	**31,612.03**

Motion: **Moved by J. Gruszka and seconded by P. van Westendorp to accept the Financial Report as presented**

CARRIED

Motion: **Moved by R. Lafrenière, seconded by J. Gruszka that the registration fee for the CAPA business meeting in Quebec City be set at $50 + GST($3.50) and that membership fees for 2006 remain the same as the previous year (i.e. $40 for Full membership and $20 for associate membership).**

CARRIED

Budget Committee

Rob asked Ernesto Guzman, Steve Pernal and Rhéal Lafrenière to prepare the 2006 proposed budget for presentation later that afternoon

CAPA 2006 FINANCIAL STATEMENTS

Opening balance(01/01/06)			**8,332.65**
		Jan. 01, 2005 - Dec. 31, 2005	
REVENUE		$	
2006 Membership (26 for 2006 + 8 for 2005 + 4 for 2004)			
32	Full @ $40	1,712.00	
6	Assoc @ $20	120.00	
2005 Meeting registration (Saskatoon)			
17	@ 53.5	909.50	
Publication sales (1215 units)		4,212.32	
GIC		23,279.38	
GST		1,000.00	
Interest			
	Bank account	0.01	
		31,233.21	39,565.86
EXPENDITURES			
Proceedings (2004 + 2005 + 2006)			
	Printing	900.00	
	Mailing	140.00	
Publications (reprint)		8,000.00	
	S/H charges	638.94	
IBRA donation (2006)		750.00	
Awards			
	Student award (Hoover)	600.00	
	Merit award	20.00	
CAPA website (Adony)		2,000.00	
Misc. (postage, receipt book, cheques)		20.00	
GST		200.00	
Meeting CAPA rep		1,000.00	
GIC investment		23,279.38	
New Publication			
Bank charges		60.00	
		37,608.32	37,608.32
Closing Balance (31/12/06)			**1,957.54**

EQUITY					
GIC					
TD GIC	$14,350.00	2.50%	1 year	358.75	14,708.75
TD: GIC (MM)	$8,929.38	2.05%	1 yr redeemable	183.05	9,112.43
Bank account					1,957.54
				TOTAL	**25,778.72**

Motion: Moved by P. van Westendorp and seconded by D. McRory that the 2006 proposed budget be accepted as presented.

CARRIED

Rheal reported that he would be stepping down from the position of secretary/Treasurer, but that he was willing to stay on for one more year as a transition year.

AIA & AAPA Report

Dennis van Englesdorp

Appendix I - Minutes of the AIA meeting and AAPA meeting in Baton Rouge Louisiana

Dennis reported that small hive beetle (SHB) was wide spread in his home state of Pennsylvania, but that did not appear to be a big problem in honey bee colonies but was still a concern for honey houses. Apistan resistance in the US is widespread and that resistance to both Apistan and CheckMite+ is a growing problem.

Almond pollination and the migration of hives across the country is adding in the spread of problems like Africanized honey bees (AHB) and SHB. Pollination rates for Almond pollination were approximately $135 USD + freight. AHB has been documented in Texas, Arizona, New Mexico, California, Nevada and more recently Florida, Oklahoma, Louisiana, and Arkansas.

A National survey of honey bee pest is currently under consideration. The purpose of the survey is to establish reasons for allowing or limiting imports from other countries. It could also be used to certify queen honey bee and package bee exports to other countries. It could also be used to help develop a national strategy/action plan for dealing with the spread of AHB in the US.

AIA will be reviewing the current methodologies for determining AHB genetics in honey bees and recommend a standard test that hopefully would provide accurate results in a timely fashion (i.e. 14 days or less).

*Comments:*Q1) What is the US experience with sucrocide? A1) Time consuming and does not appear to be very effective. Q2) What more have you heard about biological control of Varroa using fungus? A2) It works well in the lab but difficult to get it to work in the hive in the field. Q3) Anything new in SHB control? A3) Baton Rouge lab is looking at a nematode for SHB control and the Gainesville lab is looking at developing a bait. Q4) Are US beekeepers using oxalic acid? A5) It is not registered in the US.

Rob thanked Dennis for coming out to our meeting and expressed our appreciation for the cooperation between the associations. CAPA in the past has allocated $1,000 as travel budget for a member to attend the AAPA-AIA meeting. Interested members should contact the executive for approval.

Chemicals Committee Report

John Gruszka

1. Committee Members

   John Gruszka (Chair), Doug McRory, Claude Boucher, Rhéal Lafrenière, Medhat Nasr, Alison Skinner and Steve Pernal.

2. Registration of Tylosin and Lincomycin

   The United States' Food and Drug Administration (FDA) announced on October 20, 2005 that it has approved TYLAN (Tylosin tartrate) Soluble for the control of American Foulbrood (Paenibacillus larvae) in honey bees.

   This is the first approval for the use of TYLAN Soluble in a minor species (honey bees). Tylan is not yet registered for use with honey bees in Canada but it is likely that the company (Elanco) will seek registration in the near future.

3. Emergency Registration of Coumaphos

   For the first time, the emergency registration of CheckMite+ was conducted on a national basis with one application for the country coordinated through the CHC with the necessary documentation being gathered by Dr. Nasr in Alberta. The 2005 registration applied for all provinces. The 2006 application is being coordinated by Paul van Westendorp in British Columbia and is being targeted for an early registration to allow for early spring use across the country.

   Bayer has made its submission for full registration of CheckMite+ and is awaiting review by PMRA.

4. Antibiotic Residues

   Health Canada (Veterinary Drug Directorate) has recently recommended safe Working Residue Levels (WRL) for a number of veterinary drugs approved for use in other species that may be detected in domestic or imported honey. WRL's do not represent approval of additional drugs for use in beekeeping and must not be interpreted as an encouragement of their use. This was done in consultation with the CHC and the Packers and Dealers Association.

   The WRL's provide guidance on residue levels which are deemed not to pose undue risk to human health. The WRL's also provide guidance to the CFIA for their monitoring and compliance activities when honey is found to contain residues of veterinary drugs not approved for use in beekeeping.

5. Registration of Oxalic acid

   The Canadian Honey Council submitted an application to the Pest Management Regulatory Agency (PMRA) in January 2005.

   The PMRA completed its review of the data and on Oct. 3, 2005 made an interim decision to approve the use of oxalic acid as a treatment for Varroa mites, provided that specific limitations and precautions are respected. The decision is a compromise between full registration and total exemption. It allows the use of oxalic acid while the PMRA woks on the development of regulations for a new category of low-risk pesticides.

6. Sucrocide™ Research

Sucrocide™ was tested in spring, summer and fall comparison trials in Ontario. Application methods included the use of a pressurized sprayer (as per application in the USA) as well as a trickle application (similar to oxalic acid). Colonies treated with Sucrocide™ were a similar in strength (frames of bees and frames of brood) to the untreated colonies after three weeks, six weeks, and thirteen weeks. The efficacy of Sucrocide™ was extremely low in comparison to the tested treatments.

7. PMRA Risk Reduction Strategy

At the 2005 CHC meeting, a stakeholders meeting was convened by PMRA to initiate a pesticide risk reduction strategy for the honey bee industry in Canada. A working group has been established and they will be meeting again after the CHC annual meeting by teleconference. The first benefit from this initiative was the ability to obtain a national emergency use permit for Checkmite+. The working groups' mandate is to facilitate the use of low risk products for the industry and to assist in the registration of such products and others required for disease and pest control in honey bee colonies.

Motion: Moved by P. van Westendorp and seconded by J. Moran to accept the Chemical Committee report as presented

CARRIED

Import Committee Report

Medhat Nasr

Importation Committee Members:

Medhat Nasr (Chair), Doug McRory, Gard Otis, John Gruszka, Chris Maund, Ernesto Guzman, Alison Skinner

The 2005 year was kind of quiet at the national level. The following import issues have been dealt with:

● Import of Queens from the continental U.S. Beekeepers across Canada took an advantage of the new regulation to allow queens from continental United States. The CFIA reported that 45 permits were issued for imports from continental USA, 9 for Hawaii in 2005 to beekeepers across Canada.

● Russian Bee Stocks Imports. Ontario imported Russian queens eggs from the USA following established protocol. Saskatchewan also imported Russian queen breeders from Louisiana

● Amending current import conditions for queens from the continental USA by adding morphometrics for testing Africanization. Ontario requested from the CFIA to amend current import conditions for queens from the continental USA. Ontario proposed adding morphometrics testing for Africanization. The CFIA consulted with CAPA import committee. The President of CAPA consulted with CAPA members and no one gave any feed back. At this time, CAP A advised the CFIA with the results of consultations.

Motion: Moved by A. Skinner and seconded by J. Moran to accept the Import Committee report as presented

CARRIED

Research Committee Report

Rob Currie for Cynthia Scott-Dupree

Appendix II – Full Research report

Comments:
Fifteen years ago the Federal government provided funding for holding priority setting workshops for research. The workshops concentrated on identifying the status of research resources, funding, and research priorities. It has been more than five years since we have held an official Research Workshop, do we need to have one?

Motion: Moved by D. McRory and seconded by M. Nasr that CAPA hold a Research Priority Workshop in conjunction with the Next AGM in Langley B.C., format to be determined by research committee

CARRIED

CAPA Publications Report

Rhéal Lafrenière

Honey Bee Diseases and Pests (2nd Edition Revised)

Orders Filled in 2005 - English version

Invoice #	Date	Purchaser	No. of publications
05-01	January 5, 2005	Mann Lake Ltd	50
05-02	January 18, 2005	Brushy Mountain Bee Farm	50
05-03	January 18,2005	Simon Fraser University	50
05-04	January 25, 2005	Dadant & Sons Inc	200
05-05	February 23, 2005	Open Learning, U of Guelph	17
05-06	February 24, 2005	Brushy Mountain Bee Farm	50
05-07	February 24, 2005	B.C.M.A.F	50
05-08	February 24, 2005	Monroe MSU Extension	12
05-09	February 24, 2005	Walter T Kelley Co. Inc	100
05-10	February 24, 2005	Nashville Area Beekeepers Assoc.	50
05-11	March 9, 2005	Mann Lake Ltd	50
05-12	March 14, 2005	Monroe MSU Extension	12
05-13	April 5, 2005	Delaware Dept. of Agriculture	22
05-14	April 5, 2005	Ruhl Bee Supply	50
05-15	April 5, 2005	Sharon Waddell	20
05-16	April 5, 2005	Delaware Dept. of Agriculture	20
05-17	April 18, 2005	Rossman Apiaries Inc	35
05-18	April 28, 2005	Tammy Conley	5
05-19	April 28, 2005	Book Store, U of Guelph	5
05-20	May 17, 2005	MB. Agric. Food & Rural Initiatives	40
05-21	May 17, 2005	Crop Div.Centre North - AAFRD	40
05-22	May 24, 2005	Dept. Of Env. Bio, U of Guelph	5

05-23	May 24, 2005	Gary Baudoux	1
05-24	May 25, 2005	Brushy Mountain Bee Farm	80
05-25	May 25, 2005	Oak Creek Ranch	1
05-26	May 25, 2005	Jeffrey Levinn	1
05-27	June 20, 2005	Keith B. Forsyth	12
05-28	July 5, 2005	Jones bee Co	12
05-29	July 13, 2005	Walter T Kelley Co. Inc	100
05-30	July 26, 2005	Monty Lynn	1
05-31	July 27, 2005	Mann Lake Ltd	50
05-32	November 1, 2005	Ontario beekeepers' Association	24
			1215

Inventory remaining December 31, 2005 = 356

Orders Filled in 2005 - French version

05-33	December 23, 2005	S.A. IcKowicz	30
			30

Motion: Moved by J. Gruszka and seconded by P. van Westendorp to accept the report as presented.

CARRIED

New Publication Report

Steve Pernal

Distribution of Second Revised Edition of Disease Publication to Third World

In January 2005, CAPA was contacted by a company based in England, Mystole Publications, about including the existing version of the disease handbook in a compilation of books to be placed on CD. The initiative is sponsored by the UK Government's Department for International Development Livestock Production Program, with the intention of distributing the CD, at no cost, to technicians working with livestock in the poorest areas of the world.

After consultation with the executive and general membership, consent was given to include the second revised edition of the disease publication on the CD, at no cost to CAPA. Also agreed was that the second revised edition of the disease publication would be converted into html format, for eventual use on the internet. Mystole publications also indicated that within an html version, advertising and hotlinks could be made available promoting the upcoming new third edition of the disease handbook. Consent to converting the new third edition into electronic format was not given, though it was felt that the electronic version of the second revised edition could potentially drive the sales of the former.

Progress on Third Edition of CAPA Disease Publication

Again in 2005, the response from members who committed to writing parts for the publication was very slow. During the year, the editor received two revised sections based on material originally written in

2004, as well as three new contributions. To assist the completion one of the latter (honey bee viruses), Dr. Judy Chen of USDA Beltsville was recruited as an outside contributor. This still left six contributions outstanding. In an effort to keep momentum on the project moving four of these sections were eventually reassigned to new members in January 2006; the editor will consider writing the two remaining. It is hoped that the reassigned sections will be written early in 2006 which will then provide sufficient material for the publication to be edited as a comprehensive document.

Although a small number of pictures were contributed during the year, a significant number remain outstanding.

Motion: Moved by S. Pernal and seconded by A. Skinner to accept the report as presented.
CARRIED

Communications Committee Report

Submitted Adony Melathopoulos (circulated by Stephen Pernal)

We have been gradually increasing the content on CAPABEES since it went live in 2002. I updated the site early in January 2006 by removing broken links and updating our membership information. To keep the site current and to increase its utility I propose a few projects for 2006.

1. Redevelop the Site. I propose to redevelop CAPABEES. The main purpose for the redevelopment is to incorporate a content management system. Content management systems work in the background of websites and allow authorised members to logon and make revisions to the site. It is very easy to make these updates. The system will also permit us to restrict access of the site to members with login authority. The auxiliary purpose of the redevelopment is to spruce the look of the site up and make it run more smoothly.

   I have obtained quotes from three web development companies in the Grande Prairie/Dawson Creek. From these initial quotes I think the redevelopment will cost under $1,800 and will include the conversion to a content management system, new and improved site architecture and graphic design to provide the site with a new look. I request a motion be made to support the expenditure of $1,800 to redevelop the site and request two additional CAPA members join me to award the contract and assist the contractor determine the new design and layout.

2. CAPA Proceedings. I propose that electronic versions of the Proceedings be put on the site. We would allow the public access to the Apiarist and Research Reports and allow only members access to the entire report.

3. Digitising Out-of-Print Material. I propose that electronic versions of useful, but out-of-print federal and provincial extension be identified to digitise and post on the site. Presently there are many private companies that will convert printed material to portable document files (PDF) with optical character recognition features (OCR) for as little as $0.15 per page. The Committee will spend the next year identifying a shortlist of candidate publications and contact the relevant organisation to request permission to reprint. We will present this list to the membership at the next meeting and determine the cost to complete the project.

Apart from the proposed expenses for redevelopment, CAPABEES will have a bill come due for $119 US for updated hosting features in February. Our domain and regular hosting fees were paid up last year and will not expire until February 2007. I did not purchase the $500 software authorised in the 2005 budget because I was able to find freeware.

Motion: Moved by E. Guzman and seconded by J. Tam to accept the report as circulated.
CARRIED

CBRF Report

Rob Currie & Rhéal Lafrenière

The CBRF is a joint research funding program between Canadian Honey Council and CAPA, the Canadian Association of Professional Apiculturists. The Fund has been set up as a long-term endowment fund, where the interest generated by the fund is made available for annual grants. In most years, the CBRF has been able to contribute $20,000 to $25000 a year toward apiculture research projects. In fact many of the presentations you will hear today will have received some funding from the CBRF. In fact from you! The CBRF is entirely supported by donations from the apiculture industry.

This is the Beekeepers Research Fund. Administratively it is steered by a Board of Directors, which is comprised of four members, two from CAPA and two from CHC, but it is your fund. It's your dollars that are driving this program and industry research priorities that used as the primary selection criteria for which projects receive funding.

This year, the CBRF Board of Directors has recommended contributing $25,000 towards research. The Board would like to first of all thank all the applicants for submitting there proposals – they were excellent – which made the job of the selection committee, which comprised of Wink Howland & Alain Moyen representing CHC and Cynthia Scott-Dupree & Rhéal Lafrenière from CAPA.

Personal thanks to Rob Currie, CBRF chair, Wink Howland, treasurer and Heather Clay, jack of all trades for all the hard work they put into managing the fund.

This year the selection committee recommended funding the following projects (in no specific order):

- $5,000 for the Management of Honey Bee Diseases Using Lysozyme project – Dr. Steve Pernal, Principal Investigator.
- $5,000 for the Varroa Mite Resistance to Current Chemical Treatments, Alternative Control Products Applied with Different Delivery methods, and Chemical Residues in Honey project – Dr. Ernesto Guzman Principal Investigator
- $5,000 for the Integrating Chemical Control and Host Resistance to Increase Treatment Thresholds for Varroa destructor project – Dr. Rob Currie, Principal Investigator
- $5,000 for the Evaluation of Varroa and Tracheal mite Tolerance in Selected Honey Bee Lines and Attempted Correlation of Tolerance with DNA Markers project – Dr. Albert Robertson, Principal Investigator
- $5,000 for the "Study of Environmental Sources for Antibiotic Residues in Honey" – Dr Medhat Nasr, Principal Investigator.

Motion: Moved by P. van Westendorp and seconded by J. Moran to accept the report as presented.
CARRIED

Awards Committee

Paul van Westendorp

CAPA Outstanding Service Award
Nomination: Dr. Mark Winston – submitted by Don Dixon and Rob Currie

Please accept this as a formal nomination of Dr. Mark Winston for the CAPA Award of Merit. This nomination is being presented jointly by Dr. Rob Currie and Don Dixon. To support the nomination I have attached a copy of Mark's CV as of November, 2004.

Mark has been employed in the Dept. of Biological Sciences, Simon Fraser University since 1980. During the last 25 years Mark's contribution to the beekeeping industry in general and to the support of professional apiculture in particular has been extraordinary. Although Mark has always maintained an extremely demanding commitment to research, graduate students and teaching he has also been very generous in his support of CAPA and activities that CAPA has undertaken. Mark was the President of CAPA 1994-1998; he was the Director and Chair of the Canadian Bee Research Fund 1997-2001 (during its formation and was instrumental in creating its charter and having it recognized as a registered charity) and he was Program Chair Apimondia '99, held at Vancouver in September, 1999. Mark has also served on many CAPA and CHC committees and has always been available for advise and consultation on a broad range of beekeeping industry concerns ranging from, general beekeeping management, new product development and marketing, disease control and pollination – to mention a few. Mark has played an important role throughout his career in bringing together, often diverging interests, from industry, government agencies, research institutions and private and public interests associated with beekeeping to find common strategies to address concerns and opportunities. He has been a true leader in this regard.

Mark's research accomplishments and resulting publications are really too numerous to mention – those of us who have worked with Mark over the years have been astounded at the depth of his research and the volume of research initiatives that he has undertaken and brought to completion. Mark has received over 20 prestigious awards and recognitions for his outstanding research accomplishments. Please refer to his attached CV to see the list of some 150 publications of scientific articles. Mark has also published several books related to beekeeping, pest control and genetically modified organisms. Similar to his list of publications, Mark's oral presentations at scientific conferences, beekeeper meetings and general public meetings are far too numerous to list – but measure in the hundreds!

Mark has always recognized his extension responsibilities to the beekeeping industry both through his organization of training programs and his participation at beekeeper meetings throughout the world. This has not been something that Mark has undertaken reluctantly – he has clearly enjoyed attending beekeeper meetings, making presentations and discussing all aspects of beekeeping with beekeepers and others. He has been a reliable and enthusiastic resource for all of us who have been working in beekeeping extension.

In conclusion, Mark's contribution to CAPA and to beekeeping both as an entomological science and as an industry has been, and continues to be enormous. He exemplifies the kind of professional that CAPA should be proud and grateful to have as a member. I hope that CAPA will accept this nomination with enthusiasm and honour Mark with the CAPA Award of Merit.

Thank you for your consideration of this nomination.

Motion: Moved by R. Currie and seconded by J. Gruszka that the Outstanding Service Award be awarded to Mark Winston at the Meeting in BC.

CARRIED UNANIMOUSLY

CAPA Student Award

Although there was only one application for the student award, the quality of the candidate (Shelley Hoover, Simon Fraser University) was without question deserving of the award.

Motion: Moved by P. van Westendorp and seconded by J. Gruszka that Shelley Hoover be awarded the 2006 Student Merit Award of $500. Certificate and letter from President to be sent with the cheque

CARRIED

Archives Committee

Submitted Heather Higo (circulated by Stephen Pernal)

The archives committee is in the process of locating a permanent home for the CAPA archives. Currently, the archives at Simon Fraser University is holding CAPA Proceedings from 1959 to 2000 (excluding 1967), but is not in a position to accept additional CAPA items with the exception of Proceedings due to its limited capacity.

To determine what our requirements are for a more permanent archival placement, we first need to ascertain what additional materials being held by CAPA members need to be archived. To this end, we would like to put out a call for CAPA archival materials to be circulated to all present and former CAPA members.

Please email Heather Higo (hhigo@sfu.ca) with a list of any CAPA materials in your possession that you feel should be archived and approximate quantity (e.g, one file folder, one envelope, one shoe box full). Once that list is assembled and we have determined the quantity of our records, we will be in a better position to find a recipient for our collection.

As an interim holding facility, Adony Melathapoulos has suggested holding the materials in the Bee Library at Beaverlodge, where they could be sorted and catalogued. If the materials are extensive, it may become necessary to contract someone to sort, organise, and catalogue, although this will eventually need to be done by an archivist according to their standards at whatever facility becomes the eventual home.

Motion: Moved by C. Boucher and seconded by J. Tam to accept the report as circulated.

CARRIED

Motion: Moved by M. Nasr and seconded by P. van Westendorp to nominate Rhéal Lafrenière as President-elect for a two year term, (2006 & 2007) and Secretary/Treasure for a one year term (2006) and nominate Joanne Moran as Secretary/Treasure for a one year term (2007)

CARRIED

Elected by acclimation.

At this time Rob turned the meeting over to Steve Pernal, the new President of CAPA – Applause!
As Past-President Rob received a certificate which was presented to him at the Manitoba Beekeepers' Association Convention, February 2, 2006.

Motion: Moved by M. Nasr and seconded by J. Gruszka to thank the Executive for all the hard work they have put into carrying out their duties on behalf of the association

CARRIED

Assignment of committees – See Executive/Committees/Membership section

Motion: R. Currie moved that the meeting be adjourned.

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Provincial Reports, 2005 Production Season

	BC	*AB*	*SK*	*MB*	*ON*	*QC*	*NB*	*NS*	*PEI*	*Totals*
#beekeepers	2,101	736	1,091	613	2,600	376	230	321	21	**8089**
#colonies	44,645	250,,965	100,000	82,500	76,000	36,854	4,660	18,500	3,000	**617,124**
Av. Yld. lbs.	75	127	180	150	103	104.5*	68.1	77	44.1*	**928.7**
kg.	34.1	57.7	83	68	46.6	47.4*	30.9	35	20*	**422.7**
Total xK, lbs	3,337	31,877	18,000	12,300	7,810	3,850*	317.5	770	84*	**78,345.5**
Kg.	1,517	14,463	8,181	5,591	3,543	1,747*	143.8	350	38*	**35,573.8**
Wint. Cols.-03-04	46,849	228,211	110,000	81,500	72,000		8,500	18,250	2,836	
Avg W Mort (%)	13	9.6	11	15	18.5	25	37	15.8	38	**20.3 Avg**
#Col.Insp.	3,775	13,500	-	5,763	8,657	52 (Bee Op)	838	125	14	**32,724**
Inc.% AFB	4.9	1	-	1.3	1.94	40	20.1	6.4	21	
%EFB	1.6	0.01	-	0	0.12	15	1.4	1.5	-	
%Chalkbrood	7.3	-	-	-	4.16	55 (Bee Op)	2.3	8	29	
%Sacbrood	0	-	-	-	0.35	-	2.3	-	-	
HBTM Samples	104	-	-	144 (Bee Op)	-	64 (Bee Op)	-	1950	9	
%Pos.	34.6	-	-	39	60	27	-	0	0	
VM samples	1,986	-	-	148 (Bee Op)	-	30 (Bee Op)	838	825	14	
%Pos.	16.3	-	-	50	95	100	0	-	43	

Note: - indicates information not reported.
* indicates that the information was taken from Statistics Canada – Production and Value of Honey and Maple Products 2006

British Columbia

Paul van Westendorp

A. Beekeeping Industry Statistics

. No. of Beekeepers	2,101
. No. of Producing Colonies	44,645
. Average Yield/Colony (lb/kg)	75
. Total Estimated Crop (lb/Kg x1000)	3,337 / 1,517
. Colonies Wintered Last Year	46,849
. Average Winter Mortality (%)	13%

B. Diseases and Pests

Disease / Beekeeper Disease/Pest	Number of Colonies Inspected	Number of Beekeepers Inspected	Disease Colony Incidence	Disease Beekeeper Incidence
. AFB	3,775	296 (14%)	4.9	-
. EFB	3,775	296	1.6	-
. Chalkbrood	3,775	296	7.3	-
. Sacbrood	3,775	296	0	-
. Tracheal Mite	104 (apiaries)		34.6	-
. Varroa Mite	1,986	-	16.3	-
. Other	KBV survey *			

C. Comments

- While mild winter conditions (04/05) allowed for good survival, cool and cloudy spring conditions into June prevented colony buildup. From mid July onward, there were excellent summer conditions but too late for a good honey crop. The average yield was 75 lb./colony, well below the long-term average of 79 lb.

- A total of 3,775 colonies were inspected for diseases in 2005. The inspected colonies represent 8.5% of BC's colonies. The inspected colonies were owned and operated by 296 beekeepers representing approximately 14% of all producers, and were distributed in 445 apiary locations.

- Records from 1990 to 2005 reveal that high production years are always followed by poor production years with yields well below the long-term average. Weather conditions may play a role, but it is believed that the extraordinary efforts of the colonies during the high-production year, often extending into fall, exact a price that adversely affects the colonies in the next year.

- Most apiary inspections in British Columbia are carried out in response to beekeeper requests. The disease incidence as reported in the table (Section B) is not reflective of disease prevalence throughout the provincial bee population. To determine prevalence of the various diseases throughout British Columbia, a large-scale random survey must be carried out encompassing all beekeeping regions of the province.

- CheckMite+ resistance may be developing in the Fraser Valley, and perhaps in some other areas where the product has been used exclusively to control Varroa in the last few years.

- In areas where Apistan lost its efficacy several years ago, the product appears to have regained its efficacy. This supports the claim that Varroa loses its resistance quickly after it is no longer exposed to the chemical. When this phenomenon also occurs with other products, beekeepers will benefit from having access to a widest range of control products, allowing for frequent changes in the products used to combat Varroa.

- Colony dwindling and losses associated with Kashmir Bee Virus infestations as reported in 2004, declined. However, there were reports of colony losses where samples failed to diagnose KBV. The observed symptoms indicate the possible presence of other viruses, notably the Chronic Paralysis Virus (CPV) and Acute Bee Paralysis Virus (ABPV). Plans are being made to carry out a survey in 2006 to determine the presence of CPV and ABPV and their correlation with colony declines and collapses.

- Beekeepers continue to report that imported honey is blended and sold as Canadian honey. CFIA has been contacted to verify these claims.

- An estimated 60% of BC's honey crop is directly sold at the retail level. Varietal honeys and proximity to consumer centers have enabled many beekeepers to take advantage of higher prices and compete directly with national brands on the grocery shelf. The average retail honey price was $3.32 / lb versus $1.48 / lb at the wholesale level in 2005.

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Alberta

Medhat Nasr

A. Beekeeping Industry Statistics

. No. of Beekeepers	736
. No. of Producing Colonies	250,965f
. Average Yield/Colony (lb/kg)	127 Lb/ 57.70 kg
. Total Estimated Crop (lb/kg x1000)	31.877 lb / 14.463 kg
. Colonies Wintered Last Year	228,211
. Average Winter Mortality (%)	9.6%

B. Diseases and Pests

Disease/Pest	Number of Colonies Inspected	Number of Beekeepers Inspected	Disease Colony Incidence (%)	Disease Beekeeper Incidence (%)
. AFB	13500	35	1	
. EFB			0.01	
. Chalkbrood			.5	
. Sacbrood				
. Tracheal Mite		N/A		
. Varroa Mite		N/A		
. Other		N/A		

f= final number for 2005 year

Bees and Crop Conditions

● Beekeepers reported on average 17.12% winterkill. For commercial beekeepers with 1000 hives or more, the average winter kill was 9%. 2005 was an interesting year for honey production. Southern Alberta was flooded. Northern Alberta reported spotty rains, then cool summer. In central Alberta, beekeepers reported frost August 3rd, 2005. Over all, the average honey crop was 80% of the 5 years average honey prices were bottomed at $0.75/lb.

● The pedigreed hybrid canola seed production industry continues to grow in Southern Alberta. Beekeepers supplied 50,000 colonies for canola pollination. It is expected that the acreage of hybrid canola for seed production will continue to increase, resulting in more bees needed for pollination. There are about 4,000 bee colonies moved from B. C. for hybrid canola pollination in Alberta.

● Alberta beekeepers have been increasing the number of hives by 10%/year for the past 4 years. For 2005 beekeepers replaced dead colonies and increased number of colonies by about 5%. Due to low honey prices, the industry slowed down in growth. Over 23 beekeepers imported queens from the Continental USA. Some beekeepers used the UPS door to door services which worked very well. The number of imported queens from Hawaii was 75, 000 and approximately 20,000 queens from the Continental USA.

Brood Disease

●American foulbrood resistant to oxytetracycline (rAFB) has continued to spread across the province. Alberta Agriculture in partnership with Alberta Veterinarians facilitated the use of Tylosin as an Off Label Prescription to treat infected colonies.

● Parasitic Mites
CheckMite resistant varroa was found in a British Colombia operation that moved bees to Alberta for canola pollination. Varroa mites in this operation were resistant to both Apistan and CheckMite. More beekeepers successfully used CheckMite+ strips for control of varroa.

● Alberta Beekeepers Commission
Alberta Beekeepers Association is in the final steps to change to a commission. Membership under the commission structure is mandatory for beekeepers with more than 100 hives. Members will pay $0.65/hive. This commission is 100% refundable to members who will request refunding because of opposing philosophical views or suffering from economic hardship. Money will be used to fund marketing and research projects for industry improvement.

● Alberta Apiculture Program:
The Apiculture program is carrying out several research projects:

1) **Safe guarding Alberta honey**: The first year project of analyses of antibiotics in honey won an APPEX Silver Award. For the second year beekeepers submitted samples for analyses of antibiotic residues to follow up and ensure production of high quality honey.
2) **Development of IPM**: Research continues to optimize the use of oxalic acid in controlling mites in honey bee colonies. Efficient spray and fumigation methods that meet large beekeepers expectations are being developed.
3) **Green Certificate Program:** A curriculum was developed for training high school students to earn credits leading to a career in apiculture. Development of this program won an APPEX Bronze Award.
4) **Value added and Mead Market Study.** A market scanning study is underway to find new opportunities for investments by Alberta beekeepers.
5) **Enhancing honey bee pollination of hybrid canola.** The nutritional value of different bee diets was evaluated. Recommendations were made for beekeepers interested in feeding bees to speed up bee colony build up in the spring.

Saskatchewan

John Gruszka

A. Beekeeping Industry Statistics

. No. of Beekeepers	1091
. No. of Producing Colonies	100,000
. Average Yield/Colony (lb/kg)	180 / 83
. Total Estimated Crop (lb/Kg x1000)	18,000 / 8,181
. Colonies Wintered Last Year	110,000
. Average Winter Mortality (%)	11%

B. Diseases and Pests

Disease/Pest	Number of Colonies Inspected	Number of Beekeepers Inspected	Disease Colony Incidence	Disease Beekeeper Incidence
. AFB				
. EFB				
. Chalkbrood				
. Sacbrood				
. Tracheal Mite				
. Varroa Mite				
. Other				

C. Comments

1. Tracheal mites
   1872 apiary samples were submitted for analysis during the year. Approximately 40% of the samples were positive for the presence of tracheal mites. Tracheal mites are now found in approximately 90% of the commercial operations and have spread to most areas of the province. Tracheal mite infestation rates have been increasing over the past two years (perhaps weather related). All producers are treating annually to keep levels below economic thresholds.

2. Varroa mites
   Varroa has now spread to approximately 75% of the commercial operations. The r-Varroa discovered in the Northeast part or the province has spread minimally and now is found in 6 operations.

3. 2005 crop
   Spring weather was better than that of 2004 and allowed for good colony growth and development. The summer honey flow was short and curtailed by cool and very wet fall weather. Honey prices continue to be in the $.75-80 range and honey has been slow to move off the farms. This is the second year of bulk prices that are below the cost of production.

4. Bee stock improvement project "Saskatraz"

The SBA stock improvement project continues. More than 50 colonies have been brought together in an isolated research apiary. The colonies include selected stock from Saskatchewan beekeepers (who have been wintering and selecting stock for the past 25 years) and Russian stock imported via Ontario (8 lines over the years) and the USDA at Baton Rouge (4 new lines in 2004). During 2005, 4 additional lines were imported from the USDA. As well, for the second year running, sperm from pure Carniolan stock was imported (with CFIA permits) and used to inseminate some Russian queens.

All of the colonies were inoculated with tracheal mites in the fall of 2004. Tracheal analysis over the summer and fall of 2005 revealed that about 1/3rd of the hives now have measurable infestations while the rest remain tracheal mite free (on the basis of a 100 bee sample/colony).

The apiary has Varroa mites and each hive is being monitored to measure the mite infestation levels. Again, not all hives have Varroa and levels vary.

The colonies will be monitored and sampled regularly to monitor for mite levels, honey production, winter survival and other characteristics for the next 5 years. No mite treatments will be applied and the best colonies will be used for breeding and queen production in an attempt to enhance mite resistance.

Each year the most promising lines will be made available to producers to multiply and try in their own operations.

The Saskatchewan Beekeepers Association has recently received a grant from the Agriculture Development Fund (SAF) of $130,635 to continue the project for the next 3 years.

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Manitoba

Rhéal Lafrenière & David Ostermann

A. Beekeeping Industry Statistics

. No. of Beekeepers	613
. No. of Producing Colonies	82,500
. Average Yield/Colony (lb/kg)	150 / 68
. Total Estimated Crop (lb/kg x1000)	12,300 / 5,591
. Colonies Wintered Last Year	81,500
. Average Winter Mortality (%)	15

B. Diseases and Pests

Disease/Pest	Number of Colonies Inspected	Number of Beekeepers Inspected	Disease Colony Incidence (%)	Disease Beekeeper Incidence (%)
. AFB	5763	220	1.3	10
. EFB	5763	220	-	0
. Chalkbrood	-	-	-	-
. Sacbrood	-	-	-	-
. Tracheal Mite		144		39
. Varroa Mite		148		50
. Other	Monitor for small hive beetle and rAFB			

C. Comments

2005 crop

- The cool spring and summer conditions had quite an impact on honey production. In April it was looking like the makings of a bumper crop, and then the rain came and washed away all hope of that bumper crop. In fact the honey crop in 2005 was below average at 150 lbs per colony. The Central and Eastern-Interlake regions were the hardest hit, with many producers reporting less than 100 lbs per colony. Honey production tended to improve as you moved west and north from Winnipeg. Most producers sighted poor nectar flow from canola as the primary reason for their poor honey crop. It is suspected that due to the excess moisture in the soil, the canola plants did not set good roots and were unable to produce a good nectar flow. Some producers are concerned that some of the new varieties of canola do not produce much nectar and fear that the canola honey production may be greatly reduced because of it.

Diseases

- Similar to last year, we have been conducting antibiotic resistance testing on the positive AFB samples that have come through our lab. This year, we confirm five operations with rAFB. All but one was located in the northwest region of the Province. In 2005, an operation in the central region of the province was found to have rAFB and similar to the other cases, control measures (i.e. removal of infected frames and fall treatment with Tylan Soluble) were undertaken to control the spread of the disease. Due to the discovery of rAFB in the central region, MAFRI are recommending that no wax be delivered to MacGregor Wax Works during robbing season.

Parasitic Mites

- For several years now, HBTM and varroa mites have been found in all beekeeping regions of the province. We are strongly encouraging beekeepers that have been using fluvalinate (Apistan) exclusively to try to use an alternative product, such as formic acid, coumaphos or oxalic acid instead.

- This Fall, a varroa control workshop using organic acids was conducted in Winnipeg and Brandon. The workshop focused on how to use formic and oxalic acid in a safe and effect manner. David Vander Dussen (NOD Apiaries products), Janet Tam (OBA), Bill Ruzicka (Mite-Gone) and Ron Rudiak and Ted Scheuneman lead the various workshop sessions. A total of 145 beekeepers attend the Winnipeg and Brandon workshops.

Small Hive Beetle

- We continue to monitor colonies in the MacGregor area for small hive beetle activity - To date, no signs of beetle establishment.

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Ontario

Doug McRory

A. Beekeeping Industry Statistics

No. of Beekeepers	2 600
No. of Producing Colonies	76 000
Average Yield/Colony (lb/kg)	103/46.6
Total Estimated Crop (lb/kg x 1 000)	7 810/3 543
Colonies Winter Last Year	72 000
Average Winter Mortality (%)	18.5%

B. Diseases and Pests

Disease/Pest	Number of Colonies Inspected	Number of Beekeepers Inspected	Disease Colony Incidence (%)	Disease Beekeeper Incidence (%)
AFB	8 657		1.94%	
EFB	8 657		0.12%	
Chalkbrood	8 657		4.16%	
Sacbrood	8 657		0.35%	
Tracheal Mite			60.0% of colonies	
Varroa Mite			95.0% of colonies	
Other	No Small Hive Beetles, No R-AFB			

Number of Inspections – 837
Number of Selling Permits – 405
Number of Moving Permits – 62
Number of Queen and Nuc Inspections – 361
Number of Queen and Nuc Producers - 88

2005 Sales Results – Queen and Nuc Producers

Total Hives	422
Total Nucs	2283
Total Queens	4811
Total Queen Cells	1577

2005 Sales Results – Bee Suppliers

Total Nucs	344
Total Ontario Queens	33
Total Hawaiian Queens	266
Total Australian Queens	130

C. Comments

Beekeepers have had an excellent year overall in Ontario in 2005. The estimated average production for 2005 is 103 pounds per colony. This compares to 106 pounds per colony in 2004. The colony count has increased from 72,000 in 2004 to 76,000 in 2005. Many areas would have had an even better crop if they had received rain in August. 2600 beekeepers were registered in 2005.

2004 winter loss was 18.5%. This has become about the normal loss now with the mites present in the bees. Previous to mites being present, the normal loss was considered to be 10%.

Beekeepers finally had a good spring to build up their numbers. They were able to recover the 18.5% loss and add an additional 5.5% increase. When conditions are good for bee development, it is amazing what they can do. It was a bad year for swarming. Those beekeepers with major swarming problems could have divided up their colonies much more in the spring to prevent this problem.

The bulk honey market continues to be returning less than the cost of production. The current price is about $.80 per pound. The cost of production in Ontario is something over $1.25 per pound.

The price of packaged honey continues strong. More beekeepers are again packing and selling their honey. 64% of the Ontario honey crop in 2004 was retailed as compared to 46% in 2003. These are the latest years that this data is available for. Beekeepers indicated renewed interest in selling retail with their 2005 crop.

Pollination has become a large source of income for Ontario beekeepers. 28 loads of bees went to New Brunswick and Quebec for blueberry and cranberry pollination. These loads came back quite variable in stores, brood and bee populations. Most of the beekeepers say they will ship again but some individuals have decided against it. Beekeepers continue to meet the demand for bees for pollination in Ontario. Summer pollination continues to grow.

Honey Bee Tracheal Mites continue to spread and have shown up at surprising levels where thorough surveys were conducted. Formic Acid must be used at least once per year to keep tracheal mites under control. Mite-AwayII™ has received full registration in 2005.

Varroa mites continue to develop resistance to Apistan®. Those who use Apistan® should check by monitoring to see if it controls the mites. Once the Varroa are resistant to Apistan®, if the beekeeper does not use Apistan® for 4-5 seasons, it appears to work again.

The area of Check-Mite™ resistance does not appear to be increasing from the area between Iroquois and the Quebec border, and south of the 401. The beekeepers that have used Check-Mite™ for longer than two years should consider switching to Formic Acid in the spring, then as soon as the honey is taken off in the fall, followed by Oxalic Acid treatment when the bees are wrapped for winter.

With the PMRA exemption of Oxalic Acid and not wanting to develop resistance to Check-Mite by over use, the recommendation for Varroa control this fall was to treat with the Mite-AwayII™ pads as soon as the honey is taken off and follow up with a treatment of Oxalic Acid using the trickle method just as the bees are wrapped for winter.

Beekeepers are using monitoring to decide if they need to treat a particular beeyard. Although monitoring can save you money and also reduce the exposure of the mites to products that will cause selection for resistance, monitoring can be labour intensive. Having sound data in your hand makes decision making much better. Many beekeepers are investing in screened bottom board systems so they can monitor more easily. Beekeepers are again looking at drone removal as a method of reducing the Varroa population.

OMAFRA did a major sampling and checking of honey labels in 2005. Many beekeepers received letters about items to correct on their labels. Phenol was found in several samples. Action was taken on two phenol situations. Sulfa drugs were found in several samples and recall action was taken in three situations. There is the possibility that the bees have picked up the Sulfa in the environment as none of the beekeepers involved say that they have used the product. Beekeepers should only use registered products in their colonies. To reduce the risk of losing your entire honey crop, beekeepers need to keep track of their lots of honey right down to the beeyards. Keep your lots as small as is workable in your system. The smaller the lot, the less risk there is.

2005 Honey Results (as of January 27, 2006)

Category	**Chloramphenicol**	**Phenol**	**Sulfa Drugs**							**Tetracyclines**		
			Sulfadiazine	**Sulfa-dimethoxine**	**Sulfa-doxine**	**Sulfa-methazine**	**Sulfa-nilamide**	**Sulfaquinoxaline**	**Sulfathiazole**	**Tetracycline**	**Oxytetracycline**	**Chlortetracyline**

Total # of samples analzyed	370	362	330	330	330	330	330	330	330	362	362	362
# / % of samples with levels >MDL	0 / 0%	87 / 24.0 %	0 / 0%	0 / 0%	3 / 0.9 %	0 / 0%	1 / 0.3 %	0 / 0%	9 / 2.7%	6 / 1.7%	2 / 0.6%	1 / 0.3%
# / % of samples with levels >allowable level*	-	20 / 5.59 %	-	-	2 / 0.6 %	-	0 / 0%	-	5 / 1.5%	1 / 0.4%	1 / 0.3%	1 / 0.3%
Levels detected (ppm)	-	0.10 - 9.0	-	-	0.029 - 0.220	-	0.015	-	0.015 - 0.310	0.016 - 0.080	0.016 - 0.170	0.03

*Allowable levels:
Chloramphenical – Zero tolerance
Phenol – 0.1 ppm
Sulfa drugs – 0.03 ppm
Tetracycline – 0.075 ppm
Oxytetracycline – 0.3 ppm
Chlortetracycline – 0.1 ppm

Overall, 2005 was a good year. The diseases and mites continue to be a challenge but beekeepers appear to be dealing successfully with these challenges. The honey market is the current problem area.

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Québec

Claude Boucher

A. Beekeeping Industry Statistics

. No. of Beekeepers 376 (registered with new legislation)
. No. of Producing Colonies 36854
. Average Yield/Colony (lb/kg)
. Total Estimated Crop (lb/Kg x1000)
. Colonies Wintered Last Year unknown
. Average Winter Mortality (%) 25%

B. Diseases and Pests

Disease/Pest	Number of Colonies Inspected	Number of Beekeepers Inspected	Disease Colony Incidence	Disease Beekeeper Incidence
. AFB	52		40%	
. EFB	52		15	
. Chalkbrood	27		55	
. Sacbrood	-		-	
. Tracheal Mite	64		27%	
. Varroa Mite	30		100%	
. Other	49		30	

(nosemosis)

C. Comments

Data in section B are obtained from inspection done following a request by beekeepers who suspected a disease problem in his hives. So, the indicated incidence is reflecting the situation among beekeepers who already have a suspicion of disease. It's not a real incidence of these diseases through the entire beekeeping industry in Québec.

No small hive beetle found following inspection in hives located along the south-western border of the province. Every detected case of American foulbrood is submitted to our laboratory for an oxytetracycline resistance test. No AFB strains were resistant in 2005.

Compare to the precedent years, we have the feeling that the incidence of AFB is increasing. The season 2005 began with a cold and rainy spring followed by a hot and dry summer and a warm temperature until the end of September.

Most of the beekeepers are now well informed about integrated pest management and how to fight varroa so few problems caused by these parasites where seen in 2005. Products mostly used to control varroa are formic acid, oxalic acid and coumaphos. We still discouraged the use of Apistan for the moment because of possible resistance.

Resistance of the varroa to coumaphos was not evaluated because of insufficient varroa in samples taken.

Spring mortality still high (25%) in 2005. After investigation, we were not able to conclude that varroa still the cause of theses losses. In some cases, virus (DWV,BQCV, KBV) were detected but their possible role is not clear. The cause is probably multifactorial: treatment for varroa and feeding too late in the fall because of warm temperature, cold spring, underestimated problem with virus, HBTM and nosemosis, secondary effect of multiple treatments for varroa, stress on the colony because of multiple pollination activities and division, environmental problems (pesticides, monoculture), etc.

On June 9, 2005, the Regulation respecting the registration of beekeepers and the Regulation respecting the inscription affixed on hives enacted under the Animal Health Protection Act (R.S.Q., c. P-42) came into force.

These regulations are available on the site:
http://www.publicationsduquebec.gouv.qc.ca/accueil.en.html.

Like Québec beekeepers, beekeepers of other provinces or countries who enter Québec with beehives in their possession will be required, under these regulations, to register with the MAPAQ and to indicate their name and address on at least one readily visible hive of each of their apiaries situated in Québec. The inscription will have to be in indelible, legible and visible characters measuring at least one centimetre in height.

To meet the stipulated requirements, beekeepers have to complete the form created for this purpose and return it to the MAPAQ by the prescribed deadlines. An annual fee of $15 will be charged in 2006. In order to be duly completed, the form must include notably the name of the municipality and of the regional county municipality or the metropolitan community of each over-wintering, production and pollination site located in Québec.

The form may be obtained by dialling 1 800 463-5023, downloaded from the web site:
http://www.mapaq.gouv.qc.ca or the site: http://www.agrireseau.qc.ca/apiculture/,
or requested at the following address:

Ministère de l'Agriculture, des Pêcheries et de l'Alimentation
Division des encaissements
200, chemin Sainte-Foy, 11e étage
Québec (Québec) G1R 4X6

Certain information related to the purchase, sale or relocation of hives will have to be recorded in a register kept at the domicile of the beekeeper and be submitted, upon request, to the MAPAQ.

The passage of these regulations is in response to the requests made by the representatives of Québec's beekeeping industry and is in the wake of the assistance measures granted by the MAPAQ following the crisis that hit Québec's beekeeping industry hard in 2003, when close to 50 % of beehives were decimated by the varroa mite.

Disease surveillance
First, I must say that in Quebec, hives inspection are only done following a demand by the beekeepers. The visit and the laboratory analysis related to it are free.

An active surveillance was done for small hive beetle in hive located along or near the Québec-USA border. Everything was negative.

The resistance of varroa to coumaphos was not evaluated because there was simply not enough varroa in our samples to do a valuable Pettis' test. In fact, beekeepers that use coumaphos for the first time in fall 2003, found very few or no varroa in their hives in fall 2004.

Beekeepers feel in general that there is more problem with American foulbrood (more case-it's not a reportable disease so…) and the have a concern with facility to do the disinfection of their material. In Quebec, most beekeepers use an ethylene oxide facility based in St-Hyacinthe for disinfect ion but it's getting older and it's not convenient for beekeepers that are far from it. In 2005, we are looking to rebuild this facility and to make it movable so beekeepers everywhere in Quebec will have access to it.

We have done surveillance for American foulbrood resistant to oxytetracycline. Every strain isolated was tested with the same method used in the Beltsville lab. No resistance was noted and no treatment failure was noted.

We saw some case of high hive mortality were sample were analysed for virus at the Beltsville lab. Black queen cell virus and /or deformed wing virus were present in each case and probably associated with the problem.

In 2005, MAPAQ put in place a bee disease surveillance network with all the partners of the beekeeping industry (beekeepers, associations of beekeepers, bee inspectors, veterinarians, honey packers, beekeeper named as a sentry, etc..) It's a structure where they can, and we ask them, to voluntary declare any abnormal situation relative to bee health (it means high mortality event, unusual signs of disease, new disease like SHB-rLA-rVarroa).

By doing this we want to achieve rapid detection, declaration and investigation of any threat to bee population and then react quickly with possible solution for the benefit of all the beekeeping industry.
It's not a regulated system; it's working on the voluntary participation of all the partners understanding that it's for their own benefit.

Example of this kind of disease surveillance network exist for many animal production in Quebec (beef, pigs, poultry, sheep)

In 2004 many publications or messages were passed to the beekeepers especially for the management of varroa infestation. A one-day workshop with conferences on IPM was organised in the month of July. The effect of all this is a better understanding by the beekeepers of all the possibilities for fighting against varroa , more of them do good detection and apply effective treatment at the right time.. In general we were told that the hives were in good health in the fall 2004.

In spring 2005, two new regulations concerning registration of beekeepers and identification of hives should be in force. Each hive will have to be identified with name and address of the beekeepers. Theses rules apply for hives from other provinces coming in Quebec.

Many research projects will be going on this year with Pierre Giovenazzo from Université Laval in Deschambault research center and Pascal Dubreuil at the veterinary school of university of Montreal in St-Hyacinthe.

Finally, we made many analyses on honey and wax. No residues of antibiotics were found in honey (oxyt-sulfa), two samples of honey over 37 samples were found positive for coumaphos under MRL Wax was analysed for coumaphos residues and we found many samples positives but the final determination is not known by now.

In 2005 we will develop methodology for detection of tylosine and streptomycine in honey

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New Brunswick

Chris Maund

A. Beekeeping Industry Statistics

. No. of Beekeepers	230
. No. of Producing Colonies	4,660
. Average Yield/Colony (lb/kg)	68.1 / 30.9
. Total Estimated Crop (lb/Kg x1000)	317.5 / 143.8
. Colonies Wintered Last Year	8,500
. Average Winter Mortality (%)	37

B. Diseases and Pests

Disease/Pest	Number of Colonies Inspected	Number of Beekeepers Inspected	Disease Colony Incidence (%)	Disease Beekeeper Incidence (%)
AFB	838	54	20.1	29.6
EFB	838	54	1.4	5.6
Chalkbrood *	838	54	2.3	3.7
Sacbrood	838	54	2.3	3.7
Tracheal Mite	na	na	na	na
Varroa Mite *	838	54	0	0
PMS	838	54	0.1	1.9

C. Comments

- * Colonies with obvious high levels.
- The AFB incidence was high due to the second year of intensive inspections. Inspections were done mainly on those colonies that had not been inspected during the previous year.
- AFB samples were tested for resistance and none were resistant.
- PMS = parasitic mite syndrome

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Nova Scotia

Joanne Moran

A. Beekeeping Industry Statistics

. No. of Beekeepers	321
. No. of Producing Colonies	18,500
. Average Yield/Colony (lb/kg)	77 /35
. Total Estimated Crop (lb/Kg x1000)	770 /350 (2005)
. Colonies Wintered Last Year	18,250
. Average Winter Mortality (%)	15.8

B. Diseases and Pests

Disease/Pest	Number of Colonies Inspected	Number of Beekeepers Inspected	Disease Colony Incidence (%)	Disease Beekeeper Incidence (%)
. AFB	125	15	6.4	-
. EFB	125	15	1.5	-
. Chalkbrood	125	15	8	-
. Sacbrood	125	15	-	-
. Tracheal Mite	1950	12	0	0
. Varroa Mite	825	36	high	high
. Other				

C. Comments

- The 2005 Spring in Nova Scotia was similar to the 2004 – cold, wet and long. Spring build up was slow with a number of colonies were lost in the spring due to the weather. Obtaining a supply of queens was a challenge. Obtaining quality queens was a bigger challenge.
- The number of colonies to blueberry pollination was down approximately 4% over prior years with approximately 16000 shipped.
- Nova Scotia continues to sample annually for tracheal mites with no detection from the 2005 samples analyzed to date.
- Significant testing for Apistan resistance was conducted in 2005 and while full resistance was not found results showed a drop in efficacy in a number of colonies. A small number of commercial beekeepers representing a significant percentage of the provinces colonies treated

with Check Mite in the fall of 2005.

- The fall was wetter by far than the spring but the honey crop was reported to be above average in most parts of the province. Moving colonies to winter yards was a chore due to the excessive rain received in October and November.
- At the request of the Nova Scotia Commercial Beekeepers the Prince Edward Island and Nova Scotia Departments of Agriculture developed procedures that allowed, under permit, Nova Scotia colonies to travel to PEI for blueberry pollination and return to Nova Scotia.

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Prince Edward Island

Wayne Richards & Chris Jordan

A. Beekeeping Industry Statistics

. No. of Beekeepers	21 <40 hives + 4 >40 hives
. No. of Producing Colonies	3,000 hives (including imports)
. Average Yield/Colony (lb/kg)	not recorded
. Total Estimated Crop (lb/Kg x1000)	not recorded
. Colonies Wintered Last Year	2,836 hives
. Average Winter Mortality (%)	approximately 38% (est.)

B. Diseases and Pests

Disease/Pest	Number of Colonies Inspected	Number of Beekeepers Inspected	Disease Colony Incidence (%)	Disease Beekeeper Incidence (%)
AFB	14	7	21%	29%
EFB				
Chalkbrood	14	7	29%	29%
Sacbrood				
Tracheal Mite	9	4	0%	0%
Varroa Mite	14	7	43%	71%
Other				

C. Comments

- Hives inspections were reduced significantly in 2005 due to budgetary constraints. Instead, the province of PEI contracted bee inspection services out to Dick Rogers who in addition to inspecting representative hives, also assisted with training bee keepers in the proper identification of many hives diseases and pests.
- Fluvalinate resistance testing was done once again in 2005. Of the resident hive population found on PEI, the effectiveness of fluvalinate ranges from 80%-94%.
- Based on the condition of the hives at the time of the 2005 inspections (August), winter survival is predicted to be high for the 2005-2006 winter season.

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British Columbia

Project title: Summary of current bee research projects at Simon Fraser University, 2005-2006. For project details, please see individual research reports that follow.

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Abstract:

In 2005 the bee research program at SFU included projects on the evolution of eusociality with respect to worker reproduction in the honey bee (S.E. Hoover); the interaction between wild bees and agroecosystems (L. Morandin, C. Ratti, V. Abbott, M. Franklin, C. Scott-Dupree, A. King); and lab and field studies on the effects of novel pesticides on wild bees (L. Morandin, C. Scott-Dupree, J. Nadeau, V. Abbott, H. Higo).

In 2006 research will continue on the effects of novel pesticides on orchard mason and alfalfa leafcutter bees.

Start Date: September 2000 **End Date:** December 2006
Total Funding for Projects, 2005-2006: $164,000
Funding Sources: $45,000/yr N.S.E.R.C. Discovery Grant; $80,000/yr N.S.E.R.C./Agric. Can. Grant (Agricultural practices and wild pollinators);
$7,500/yr Monsanto Grant (Agricultural practices and wild pollinators);
$30,000/yr Bayer Grant (Agricultural practices and wild pollinators);

$1500/yr B.C. Honey Producers Grant (Agricultural practices and wild pollinators)

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Project title: Regulation of worker reproduction in the honey bee (*Apis mellifera* L.)

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Abstract:

Reproductive division of labour is a defining characteristic of eusocial insects. The effects of various chemical, genetic, and nutritional factors on the ovary development of honey bee workers were investigated.

Queen mandibular pheromone inhibits worker ovary development in caged queenless workers to the same degree as queen extracts. Four newly identified queen pheromone components did not inhibit ovary development alone, nor did they increase the efficacy of the other components.

Anarchistic bees are a line developed by recurrent selection in which workers commonly reproduce in queenright colonies. There was no difference in the ovary development of anarchistic or wild type workers in colonies headed by anarchistic or wild type queens, therefore queen type is not responsible for the phenomenon. Anarchistic workers perceive queen pheromones, and anarchistic queens produce an attractive blend, as no differences were found in the retinue response of either worker type to either queen type. There also was no difference in response to queen pheromones at a high dose. At lower doses, however, wild type workers were more inhibited by queen pheromones than anarchistic workers.

Both adult and larval diet influenced adult ovary development, but workers fed high quality diets as adults had higher levels of ovary development than those fed low quality diets as adults regardless of larval diet quality. Nutrition is likely responsible for the seasonal variation observed in ovary development.

Disruptive selection resulted in lines of bees with high or low levels of ovary development. High ovary development colonies collected far more pollen than their low line counterparts. Cross-fostering workers from the high line into the low line and vice versa demonstrated that there is an effect of both genotype and rearing environment. These results demonstrate the complex interactions between nutrition, pheromones, genetics, and environment that determine worker reproductive potential.

Start Date: September 2000 **End Date:** December 2005

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Project title: Wild bees and Agroecosystems

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Abstract:

Research in agriculture often focuses on development of new technologies rather than on potential environmental impacts. Pollinators, primarily bees, are essential to agriculture, providing significant yield benefit in over 66% of crop species. Currently, dramatic losses of managed honey bee pollinators in North America along with suspected world-wide losses of wild pollinators are focusing research attention on an impending but still poorly documented pollination crisis. Essential questions include: How important are wild bees to crop production? Are current agricultural practices harming pollinator populations? Can agricultural methods be modified in ways that promote pollinators and food production? In this project we examined the interaction between modern agriculture and wild bees through 1) laboratory experiments on effects of new genetically modified (GM), systemic, and bio-pest

control products on bumble bee (*Bombus* spp.) health and foraging ability, and 2) field experiments on the impacts of agricultural landscapes on wild bee abundance, diversity, and pollination efficacy. We developed new methods of assessing bee foraging after exposure to pesticides that are useful and sensitive tests for sub-lethal impacts on pollinators. The GM pesticidal proteins Bt Cry1Ac and chitinase did not negatively affect bumble bee colony or individual health or foraging ability. However, the pesticide imidacloprid in the new chloronicotinoid family of pesticides impaired bee foraging when bees were exposed to elevated doses during larval development. The new biopesticide spinosad, which is widely marketed and approved as an organic insecticide, rapidly killed bumble bee colonies at elevated doses and impaired foraging ability at realistic exposure rates.

In field studies, herbicide-tolerant genetically modified canola agroecosystems had fewer wild bees than organic fields, and there were an intermediate number of bees in conventional fields. Low bee abundance in GM fields and to a lesser extent, conventional fields was associated with low seed set and reduced yields. Weed cover in fields and amount of uncultivated land around fields were positively related to bee abundance in fields. We determined that crop landscapes with uncultivated areas could have greater yield than homogeneously tilled landscapes. These data can be used to design agroecosystems that benefit both conservation and crop production.

Start Date: May 2000 **End Date:** Dec 2005

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Project title: Crop Yield and Bee Abundance and Diversity in Berry Agriculture

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Abstract:

The survival of wild bees is of concern for natural and agricultural ecosystems, since crop yields may be negatively affected by insufficient native pollinators. Bee diversity and abundance were assessed in commercial blueberry fields and cranberry bogs in the Fraser Valley of British Columbia, Canada during crop bloom. Pan trapping, visual observations and sweep netting were used to assess populations of managed honey bees and wild bumble and other bees. Bee populations within the field were analysed with respect to distance from the edge of the field, bee populations immediately outside the field and weed abundance. Percent crop yield, average berry weight and number of mature seeds were assessed with respect to bee populations.

Start Date: January 2003 **End Date:** April 2006

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Project title: Lethal and sub-lethal effects of imidacloprid and clothianidin on *Osmia lignaria* and *Megachile rotundata*

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Abstract:

This project is examining the effects of novel pesticides on two solitary bee species that are not generally considered prior to product registration. The pesticides imidacloprid and clothianidin are being tested on the orchard mason bee *(Osmia lignaria*) and the alfalfa leafcutter bee (*Megachile rotundata*) respectively, in British Columbia, Canada. These species are susceptible to pesticide exposure and ingestion both in their natural environment and when used for pollination of crops. The primary goal is to detect any negative effects of the two pesticides on these bees. Secondly, our aim is to develop consistent and replicable methods of testing new pesticides on bees other than honey bees, to provide the industry with a standard testing protocol to be applied in the pesticide registration process.

Pesticide doses were added to the pollen provisions the larvae were fed in both field and laboratory settings. We are assessing lethal and sub-lethal effects, including larval mortality, time to pupation, and pupal weight. Additional sub-lethal effects will also be determined in 2006, including timing and successful emergence of adults, reproductive output and behaviours such as nest recognition, provisioning and foraging ability.

Start Date: January 2005 **End Date:** December 2006

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Alberta

Project Title: Integrated Management of Oxytetracycline-resistant American Foulbrood (AFB) Disease in Honey Bees: 1. Reduced Residue Risks with Alternative Antibiotics.

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Abstract:

This study aims to develop optimal formulations and application methods for the antibiotics tylosin tartrate and lincomycin hydrochloride, to maximize their effectiveness against rAFB while minimizing their residue deposition.

In 2005 a large-scale experiment was undertaken to evaluate whether increasing the dose of tylosin and lincomycin in pollen patties could enhance their efficacy. Pollen patties contained either 200, 600 or 1000 mg a.i. of lincomycin or tylosin and were applied three times, at weekly intervals. An additional two treatments consisted of 200 mg a.i. of each drug mixed in 20 mg of icing sugar, also applied three times. All treatments reduced the levels of AFB symptoms in colonies by three to four weeks after initial application, however colonies treated with pollen patties suffered increasing numbers of infected cells from six weeks onward. Pollen patty treatments containing 600 mg of tylosin or 600 and 1000 mg of lincomycin suppressed symptoms to a greater degree than colonies without treatment, however those colonies receiving medicated sugar dustings were far superior, having little or no recurrence of symptoms for the duration of the season.

In a companion study, colonies that had been treated during the fall of 2004 (as above) were reinspected in May of 2005. Those treated with pollen patties containing 1000 mg a.i. of tylosin (applied 3 times) suffered no mortality and had few recurrences of disease symptoms. All other pollen patty treatments proved to be ineffective at suppressing disease or reducing mortality by this time of year. Dusting treatments continued to inhibit the expression of AFB in the spring and prevented appreciable wintering mortality.

Also in 2005, tylosin and lincomycin residues were examined for fall-applied treatments, employing the same formulations as the previous efficacy experiments, but at 1.5X the dose structure (for

regulatory approval). Colonies were treated during the first three weeks of September 2004 with samples of honey (15 g) being drawn for six weeks thereafter and again in May and July 2005. On 6 July, average residue levels (by LC-MS/MS) in surplus honey ranged between 0 - 23 ppb, over all patty doses tested. For dusting treatments, residues in surplus honey averaged 65 ppb for tylosin and 18 ppb for lincomycin. Previous data have corroborated higher honey reside levels for sugar dusting treatments and have shown residues to decrease over successive weeks during the harvest period.

Start Date: 1 April 2002 **End Date:** 31 March 2006

Total Current Funding: $120,500 (Gross/annum; For entire project, including studies 1,2 & 3).

Funding Sources: Cash: Alberta Crop Industry Development Fund ($55,000), AAFC MII ($45,500), Canadian Bee Research Fund ($10,000), Medivet Pharmaceuticals ($5,000), Alberta Honey Producers' Cooperative ($3,000), Alberta Beekeepers Association ($2,000). **In-Kind:** $26,500.

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Project Title: Integrated Management of Oxytetracycline-resistant American Foulbrood (AFB) Disease in Honey Bees: 2. Predicting AFB Infection by Examining *P. larvae* Spores in Honey and Adult Bees

Principal Investigator:

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Abstract:

This project continues to investigate the link between the prevalence of American foulbrood (AFB) symptoms in commercial beekeeping operations and the incidence and abundance of *Paenibacillus larvae* spores in honey and adult bee samples.

In Alberta, honey samples were collected from 13 beekeeping operations form 2002 – 2004. In Manitoba, honey and adult bee samples were collected from 19 operations in 2002 (bee samples only) through 2005. Spores were detected using microbiological techniques and *P. larvae* isolates were assayed for resistance to antibiotics. (2005 samples are currently being analyzed).

Alberta

Six of the seven beekeeping operations having the highest clinical prevalence of AFB had spores detected in >20% of their samples each year. Operations with the lowest clinical prevalence of AFB had the lowest average number of spores per sample, though this relationship was less clear at higher densities.

Tetracycline resistance was detected in nine operations in this study. Although a number of these operations discontinued the use of oxytetracycline in 2002, we found no decline in the proportion of samples with tetracycline resistance. No tylosin resistance was detected.

Manitoba

In our Manitoba study, the prevalence of bee colonies with AFB symptoms was considerably greater than that for Alberta (three-year average: AB = 0.34% ± 1.2, MB = 9.9% ± 4.4). In 2003 and 2004, all but one of 11 Manitoba beekeepers having > 1% of their hives exhibiting AFB symptoms also had spores detected in > 20% of their honey samples. In contrast, all three beekeepers deemed free of AFB by provincial inspection had < 20% of their samples with detectable numbers of spores. Eight beekeepers had greater than 250 cfu/g of honey compared with only two beekeepers in Alberta.

There was a strong relationship ($r^2 = 0.87$; pooled data 2002 - 2004) between the density of spores in adult bee samples and the prevalence of AFB in an operation. This finding suggests that the viable numbers of spores in adult bee samples may be a better predictor of the clinical prevalence of AFB than the density or incidence in honey samples.

Tetracycline-resistant strains were found in two beekeeping operations in 2003, but no cases were found in 2004. Tylosin resistance was not detected.

Start Date: 1 April 2001 **End Date:** 31 March 2006

Total Current Funding: $120,500 (Gross/annum; For entire project, including studies 1,2 & 3).

Funding Sources: Cash: Alberta Crop Industry Development Fund ($55,000), AAFC MII ($45,500), Canadian Bee Research Fund ($10,000), Medivet Pharmaceuticals ($5,000), Alberta Honey Producers' Cooperative ($3,000), Alberta Beekeepers Association ($2,000). **In-Kind:** $26,500.

*****

Project Title: Integrated Management of Oxytetracycline-resistant American Foulbrood (AFB) Disease in Honey Bees: 3. Selection for Hygienic Behaviour

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Abstract:

This five-year study investigated whether the frequency of hygienic behaviour (HB) in prairie honey-producing operations could be increased using standard open-mated breeding practices common to Western Canada. To test this hypothesis, we co-operated with four large commercial beekeeping operations in Alberta's Peace River District to select, propagate and mate their queen stock over four successive generations.

The co-operator's F_4 selected stock was evaluated against three benchmark stocks: (1) queens from a participating Peace River beekeeper that had never selected for hygienic behaviour; (2) queens from commercial offshore stock widely used in Alberta; and (3) queens purebred for hygienic behaviour from the University of Minnesota. If selection had increased HB, we expected the F_4 to remove more frozen brood than the offshore and unselected benchmarks and remove levels similar to the purebred Minnesota benchmark.

Selection appears to have continued to increase the naturally high levels of HB in Peace River queen stocks. Two of our co-operator's queen progeny expressed HB at a level statistically indistinguishable with the purebred hygienic Minnesota queens, an improvement over 2004 when only one stock matched the purebreds. Nonetheless, although all selected stocks removed more brood than the commercial offshore benchmark, only one was significantly greater, whereas in 2004 three selected stocks were. Environmental conditions favouring the expression of HB in 2005 may explain this lack of difference. Although these conditions increased the level of HB among all benchmark stocks, the increase was greater for the offshore stock than for the Minnesota stock, likely because the latter already exhibited near maximal levels of HB in 2004. This smaller margin makes it more difficult to discriminate among the stocks in 2005. We expect continued analysis of the dataset will allow us to partition out year-to-year difference in environmental conditions and better discern the effect of selection.

As 2005 was the final year of the project, our plan for 2006 is to provide technical support to our co-operators to enable their own hygienic selection into the future.

Start Date: 1 May 2001 **End Date:** 31 March 2006

Total Current Funding: $120,500 (Gross/annum; For entire project, including studies 1,2 & 3).

Funding Sources: Cash: Alberta Crop Industry Development Fund ($55,000), AAFC MII ($45,500), Canadian Bee Research Fund ($10,000), Medivet Pharmaceuticals ($5,000), Alberta Honey Producers' Cooperative ($3,000), Alberta Beekeepers Association ($2,000). **In-Kind:** $26,500.

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Project Title: Management of Honey Bee Diseases Using Lysozyme

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Abstract:

The use of oxytetracycline hydrochloride (OTC) for the treatment and control of American foulbrood (AFB), has become problematic as resistance to the antibiotic has evolved. Laboratory trials were conducted to evaluate the toxicity of lysozyme to larval and adult worker bees and its effectiveness for treating AFB. Lysozyme is a ubiquitous lytic enzyme that inhibits a broad spectrum of gram positive bacteria and is presently used in food preservation and pharmaceutical applications. Acute oral toxicity tests for adult worker bees (*Apis mellifera* L.) demonstrated that lysozyme is virtually non-toxic, having a 24-h LD_{50} value of >6400 µg a.i./bee. The longevity of adult workers in chronic oral toxicity tests was influenced by the dose of lysozyme consumed. At the highest dose administered (3822 µg/bee/day), mean worker lifespan was reduced by 12 ± 0.14 days (χ^2=1594.5, df=3, P<0.001) compared with the control (36 ± 0.26 days), however this difference shrank to less than 2 days at the lowest dose (58 µg/bee/day). Our

results suggest that worker longevity would not be affected by orally administering lysozyme at doses 150 x greater than that for OTC. *In vitro* larval rearing assays demonstrated that lysozyme is toxic to larval worker honeybees at doses above 0.04 mg lysozyme/mg larval diet but is partially therapeutic at a dose of 2.5 x 10^{-5} mg for larvae infected with *Paenibacillus larvae*. These results support the continued evaluation of lysozyme as a potential alternative control for AFB.

Start Date: 1 May 2005 **End Date:** 31 March 2007
Total Current Funding: $ 81,400

Funding Sources: Cash: AAFC MII ($50,400), Inovatech Bioproducts ($17,000) Canadian Bee Research Fund ($6,000), Alberta Beekeepers Association ($5,000), Alberta Honey Producers' Cooperative ($3,000).
In-Kind: $22,400.

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Project Title: Integrated Management of Oxytetracycline-resistant American Foulbrood (AFB) Disease in Honey Bees: 2. Predicting AFB Infection by Examining *P. l. larvae* Spores in Honey and Adult Bees

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Abstract:

This ongoing study aims to determine the incidence and abundance of *Paenibacillus larvae* subsp. *larvae* spores in honey from 14 selected beekeeping operations in Alberta and in honey and adult bees for 19 operations in Manitoba. Samples were incubated on a selective microbiological medium with the number of colony forming units per plate serving as a relative indicator of the number of spores per gram of honey or per adult bee. Spore data is being compared to the incidence of AFB clinical symptoms in these operations to determine its utility for prediction of inherent AFB risk. Isolates of *P. l. larvae* from honey samples were also used to perform resistance assays to tetracycline.

In 2002 and 2003, samples from Alberta showed that both the number of honey samples in which AFB spores were detected, and the average number of spores per gram of honey, had gross relationships with the disease history of honey bee operations. The mean number of spores per gram of honey was higher in operations with greater clinical incidence of disease; however spore levels have the potential to be affected by major changes in the management of disease within such operations. Samples from Manitoba producers in 2003 showed that the average number of spores per gram of honey was more directly related to the disease history of a beekeeping operation than the presence or absence of AFB spores in samples. The viable numbers of spores from the digestive system of adult bees proved to be a very sensitive technique by which to detect the presence of AFB and may be the most useful parameter for identifying the level of active infections within an operation.

In 2003, nine producers in Alberta were confirmed to have highly resistant strains of AFB present in their operations; four of these producers had >90% of their isolates characterized as highly resistant, while the remaining producers had 75%, 50%, 43%, 33%, 25% of their isolates classified in the same manner. Antibiotic resistance testing for Manitoba producers showed that the average zone of inhibition for most samples was large (indicating susceptibility to oxytetracycline); however one beekeeping operation had an average zone that was < 30 mm, indicating that it harboured highly resistant strains. Another producer was found to have two of twelve isolates highly resistant to the drug, even though the average inhibition zone for all strains cultured was > 30 mm. These are the first discoveries of antibiotic resistance from these beekeeping operations and are highly novel in being detected directly from honey samples. Reporting of the 2004 data will occur after sample processing is complete.

Start Date: 1 April 2001 **End Date:** 31 March 2006
Total Current Funding: $120,500 (Gross/annum; for entire project, including studies 1, 2 & 3).
Funding Sources: Cash: Alberta Crop Industry Development Fund ($55,000), AAFC MII ($45,500), Canadian Bee Research Fund ($10,000), Medivet Pharmaceuticals ($5,000), Alberta Honey Producers' Cooperative ($3,000), Alberta Beekeepers Association ($2,000). **In-Kind:** $26,500.

*****

Project Title: Integrated Management of Oxytetracycline-resistant American Foulbrood (AFB) Disease in Honey Bees: 3. Selection for Hygienic Behaviour

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Abstract:

This ongoing four-year trial has investigated whether the level of hygienic behaviour (HB) in prairie honey-producing operations could be increased using standard open-mated breeding practices used in Western Canada. To test this hypothesis we co-operated with four large commercial beekeeping operations in Alberta's Peace River District to select, propagate and mate their queen stock over successive generations.

To determine the change in the frequency of HB in our co-operator's selected F_3 generation; comparisons were made against three benchmark stocks: (1) queens from a participating Peace River beekeeper that had never selected for hygienic behaviour; (2) queens from commercial offshore stock widely used in Alberta; and (3) queens purebred for hygienic behaviour from the University of Minnesota. This evaluation was rigorously designed to uncouple the genetic and environmental components influencing the expression of HB in the F_3.

Selection appears to have increased the naturally high levels of HB previously found in Peace River beekeeping operations. Evidence for the increase is seen by the higher average levels of HB in three of our four co-operator's selected stocks compared with levels in the unselected Peace River stock. Although individual comparisons among unselected and selected Peace River populations are not

statistically different, we expect that continued selection will increase these margins. A collective comparison of all selected Peace River stock indicates that it is more hygienic than colonies founded by queens that were purchased and bred from outside the region. One co-operator's stock expressed HB at a level statistically greater than the offshore benchmark stock and similar to the purebred hygienic queens from the University of Minnesota, further suggesting that continued selection increases HB.

Selection and open-mating has continued this year and cooperators went into the 2004 winter with F_4 generation queens. We will evaluate the F_4 generation in May 2005 using the identical benchmark design used for the F_3.

Start Date: 1 May 2001 **End Date:** 31 March 2006
Total Current Funding: $120,500 (Gross/annum; for entire project, including studies 1, 2 & 3).
Funding Sources: Cash: Alberta Crop Industry Development Fund ($55,000), AAFC MII ($45,500), Canadian Bee Research Fund ($10,000), Medivet Pharmaceuticals ($5,000), Alberta Honey Producers' Cooperative ($3,000), Alberta Beekeepers Association ($2,000). **In-Kind:** $26,500.

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Saskatchewan

No report submitted

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Manitoba

Project title: Formic acid fumigation of honey bee packages.

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Co-Investigators:
Name: Ellen Smirl (Summer student)
Address: see above

Abstract:

The objective of this project was to determine the feasibility of fumigating packages of honey bees to control the varroa mite. Three-pound packages (1.4 kg) of bees were exposed to formic acid fumigation at different concentrations and exposure periods and the impact of the treatment on honey bee workers, mites and queens was assessed.

Start Date: June, 2005 **End Date:** March 15, 2006

Total Funding for Project: $9,000/yr for 1 year

Funding Sources: Covering New Ground, Manitoba Beekeepers Association

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Project title: Environmental and Chemical control of varroa and tracheal mites in indoor wintering facilities.

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Principle Investigator:

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Co-Investigators:

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Abstract:

The overall objectives of this research are to develop effective and economical methods to control the honey bee parasites, *Varroa destructor* and *Acarapis woodi* and the disease *Nosema apis* within indoor wintering facilities. This study will examine the possibility of using a combination of environmental manipulation and formic acid treatments to control varroa mite populations in indoor wintering facilities. The effects of different colony configurations on the uptake of formic acid by the hive and the influence of winter brood rearing on the efficacy of formic acid fumigation was studied.

Start Date: 2004 **End Date:** March, 2006
Total Funding for Project: $46,000/year for 2 years
Funding Sources: CBRF, NSERC, Manitoba Beekeepers Association

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Project title: Integrating Chemical Control and Host Resistance to Increase Treatment Thresholds for *Varroa destructor.*

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Abstract:

Experiments were conducted to evaluate the mechanisms of varroa mite grooming behaviour in lines of bees that were selected for their ability to reduce their mite load. Queens were reared from the

stock and instrumentally inseminated for further testing and material was provided to Manitoba queen breeders so that it could be propagated and tested in commercial operations. Stock was evaluated for hygienic behaviour, as well as for tolerance to varroa and other honey bee diseases and parasites. The effects of ventilation rates on the efficacy of mite grooming was evaluated to determine if manipulation of this parameter might be combined with bee genetics to provide good suppression of mite population growth.

Start Date: March, 2005 **End Date:** March, 2008
Total Funding for Project: $~53,000/year for 3 years
Funding Sources: CBRF, ARDI, Manitoba Beekeepers Association, Manitoba Queen Breeders Association, Medivet

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Ontario

Project Title: Impacts of agricultural practices and pest control agents on wild bees in spring canola

National Project Title: Agro-ecosystems and Wild Bees (Winston and Scott-Dupree)

Principle Investigator:

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Co-Investigators:

Names:	Amanda King (MSc.) Lisa Conroy (Technician) Emily MacLeod (Summer Technician) Brian Beattie (OMAF Technician)
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Abstract:

This research is part of a national project examining the effects of THT canola in three different agro-ecosystems throughout Canada ranging from intensively to newly cultivated cropland. This study provides an important link between ecosystem structure and functional in that bee abundance was quantified while simultaneously assessing the subsequent effects to canola pollination.

The University of Guelph portion of the national study focused on comparing the effects of the weed management practices associated with genetically modified herbicide tolerant (GMHT) and non-herbicide tolerant (NHT) spring canola on weeds, wild bees and pollination, and investigated direct contact toxicity of selected insecticides to representative wild bees. Although weed and wild bee abundance and diversity were generally reduced in GMHT canola and pollination deficit elevated, differences were not significant. Wild bee populations did not influence pollination deficit because populations may have been sufficient. The amount of uncultivated land near fields was an important factor influencing wild bee populations, while honey bee abundance and in-field dicotyledonous weeds had no effect. Using a Potter spray tower it was determined that leafcutter bees were more susceptible than bumble bees to direct contact applications of clothianidin, imidacloprid, deltamethrin and spinosad. Neither adult leafcutter nor bumble bee adults were sensitive to novaluron, an insect growth regulator.

Overall the results of this study indicated that agricultural practices associated with GMHT spring canola near Grand Valley, Ontario, should have little impact on wild bee populations and pollination.

Start Date: Sept. 1, 2002 **End Date:** August 31, 2006
Total Funding for Project: $98,000.00/year
Funding Sources: NSERC-AAFC Research Partnership Fund, Bayer CropScience, Dow AgroSciences, Crompton Co./Cie, Monsanto, NSERC- Industrial Postgraduate Scholarship sponsored by Bayer CropScience, OMAF-U of Guelph Plants Program

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***Project Title: An Investigation of the potential long-term impact of* clothianidin seed treated canola on honey bees, *Apis mellifera* L. (A GLP Study).**

Principle Investigators:

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Co-Investigators:

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Abstract:

An investigation of potential long-term impacts of clothianidin seed treated canola on honey bees was conducted at the University of Guelph from June to November, 2005. This research was requested by the US EPA-EFED and Canada's PMRA for Bayer CropScience, and was conducted in accordance with the OECD Principles of Good Laboratory Practice, an international system implemented to ensure the generation of high quality and reliable test data related to the safety of chemical substances.

The field study was conducted over 130 days (from initial exposure of the colonies to canola in bloom). Colonies were placed in 1 ha untreated or clothianidin seed-treated canola fields for three weeks during bloom, and thereafter moved to a fall apiary. There were 4 treated and 4 untreated fields, with 4 colonies placed in the middle of each, giving a total of 32 colonies from which data were acquired. The maximum allowed rate of clothianidin, 400 g AI/100 kg seed, was used. The placement of colonies in the middle of large canola fields during bloom, in the absence of alternative forage crops within approximately a 1 km radius, ensured a realistic, worst-case scenario of exposure. Colony end points measured in the study were: total colony weight, honey yield, amount of sealed brood and adult mortality. Samples of nectar, honey, pollen and beeswax also were collected throughout the study for subsequent

residue analysis by Enviro-Test Laboratories in Edmonton, Alberta. The final report of the study is in preparation.

Start Date: June, 2005 **End Date:** November, 2005
Total Funding for Project: $140,000 field study; $125,000 residue analysis
Funding Sources: Bayer CropScience

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PROJECT TITLE: Investigating the Strength of Honey Bee Colonies Following Spring Treatments of Mite-AwayII™, Oxalic Acid and Sucrocide™

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ABSTRACT:

Spring treatments of Mite-AwayII™, oxalic acid (single application), oxalic acid (double application), Sucrocide™ and no treatment (control) were evaluated to determine their effects on colony strength and honey production. 25 colonies were divided into five treatment groups (n=5). The frame-by-frame examination of each colony was conducted before each treatment, three weeks after treatment, six weeks after treatment and 13 weeks after treatment. Queen status was recorded each time.

START DATE: March 2004 **END DATE:** March 2005

FUNDING: Ontario Ministry of Agriculture and Food, Ontario Beekeepers' Association, Agricultural Adaptation Council - CanAdapt.

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PROJECT TITLE: Summer Varroa Mite Treatment Comparison

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Abstract:

Oxalic acid and Sucrocide™ were compared as summer "knock-down" treatments in varroa mite infested colonies in July. Fifteen colonies were divided into three treatment groups (n=5): oxalic acid, a single dose of Sucrocide™ and no treatment (control). Mite levels were monitored using alcohol wash samples before treatment and four weeks after treatment.

START DATE: May 2005 **END DATE:** August 2005

FUNDING: Ontario Ministry of Agriculture and Food, Ontario Beekeepers' Association

*****

PROJECT TITLE: Fall Varroa Mite Treatment Comparison

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Telephone: 519-836-3609

Abstract:

Mite-AwayII™ , Oxalic Acid and Sucrocide™ and a control (no treatment) were applied to 40 colonies in early October (n=10). Three weeks after treatment, CheckMite™ was applied as a finisher treatment for an additional three weeks. The efficacy of each treatment was evaluated using an alcohol wash before treatment, three weeks after treatment and three weeks after the finisher treatment.

START DATE: September 2005 **END DATE:** March 2006

FUNDING: Ontario Ministry of Agriculture and Food, Ontario Beekeepers' Association, Agricultural Adaptation Council – CanAdapt

*****

PROJECT TITLE: Comparison of Three Late Fall Treatments for Varroa Mites

PRINCIPLE INVESTIGATOR: Alison Skinner
CO-INVESTIGATORS: Janet Tam and Rachel Bannister
Address: Ontario Beekeepers' Association
Orchard Park Office Centre
5420 Highway 6 North
Guelph, ON N1H 6J2
E-mail: alison_bee@yahoo.com
Telephone: 519-836-3609

ABSTRACT:

Three treatments were applied to 33 honey bee colonies in October (n=11). The three treatments were: Apistan® (fluvalinate), Bayvarol™ and trickled oxalic acid. After a treatment period of three weeks, treatments were removed. All colonies received CheckMite+™ as a finisher treatment for an additional three weeks. The efficacy of each treatment was determined using an alcohol wash before treatment and three weeks after treatment. An alcohol wash will be done on each tested colony in the spring of 2006.

START DATE: September 2005 **END DATE:** March 2006

FUNDING: Ontario Ministry of Agriculture and Food, Ontario Beekeepers' Association

*****

PROJECT TITLE: Fall Testing for Miticide Resistant Varroa Mites

PRINCIPLE INVESTIGATOR: Alison Skinner
CO-INVESTIGATORS: Janet Tam and Rachel Bannister
Address: Ontario Beekeepers' Association
Orchard Park Office Centre
5420 Highway 6 North
Guelph, ON N1H 6J2
E-mail: alison_bee@yahoo.com
Telephone: 519-836-3609

ABSTRACT:

The glass vial assay (Elzen et al., 1998) was used to evaluate varroa mite populations for fluvalinate resistance. The LC90 of fluvalinate was determined for varroa mites in bee colonies which had not been treated with Apistan® for two years. Trials to monitor for resistance were conducted in the Niagara Region and Wellington County in Ontario. Fluvalinate resistance was present in both areas.

Pettis testing (Pettis et al., 1998) was conducted in Wellington County, using Apistan® (fluvalinate), Bayvarol™ (flumethrin) and no treatment (control). Apistan® was less effective than Bavarol™.

START DATE: April 2005 **END DATE:** December 2005

FUNDING: Ontario Ministry of Agriculture and Food, Ontario Beekeepers' Association, Agricultural Adaptation Council - CanAdapt Program

*****

PROJECT TITLE: Honey Bee Mite Scouting

PRINCIPLE INVESTIGATOR: Alison Skinner
CO-INVESTIGATORS: Janet Tam and Rachel Bannister
Address: Ontario Beekeepers' Association
Orchard Park Office Centre
5420 Highway 6 North
Guelph, ON N1H 6J2
E-mail: alison_bee@yahoo.com
Telephone: 519-836-3609

ABSTRACT:

This was a pilot project to determine the effectiveness and practicality of a mite scouting service for beekeepers in Ontario. In the spring, late summer, early fall and late fall, apiaries belonging to two hobby and five commercial beekeepers were scouted to determine the levels of varroa mites, tracheal mites and the presence of bee diseases. Samples were analyzed from 581 colonies. Results were provided for each beekeeper. Surveys completed by the participating beekeepers indicated that the results provided by the service were informative and valuable.

START DATE: May 2005 **END DATE:** December 2005

FUNDING: Ontario Ministry of Agriculture and Food, Ontario Beekeepers' Association, Agricultural Adaptation Council - CanAdapt Program

*****

PROJECT TITLE: Progressive Training and Information Program for Beekeepers

PRINCIPLE INVESTIGATOR: Alison Skinner
CO-INVESTIGATORS: Janet Tam and Rachel Bannister

Address: Ontario Beekeepers' Association
Orchard Park Office Centre
5420 Highway 6 North
Guelph, ON N1H 6J2
E-mail: alison_bee@yahoo.com
Telephone: 519-836-3609

ABSTRACT:

Two "Introductory Beekeeping with an Emphasis on IPM" workshops were held in Guelph and Sudbury, Ontario in May and August respectively. An "Introductory Queen Rearing" workshop was conducted in Guelph, Ontario in May. The workshops consisted of classroom presentations accompanied by hands-on sessions with bees. Workshop enrolment was at maximum for all three venues. Each workshop participant received a copy of the new Ontario Beekeeping Manual or Honey Bee Queen Rearing Manual (depending on the workshop completed).

START DATE: May 2004 **END DATE:** February 2006
FUNDING: Ontario Beekeepers' Association, Agricultural Adaptation Council - Small Projects Initiative Program

*****

PROJECT TITLE: Enhancing the Food Safety of Honey Bee Hive Products Through the Use of Organic Beekeeping Practices and Effective Monitoring of Pests and Diseases

PRINCIPLE INVESTIGATOR: Alison Skinner
CO-INVESTIGATORS: Janet Tam[1], Rachel Bannister[1] and Paul Kelly[2]
Address: [1] Ontario Beekeepers' Association [2]Dept. of Environmental Biology
Orchard Park Office Centre University of Guelph
5420 Highway 6 North Guelph, ON
Guelph, ON N1H 6J2 N1G 2W1
E-mail: alison_bee@yahoo.com pgkelly@uoguelph.ca
Telephone: 519-836-3609 519-836-8897

ABSTRACT:

This project was completed in conjunction with the University of Guelph (2003-2005). Forty-five honey bee colonies were established on a 350 acre organic farm and were managed organically. Different combinations of organic treatments (Mite-AwayII™, oxalic acid) and cultural techniques (screened bottom boards, drone brood removal, interruption of brood rearing) for varroa mite control were evaluated. There was a large emphasis on monitoring techniques used to detect varroa mite levels. Monitoring techniques (ether roll, alcohol wash, sticky board, sugar dust, uncapping drone and worker brood) were compared and evaluated.

START DATE: July 2003 **END DATE:** August 2005
TOTAL FUNDING FOR PROJECT: $30,000
FUNDING: Ontario Ministry of Agriculture and Food - Food Safety Research Program, Ontario Beekeepers' Association, University of Guelph

*****

Project title: Effect of three delivery methods on the efficacy, toxicity, and residues in honey, of thymol and oxalic acid used to control parasitic mites in honeybee colonies.

Principle Investigator:

Name: Ernesto Guzman

Address: Dept. of Environmental Biology,
University of Guelph, Guelph On., N1G 2W1
Email: eguzman@uoguelph.ca
Fax: (519) 837-0442
Telephone: (519) 824-4120 Ext. 53609

Co-Investigators:

Name: Paul Kelly (Apiary Technician)
Address: as above
Email: pgkelly@uoguelph.ca
Fax: (519) 837-0442
Telephone: (519) 836-8897

Name: Berna Emsen (Graduate Student)
Address: Ataturk University
Email: *bemsen@atauni.edu.tr*

Name: Hanan Gashout (Graduate Student)
Address: as for Guzman
Email: hgashout@uoguelph.ca
Fax: (519) 837-0442
Telephone: (519) 824-4120 Ext. 54372

Abstract:

Contamination of honey with chemical residues as a result of the application of hard chemicals to control parasitic mites in honeybee colonies is a major problem for the beekeeping industry worldwide. We tested two natural products that have shown promise as organic acaricides (thymol and oxalic acid). These products are not harmful to human health and theoretically leave very small amounts of residues in honey. In order to increase the efficacy of these products, we applied them with three different delivery methods as single or combined treatments, to find which one provides the best mite control leaving the least residues in honey. Additionally, we estimated the bee population of the experimental colonies and took samples of brood and dead bees from treated and untreated colonies, to look for possible toxic side effects of these products to the bees. Food safety and efficacy are the main concerns of this project. We conducted the study with 70 colonies that were artificially infested with a similar load of mites in the beginning of the season, and spent several months waiting for the mite populations to develop. The products were applied, the samples were taken, and a final treatment with coumaphos (check mite®) was used to compare the efficacy of the different treatments. We just finished the first part of the experiments and will have results analyzed by next year. The only major result that we can confirm at this point in time is that thymol in dust mixed with confectionary sugar yielded the best control against varroa mites.

Start Date: May 2005 **End Date:** April 2008
Total Funding for Project: $ 120,000.00
Funding Sources: CBRF, OBA, OMAF

*****

Project title: Methods of establishing honey bee colonies.

Principle Investigator:

Name: Ernesto Guzman
Address: Dept. of Environmental Biology,
University of Guelph, Guelph On., N1G 2W1
Email: eguzman@uoguelph.ca

Fax: (519) 837-0442
Telephone: (519) 824-4120 Ext. 53609

Co-Investigators:

Name: Paul Kelly (Apiary Technician)
Address: as above
Email: pgkelly@uoguelph.ca
Fax: (519) 837-0442
Telephone: (519) 836-8897

Abstract:

We conducted a comparative study of establishing colony divisions. Factors involved in this study included the time of dividing colonies (early or late in the spring), as well as initiating colonies with mated queens versus queen cells. It is important to know how these alternative methods of establishing colonies affect the honey yields, population development, winter ability and mite control of honeybee colonies. Hopefully we will be able to report results on this project by next year.

Start Date: May 2005 **End Date:** September 2006
Total Funding for Project: $ 5,000.00
Funding Sources: OMAF

*****

Project title: Heritability and genetic effects of mechanisms of resistance against varroa mites in honeybee colonies.

Principle Investigator:

Name: Ernesto Guzman
Address: Dept. of Environmental Biology,
University of Guelph, Guelph On., N1G 2W1
Email: eguzman@uoguelph.ca
Fax: (519) 837-0442
Telephone: (519) 824-4120 Ext. 53609

Co-Investigators:

Name: Laura Espinoza (Graduate Student)
Address: Dept. of Minor Species, FMVZ,
Nat. Univ. of Mexico, Mexico D.F.
Email: laugespi@servidor.unam.mx
Telephone: (52-55) 622-5929

Abstract:

This is a project that is being conducted in Mexico under my advisory and supervision by Laura Espinoza (graduate student). The objective is to determine which behavioural mechanisms of worker bees confer more resistance to honeybees against the varroa mite and how heritable they are. So far results suggest that hygienic and grooming behaviour explain most of the resistance found in bee colonies. Laura also found that both of these mechanisms are highly heritable and therefore could be useful in breeding programs to develop varroa-resistant bees.

Start Date: May 2002 **End Date:** April 2006
Total Funding for Project: $ 100,000.00
Funding Sources: CONACYT-Mexico

*****

Project title: Genetic basis of honeybee defensive behaviour.

Principle Investigator:

Name: Gene Robinson
Address: Dept. of Entomology University of Illinois, Urbana Ill., USA
Email: generobi@uiuc.edu

Co-Investigators:

Name: Greg J. Hunt
Address: Dept of Entomology, Purdue University, West Lafayette IN, USA
Email: ghunt@purdue.edu
Fax: (765) 494-5105
Telephone: (765) 494-4605

Name: Ernesto Guzman
Address: Dept. of Environmental Biology, University of Guelph, Guelph On., N1G 2W1
Email: eguzman@uoguelph.ca
Fax: (519) 837-0442
Telephone: (519) 824-4120 Ext. 53609

Abstract:

This is an international project that involves the collaboration of several institutions: the National University of Mexico, Purdue University (USA), the University of Illinois (USA) and the University of Guelph. The main objective of the project is to study the defensive behaviour of honeybees at the colony and individual levels, using stocks of bees that differ for this characteristic (European and Africanized bees). We study the guarding, pursuing and stinging tasks of honeybees and we perform different crosses to collect samples of bees performing the behaviour in order to study their genome with DNA techniques. We look for expression in candidate genes that may be associated to the above tasks.

Start Date: April 2005 **End Date:** September 2006
Total Funding for Project: $ 500,000.00
Funding Sources: NSF, USA

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Quebec

Project title : Méthodes alternatives de contrôle des populations de *Varroa destructor* et d'*Acarapis woodi* dans les ruches du Québec.

Alternative methods for the control of *Varroa destructor* and *Acarapis woodi* in Quebec beehives

Principle Investigators:

Pascal Dubreuil

Faculté de médecine vétérinaire
Université Montréal
3200 rue Sicotte
Sait-Hyacinthe, (Qué) J2S 7C6

Pierre Giovenazzo

CRSAD
120 A Chemin du Roy
Deschambault, Québec G0A 1S0

Abstract:

The goal of the research is to test the long term efficacy of alternative methods (organic acids and thymol) for the control of *Varroa destructor* and *Acarapis woodi* without the application of synthetic pesticides. Results will be used in order to propose an integrated pest management strategy.

Start Date: Summer 2005 **End Date: Fall 2007**
Total Funding for Project: $335 680
Funding Sources: Conseil pour le développement de l'agriculture au Québec Ministère de l'agriculture des pêcheries et de l'alimentation du Québec : Programme d'appui financier aux associations de producteurs désignées – Volet 4 Initiatives »Centre de recherche en sciences animales de Deshambault Fédérations de Apiculteurs du Québec

*****

Project title: Comparison of the performance of selected bee stocks available in Quebec and Ontario

Comparaison des performances et sélection génétique de lignées d'abeilles mellifères disponibles au Québec et en Ontario.

Principle Investigator:

Pierre Giovenazzo

CRSAD
120 A Chemin du Roy
Deschambault, Québec G0A 1S0

Co-Investigators:

Émile Houle

CRSAD

Pascal Dubreuil

Faculté de médecine vétérinaire
Université Montréal
3200 rue Sicotte
Sait-Hyacinthe, (Qué) J2S 7C6

Abstract:

Selected bee stocks are obtained from four Quebec queen breeders (Reines Chapleau, Reines Moreau, ApiCulture and CRSAD) and from one Ontario queen breeder (Kelly Rogers) participating in the Ontario bee breeding project. Each breeder offers two of his best lines (10 nucs per line) for evaluation.

Colonies are randomly distributed on the different bee yards available at the Centre de recherche en sciences animales de Deschambault (near Quebec city). Dependant variables measured are: varroa population growth, honey production, hygienic behaviour, defensive behaviour, bee diseases, swarming behaviour, honey bee and brood population (summer-fall-spring), hive weight and colony winter survival.

Start Date: Spring 2005 **End Date:** Fall 2006
Total Funding for Project: $86 000
Funding Sources: Ministère de l'agriculture des pêcheries et de l'alimentation du Québec : Programme d'appui financier aux associations de producteurs désignées – Volet 4 « Initiatives »Centre de recherche en sciences animales de Deshambault Fédérations de Apiculteurs du Québec

*****

Project title: Population dynamics of the host parasite interaction between *Apis mellifera* and *Varroa destructor* during a complete beekeeping season

Dynamique de la relation hôte-parasite entre *Apis mellifera* et *Varroa destructor* au cours d'une saison apicole.

Principle Investigator:

Pierre Giovenazzo

CRSAD
120 A Chemin du Roy
Deschambault, Québec
G0A 1S0

Co-Investigators:

Pascal Dubreuil

Faculté de médecine vétérinaire
Université Montréal
3200 rue Sicotte
Sait-Hyacinthe, (Qué)
J2S 7C6

Abstract:

The aim of this study is to study the evolution of the varroa mite population and the honey bee and brood population in hives in our region (Quebec). A total of 50 hives infected by varroa mites are followed during a complete beekeeping cycle. Honey bee population are measured monthly with a photograph density relation and varroa mite population are evaluated also monthly using different methods (mite natural drop down, bee ethanol wash and by uncapping 100 male cells and 200 worker cells).

Start Date: Spring 2004 **End Date:** Summer 2006
Total Funding for Project: $55 090
Funding Sources: Direction de l'innovation scientifique et technologique du Ministère de l'agriculture des pêcheries et de l'alimentation du Québec. Centre de recherche en sciences animales de Deschambault Fédérations de Apiculteurs du Québec

*****

Project title: Control of *Varroa destructor* Using Different Integrated Pest Management Strategies

Validation et perfectionnement d'une stratégie de lutte intégrée contre la varroase

Principle Investigator:

Jean-Pierre Chapleau
Les Reines Chapleau inc.
1282, rang 8
Saint-Adrien, Qué
Canada J0A 1C0

Co-Investigators:

Pierre Giovenazzo

Département de biologie
Université Laval
Québec, (Qué) G1K 7P4

Abstract:

Our research goal is to evaluate the efficacy of an integrated pest management (IPM) strategy against *Varroa destructor* based on the use of screened bottom boards and organic acids such as oxalic acid and formic acid.

One hundred selected colonies where distributed during spring 2004 in different experimental groups (three) and a control group. The experimental model has three independent variables: three different IPM strategies, two wintering strategies (one or two hive bodies), beekeeping sites (four); and various dependant variables: exponential varroa population growth during summer, honey production, varroa and honey bee population before and after wintering. Statistical analysis of data is accomplished by using the GLM procedure (SAS system) and a t test LSD for the comparison between different groups.

Start Date: Spring 2004 **End Date:** Fall 2006
Total Funding for Project: $200 000
Funding Sources: Conseil pour le développement de l'agriculture au Québec Ministère de l'agriculture des pêcheries et de l'alimentation Les reines Chapleau La fédération des apiculteurs du Québec

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APPENDIX I:

AIA Minutes

Apiary Inspectors of America, Notes and Minutes from the 2006 meetings in Baton Rouge, Louisiana

Executive Board meeting, 1/8/2006

Present: AL, AR, FL, GA, KY, LA, MD, MS, NC, PA, TN, ONT
Guests: Wayne Wehling and Collin Stewart
Motion to pick up dinner tab at Boutins
Jimmy Dunkley, (LA) moved
Don Hopkins, (NC) seconded.
Passed unanimously
Discussion for picking up tabs for reception; agreed.
Awards Committee, Paul Jackson (TX)
Awards will go to:
Dr. Diana Sammataro
Dr. Clarence Collison

Secretary noted that service pins have been discontinued but still stands in by-laws.
President will direct secretary to send out a letter regarding the discontinuation of awarding service pins/recognitions. This will cause a possible change to by-laws. An announcement must be made to this effect.

Sites Committee, Jerry Fischer (MD)*, Don Hopkins (NC), Phil Craft (KY)
AHP invites us to meet with them Jan 9, 2007, in Phoenix.
This will be researched and results reported at the general meeting.
Nominations Committee: Patricia Denke (MT), Dennis Van Englesdorp (PA)
Resolutions Committee: Don Hopkins (NC)*, Gray Haun (TN)
Discussion regarding Stardards of AHB Testing (reliability & time problems) DNA or Morph., etc.
What's best? Florida finds many hybrids & some pure AHB

There was some discussion of AHB action plans and some work on standardization.
Secretary's Report: Ed Levi (AR)
Dennis van Englesdorp (PA) moved and Don Hopkins (NC) seconded that the minutes go out electronically in PDF format shortly after conference. Passed with one nay

Secretary reported of doings over the year and report was received by the president and will be published in the proceedings.
Secretary noted:
By-laws state that directors are charged to get the statistics to the Secretary. This should get a better return.

Treasurer's Report: Keith Tignor (VA)
List serve set up in NC and discussion of updating procedure followed.
Web site may be set up at a private provider site. At first it will be just a directory and to be expanded to include more information and states' web sites.
A general motion was made by Keith to this effect and seconded by Phil Craft
Passed unanimously.
Treasury Report – (will be published in proceedings)

The question of if we should move towards credit card friendly for the purpose of dues and conference fees. There are costs per use plus a monthly fee. Is it worth it? Are we losing anyone?
This was tabled until it becomes more necessary.
There's >$10,000 sitting in checking account, a non-interesting bearing account.
Don Hopkins (NC) moved that Keith research into interest accounts of various forms and do so at his discretion, Barry Smith (GA) seconded.
Passed unanimously

New Business
President Harry Fulton (MS)
A committee needs to be set up to decide when/who should be subsidized to come to conferences when their agency can't/won't pay
Committee- Gray Haun (TN)*, Jerry Hayes (FL), Keith Tignor (VA)
Discussion of Historian, Jimmy Dunkley (LA)
Adjourned

Meeting opened on Tuesday January 10, 2006, 8am
Resolutions-
Don Hopkins (NC) did the first reading of the resolution (s) 1. USDA APHIS' Capacity to diagnose AHB.
Some wordsmithing.
Call was made for more resolutions.
Recessed

AIA Business Meeting, 1/10 –1/11/2006
Called to order by President Harry Fulton (MS)
Those states/provinces represented:

Dennis Barclift (AL), Ed Levi (AR) , Jerry Hayes (FL) , Barry Smith (GA),
Phil Craft (KY), Jimmy Dunkley (LA), Jerry Fischer (MD), Harry Fulton (MS),
Patricia Denke(MT), Don Hopkins (NC), Judy Carlson (ND), John Grafton (OH),
Doug McRory (ONT), Dennis van Englesdorp (PA), Fred Singleton (SC),
Gray Haun (TN), Paul Jackson (TX), Keith Tignor (VA),

President offered thanks to those who put together the meeting; specifically Jerry Hayes (FL), Jimmy Dunkley (LA), Marion Ellis (AAPA)
Judy Carlson,(ND) moved to accept the 2005 minutes as published
Paul Jackson, (TX) seconded.
Some corrections to proceedings were noted
Awards Committee
Paul Jackson, (TX) announced that service awards were awarded to Dianna Sammataro and Clarence Collins.

Discussion:
Plagues should be given to apiarists retiring or re-assigned after 10 years service.

Sites Committee
Jerry Fischer (MD) is working with Marion Ellis
Tabled until 1/11/06
Nominations tabled to the end of Meeting.

Audit Committee
Patty Denke (MT). reported treasury looks in good shape and accurate.
Suggested the transferring some money to interest bearing accounts.
Paul Jackson, (TX) moved to accept and Judy Carlson, ND seconded
Audit Report was accepted

Resolutions to be re-read 1/11/06 at 8am
Last call for new resolutions were requested from the floor and none were received
AHB Action Plan Committee, Jerry Hayes *(FL)
Committee tabled report; waiting reaction to the resolution.
States' AHB action plans will be on web site.

Secretary's report, Ed Levi (AR) and accepted
Report to be published in proceedings.

Miscellaneous
Ed's expenses were covered by the AIA due to his state's refusal to do so.
A committee was set up to look at emergency funding and come up with protocol for our meeting and others

Gray Haun, (TN) is chair, with Harry Fulton, (MS), and Jerry Hayes, (FL) on committee.
CAPA meeting needs a volunteer to attend in Quebec City
Dennis van Englesdorp (PA) may go and will work out with the president.
Ed Levi (AR) will be alternate and John Grafton (OH) as second alternate.
Meeting is at the end of this month.

Treasures' Report. Keith Tignor (VA)
Moved to accept: Phil Craft (KY) and Judy Carlson (ND) seconded.
Report to be published in the proceedings.
List serve will be updated from registration and directory
Web site will be set up through to a private IP
Initially will be a list of members and email, and links to web pages

CAPA Report, Phil Craft (KY) with input of Doug McRory (ONT).
It's important to have an AIA presence at these meetings
They have a CAPA meeting one day and met with the hosting provincial group for the other days.
A lot of discussion of imports both from US (queens) and NZ (queens and packages)
Protocols for all that was discussed
Also some discussion of AHB in the US
Residues in Honey especially in imports
(Tylosin was found in honey from the US)
Discussion of registration for Oxalic Acid
Honey Council got the label as opposed to a company (which is the normal process)
Trickle and fumigation (fumigation isn't recommended)
This can be seen in capabees.com
BeeGo registration is in question

New Business
Pesticide Committee isn't present and should be involved and in the registration process.
US is not a member of Apimondia; who should join? AAPA, AIA, ABF, AHP?
With some discussion it was agreed that it should be the national associations.
Using money (we have plenty): CAPA books, trainings,
Motion to buy 2 copies/ state of the CAPA books and then to survey to see how many the states will want.
This was a motion by Paul Jackson (TX) and seconded by Don Hopkins (NC). Motion was approved.

The concept of AIA developing a booklet on AHB to be done by the AHB committee was discussed. A motion to this effect was made by Dennis van Englesdorp (PA) and seconded by Keith Tignor (VA). The motion passed with one decent.

Nominations Committee Report (Tabled until 7:45am tomorrow)
Recessed until tomorrow morning

Reconvened 1/11/06, 7:45 am
Resolutions Committee, Don Hopkins (NC)

Resolution 1

USDA-ARS Capacity to Diagnose Honeybees as Africanized Honeybees in a Timely Manner

The steady progression of the Africanized honeybee (AHB), *Apis mellifera scutellata* has been documented in a number of southern states. In the last 15 years the AHB has become established in Texas, Arizona, New Mexico, California, Nevada, and most recently in Florida, Oklahoma, Louisiana, and Arkansas. This situation has caused increased concern in these states and those not yet known to be infested with this threat. In response, an increased number of suspect samples are expected to be sent to USDA-ARS for timely identification in 2006 and beyond.

Since the adoption of the current identification protocol other methodologies have been utilized for determining the Africanization of honey bee populations. These methods may question the reliability of this protocol.

Due to the importance of honey bee pollination to the agricultural industry, the potential impact of AHB on public safety, pets, and livestock, and the need to minimize the spread of AHB, it is imperative that state regulatory officials act as rapidly as possible when suspect swarms or colonies are detected. In order to do that it is critical to receive accurate and timely diagnostic reports.

Be it resolved, The Apiary Inspectors of America (AIA), at its annual meeting held in Baton Rouge, LA on January 11th, 2006, hereby urges USDA-ARS to reevaluate the current methodologies and decide the best method for determining Africanization of honeybee populations.

Be it further resolved, that USDA-ARS needs to provide a definitive determination on Africanization on honey bee samples within a reasonable time frame, preferably within 14 days or less.

Audience:
Secretary Mike Johanns, USDA
Kenneth Rauscher, President, National Plant Board
The Honorable Gus Douglass, Chairman, Animal and Plant Industries Committee, NASDA
Dr. Kevin J. Hackett, USDA ARS Program Leader
Bob Stallman, President, American Farm Bureau
Steve Park, President, American Honey Producers Association
David Ellingson, President, American Beekeeping Federation
Walker Gray Haun, President, Southern Plant Board
Michael E. Brown, President Central Plant Board
Carl P. Schulze, President, Eastern Plant Board
Michael Cooper, President, Western Plant Board
Marion Ellis, President, American Association of Professional Apiculturists
Seconded by John Grafton, (OH) Passed

Sites Committee, Jerry Fischer,(MD).
Motion to meet with AHP & AAPA in Phoenix, Jan. 9-13, 2007
This was accepted unanimously.

Nominations Committee, Phil Craft (KY).
Submitted the follow slate for directors and officers:
Canada, Doug McRory, (ONT)
South , Dennis Barclift, (AL)
West, Patty Denke, (MT)
At large, Barry Smith, (GA)
Secretary; Ed Levi, (AR)
Treasurer; Keith Tignor, (VA)
President; Jerry Hayes, (FL)
VP; Dennis van Englesdorp, (PA)
The slate was seconded by Don Hopkins,(NC)
Slate was accepted by acclamation

Adjourned

Notes from Other Discussions and Presentations:
National Honeybee Survey and Certification
Presented by: Wayne Wehling, USDA-APHIS PPQ, Senior Entomologist
and Colin Stewart – USDA-Veterinary Services
Working on budget (and in a time crunch!)
What to survey for?
History:
AIA initiated this process in 2003
It was re-pushed by AIA in 2005
National Plant Board's Resolution pushed it into gear.
It's a three part plan:
1)a national survey for HB pests/to substantiate situation for allowing/limiting imports
2) a certification program for exporting queens and package bees and
3)an action plan for AHB
Historically, honeybees are regulated under ACT 1922 and the Plant Protection Act 2000
GAT & NAFTA put things on the burner.
Proposed to allow importation of bees and bee materials
This was published in Fed Register of 2002 and the Final Rule went into effect Nov. 2004. As we speak, 1,500 packages are arriving daily in Cal from Aus, NZ, and Canada running from Dec 15 to Feb 14
What do we need to survey for export and for limiting import?
They've put together standing committee: To decide what to survey for and how to manage a survey program. So far, on the committee there's:
Mark Feldlaufer, ARS
Kevin Hacket, ARS
Colin Stewart, VS
Wayne Wehling, PPQ
Want to add a couple from AIA (Jerry Hayes and Ed Levi volunteered)

Pros:
Annual survey
Cons:
Funding
Migratory complications
Lack of infrastructure (>10 states or more have no bee inspection program.)
This program is fundamental for keeping out pests.
Without it we can't substantiate the determination that specific pests don't exist.
Also can't export; but this is not a cost effective need unless piggy-backed with import survey. They're recommending working with state Departments of Agriculture.
He received a request for an information memo with a recommendation.
Then was asked to prepare a budget for the possibility to submit to Congress for the 2008 budget. Needs this month! They need all states help in this process.
Looking at $100,000 per inspector for 40,000 to 50,000 colonies inspected (not all opened) plus equipment, training, reporting, etc. (These are the kind of information they need to shape up with AIA membership input.). Probably looking at $7 to $10,000,000
Which Pests should we look at?

- o Tropilaelaps
- o SHB
- o Resistant strains of Varroa and AFB
- o Species of Varroa
- o Other Species of bees
- o Unknown pests

Who should do this?

- o APHIS employee
- o State Depts of AG
- o Private contractors
- o Cooperative; (combination of above)

How many hives can an inspector inspect?
How many hives are there? 2,500,000 ?
Should hobbyists be included
Are migratory colonies being double counted?
What are the standards for sampling?
What is it going to actually cost?
Where does the line draw between international trade and state rights?
When does the state have the right to regulate problems of imports that they normally regulate in their state? "The importer would have grounds to sue the state"

In the area of Africanized Honeybees:
Historically APHIS worked but gave it over to states when some didn't want their input.
Although they've withdrawn efforts, they might have some liability.
What is the definition of a stinging incident? Hospital? Animals? Are they even really from honeybees?
Wanting input from the states as noted above.
301 734-8700 Wayne's Fax

ABRC presentations (to be published in 2006 proceedings)
Sucrocide, Jose Diaz
Apiguard, AFB test kits and other issues being researched by VITA, Max Watkins
AHB Issues
Presentation by Clarence Collison,
"The Potential Impact of AHB for the Southeastern States"
Reports and discussions from southern states of current situations.
(AR, FL, LA, MS)

Things to be considered by the AHB committee:
Compliance agreements with beekeepers
Certification
Counties wanting to ban beekeeping
Do queen producers have to provide a list?
Black lists for unregulated states/producers?
How do we deal with:
Migratory vs non migratory
Commercial vs non commercial.

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AAPA Minutes

AAPA Business Meeting
January 10, 2006
Baton Rouge, Louisiana

The meeting was called to order by President Marion Ellis at 9:04 AM.

The following Members and guests were present: N. Aliano, B. Danka, K. Delaplane, M. Ellis, J. Harbo, J. Harris, M. Hood, Z. Huang, S. Mack, R. Merritt, E. Mussen, N. Ostiguy, J. Skinner, M. Spivak, J. Villa, T. Webster and J. Wagnitz.

The Minutes of the 2005 annual business meeting were accepted as submitted. The Treasurer's Report was accepted as submitted.

Marion began the meeting by suggesting that it might be an appropriate time to consider a new vision for AAPA and the two commercial beekeepers' national associations. While we already have approached the two associations about a combined meeting, there had been little impetus in that direction until recently. It appears that the two groups might plan to hold some sort of combined meeting in 2008, at a yet to be determined location. Most likely AAPA, ABRC and AIA would schedule around that meeting.

Among the advantages to holding such a meeting would be: 1. being able to bring students to the meeting on scholarships from the ABF Overturf fund, 2. bringing many researchers to the meeting from which the associations could choose speakers, 3. interacting with state and federal regulatory personnel, 4. provide an opportunity to suggest that the two groups either continue to meet simultaneously or "merge" into a single group.

AAPA, and probably AIA, would still schedule time for separate business meetings and the presentations of the more fundamental ABRC papers.

It was suggested that the President of AAPA write a letter to the two associations explaining the possible advantages and urging the group to meet as a whole. Marion and Marla Spivak will share in the composition of the letter. How often we meet with either or both associations will be determined later.

As of March, the ABRC organizers are contemplating holding a special, symposium-like session, to be part of the next ABRC. The idea is to allow researchers working on Varroa control to describe in more detail what is being done in their programs. Following the presentations, it is hoped that the researchers can confer about what future directions of research might be most promising and who might be involved in those studies.

Old Business

Article 6, Section 7 of the AAPA Bylaws, e-mailed to the members for consideration several months in advance, was amended by vote of the members to the following: The term of office for the President and Vice President extends from the meeting at which they were elected through the next meeting. It is expected that the Vice President will transition to the presidency. The term of office for the Secretary/Treasurer and Directors extends from the meeting at which they were elected through the second meeting following the meeting at which they were elected. No individual may hold the same office for more than two consecutive terms, and at least two years must lapse before an individual is again eligible for the same office.

There was an inquiry about AAPA membership lapel pins that are sent to new members. There are 11 on hand with a few about to be sent out. Tom Webster reported that he is in possession of about 1,000 copies of the Cornell U.S. Pollination statistics. We will offer them on the Web site for $0.50 plus shipping, but Tom will cut a deal for members who desire copies. Also, Marla still has approximately 2,250 Pollinators in Your Garden pamphlets. They are advertised on the Web site for sale, but members can get a good deal by contacting Marla.

New Business

USDA APHIS is planning to request funds to conduct a National Honey Bee Pest and Disease Survey. The findings of that survey will have implications in international movement of honey bees between

countries. Wayne Wheling was looking for suggestions for Task Force members. AAPA suggested Zachary Huang represent AAPA, and early discussions appear to confirm his appointment to that committee.

Nick Aliano was, once again, selected as recipient of the 2006 Dr. John Harbo Student Paper Award of $50.00. The award was presented to Nick by John, for whom the prize was renamed. John received a plaque from AAPA to signify the change. The members of AIA presented John with a second award for his outstanding service to the beekeeping industry. John recently retired from his position in the USDA.

The Nominations Committee submitted the following slate of candidates, who were elected to office for the coming year:

President – Marla Spivak
Vice-president – Mike Hood
Directors (1 year terms) – Nancy Ostiguy and Jose Villa
Directors (2 year terms) – Tom Webster and Zachary Huang.

John Harbo was elected to Emeritus status.

President Spivak made some initial standing committee appointments: Regulations – Z. Huang, T. Webster, and Dennis van Englesdorp. Pesticide Registration: J. Adamczyk, J. Hayes, and J. Pettis. Awards – N. Ostiguy, J. Skinner, and B. Danka.

There was a consensus that AAPA should meet in conjunction with the American Honey Producers' Association next year. Their convention is scheduled to be held for three or four days toward the middle of the week of January 7-13 in Phoenix, Arizona.

The meeting adjourned at 10:54 AM.

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CANADIAN ASSOCIATION OF PROFESSIONAL APICULTURISTS
L'ASSOCIATION CANADIENNE DE PROFESSIONELS DE L'APICULTURE

BYLAWS

Objectives of the Association

1. To promote, develop and maintain good fellowship and cooperation among professional apiculturists (individuals whose work in government, university, or similar professional capacity involves managed bee species)
2. To create a meeting of administrative and research professionals for the purpose of discussing common interests related to bee management and effectively coordinating, where possible, their activities.
3. To aid in the dissemination of information regarding the beekeeping industry in all its forms.
4. To maintain a consultative rapport with the Canadian Honey Council and other organizations concerned with managed bee species.
5. To maintain a rapport with professional in apiculture and related fields in other countries.

ARTICLE I - <u>Membership</u>

I (1): Full membership, with voting privileges is open to personnel employed by Canadian Federal and Provincial governments, universities or college, and consultants who are employed in the field of apiculture or other related fields as:

- federal apiculturist
- provincial apiculturist
- full-time or part time extension apiculturist
- full-time or part time teaching and/or research apiculturist
- full-time or part time apiary inspectors
- full-time or part time apicultural technicians
- full-time or part time professionals in any other capacity whose work involves managed bee species

I(2): Non-voting, associate membership in the association may, upon receipt of an application, be granted to persons who are:

- Part or full-time graduate students involved in projects involving managed bee species
- Part-time technicians associated with personnel or projects involving managed bee species
- Part-time disease inspection staff
- Representatives of appropriate programs within federal government agencies such as Agriculture and Agri-Food Canada, the Canadian Food Inspection Agency and the Pest Management Regulatory Agency
- The representative of the Canadian Honey council and a representative of any other organizations concerned with managed bee species.
- Members of the American Association of Professional Apiculturists
- Members of the Apiary Inspectors of America.

I(3): Membership or associate membership may be extended to persons other than those defined in Clauses I and II upon ratification by a majority of the membership.

I(4): The privileges of membership in the Association shall terminate when a current member resigns or retires from the position which established his/her eligibility.

I(5): Membership fees shall be prescribed by the members in general meeting.

I(6): Every member shall receive a copy of the bylaws annually.

I(7): Privileges of membership shall be restricted to those holding current membership.

I(8): The decision to grant life memberships, honorary memberships, and awards of merit shall be made by a 75% majority of the members present at the general meeting.

ARTICLE II - General Meeting

II(1): The annual meeting shall be held at a time and place designated by the executive.

II(2): The secretary shall send all members a notice of a general meeting sixty (60) days in advance of the date of such a meeting unless a majority of the members waive the sixty day requirement.

II(3): A quorum of a duly called general meeting shall be six (6) members.

II(4): Attendance at the Association's meeting shall be limited to members and guests invited by the executive.

II(5): Minutes of the general meeting shall, when printed, be of a confidential nature and permission to use the information presented must be obtained from the executive.

ARTICLE III - Finances

III(1): The fiscal year of the Association shall be from January 01 to December 31 of the calendar year.

III(2): All monies and securities held by the Association shall be in the name of the Canadian Association of Professional Apiculturists.

III(3): All money transactions made by the Association shall be made by cheque signed by the secretary-treasurer and the president.

ARTICLE IV - Officers of the Association

IV(1): The members shall, at the general meeting, elect a president, vice-president and secretary- treasurer and the executive may appoint such other officers and committee members as may be required.

IV(2): All officers shall be elected for a two year term of office.

IV(3): The president shall preside over all meetings of the Association and shall be ex-officio, a member of all committees.

IV(4): The vice-president shall perform the duties of the president in his/her absence or inability to act.

IV(5): The secretary-treasurer shall:

1. Record the minutes of all meetings of the Association and distribute copies of these minutes to the membership sometime during the sixty (60) days following a meeting, and,
2. Send information and notices of motions and meetings etc. to the membership as required, and,
3. Collect the annual fees from each member and maintain an up-to-date membership list, and,
4. Look after all financial matters of the Association and maintain accurate records relating to same.

ARTICLE V - Amendments of Bylaws

V(1): Bylaws may be amended only by a recognized quorum at a general meeting and all members must be notified by the secretary-treasurer of any proposed changes in the thirty (30) days in advance of the meeting date.

The foregoing are the Bylaws of the Canadian Association of Professional Apiculturists as amended at the annual meeting held in Winnipeg, Manitoba, January 27 and 28, 2004.

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2006 Executive & Committees

Executive		Stephen Pernal	President
		Rhéal Lafrenière	Vice-Pres.
		Rob Currie	Past-Pres.
		Rhéal Lafrenière	Secr/Treas
Standing Committees			
	Chemical	John Gruszka	Chair
		Doug McRory, Claude Boucher	
		Medhat Nasr, Rhéal Lafrenière	
		Stephen Pernal, Alison Skinner	
	Importation	Medhat Nasr	Chair
		Doug McRory, Rob Currie	
		John Gruszka, Chris Maund	
		Ernesto Guzman, Alison Skinner	
	Research	Paul van Westendorp	Chair
		Don Nelson, Kenna MacKenzie	
		Cynthia Scott-Dupree	
	Awards	Alison Skinner	Chair
		Don Dixon, Paul van Westendorp	
		Kenna MacKenzie	
	CBRF Directors	Rob Currie	
		Cynthia Scott-Dupree	
Ad-Hoc Committees	**Publications**	Stephen Pernal	Chair
		Cynthia Scott-Dupree, Joanne Moran,	
		Rhéal Lafrenière	
	Archives	Heather Higo,	Chair
		Don Nelson, Mark Winston	
		Adony Melathopoulos	
	Non-Apis Pollinators	Vacant	Chair
		John Gates, Dick Rogers	
		David Ostermann	
		Kenna MacKenzie	
	Honey Working	John Gruszka	western representative
		Medhat Nasr,	
		Rhéal Lafrenière	
		Doug McRory	eastern representative
		Claude Boucher,	
		Chris Maund	
	Editorial	Stephen Pernal	Chair
	Disease Publication	Adony Melathopoulos, Ernesto Guzman	
		Paul van Westendorp	
	Communications	Adony Melathopoulos	Chair
		Rob Currie, Cynthia Scott-Dupree	
		Kenn Tuckey, Rhéal Lafrenière	

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