

Bee SCENE



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Promoting and Encouraging Beekeeping
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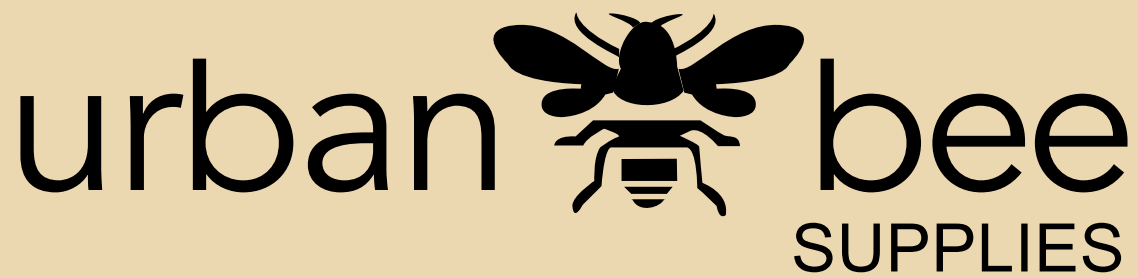
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To:



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Letter from the editors . . .

It seemed nearly impossible a short time ago, but we're finally getting some spring in the Bulkley Valley. There is still snow on the ground in some places, but the willow pollen is rolling in and it's a big relief to see the bees getting rewarded for their patience. It also felt like a huge relief to see the ground again; I don't remember ever being so glad to see grass.

Winter survival in our area is mixed from the few reports we've gathered, but many are reporting heavy losses with some losing most or all of their hives. This is always hard news to hear, especially from those who prepared their hives for the long winter. In our area, most beekeepers are reporting that there was a darker honey last year; for us, it's the darkest honey than any since we've started beekeeping. I think that perhaps a greater proportion of honeydew was to blame for some of our losses, but I'm only guessing. I was told recently that all honey has some honeydew in it; that was something I didn't know. Whether this was the case or not, there was certainly more evidence of dysentery in the hives than what we normally see. Ian thinks that the main problem was a lack of opportunities for cleansing flights – there didn't seem to be any breaks in the cold weather. Rodents also got a 'leg up' due to the deep snow cover. It seems they were able to access hives more easily, and there was more than the usual amount of mouse damage.

At the beginning of April, I attended the AGM of our local Farmers' Institute. This is something that I've been meaning to do for a few years - it's the kind of thing that's easy to put off. A friend had been encouraging us to join for a couple of years, and since I didn't understand what it's all about and why it would benefit us to go, it seemed low on the long list of priorities. I have been looking for way to get to know more local farmers, some of whose fields our bees forage on, so it did seem like the sensible place to start.

The Smithers Farmers' Institute (SFI) was formed in the beginning of the twentieth century to serve farmers and ranchers in the area. There was once an extensive network of Farmers' Institutes along the Highway 16 corridor, but they have slowly fallen away, and only the Smithers and Tatalrose (south side of Francois Lake) Institutes remain. The 'Aims and Objects' in the 1920 bylaws of the SFI include: improving the conditions of rural life; to promote theory and practice, and stimulate interest in agriculture by exhibitions, prizes and other means; to arrange on behalf of members the purchase, sale and distribution of commodities, supplies and products;



and to promote social intercourse, mutual helpfulness, the diffusion of knowledge and make new settlers welcome. An optimistic set of goals! The SFI still works on these objectives in some capacity, though in recent years the local feed and lumber stores have taken over the function of bulk purchasing.

The meeting I attended had very few people present. I was surprised to see that, but there was no shortage of dialogue as a result. There were a few old timers there and I think they were surprised to see me. Once they found out that we're beekeepers, there was the usual curiosity and long list of questions about bees, though I'm not sure I'm getting any better at answering them.

Since then, I've been wondering about the low turnout – I had expected to find a better cross section of area farmers there. The friend that had been inviting me to come thinks that the sense of duty that once would have prompted farmers to attend has eroded. I'm kind of old fashioned, so feel that when we lose that sense of duty to be there (in person), some pretty important elements of community are lost as well. It's redundant for me to say that times have changed. However, I haven't given up hope that we can get back to regular coffee time with the neighbours, only on a bigger scale.

We visited the same friend that invited me to the SFI meeting at his farm a few days ago, and he gave me another valuable gift: many pounds of flower seeds, enough to seed quite a few acres. Sweet clover, birdsfoot trefoil, phacelia and hemp (the last two harvested from his garden last year). Another hopeful activity awaits! ☘

BeesCene is published quarterly (February, May, August, November) by the British Columbia Honey Producers' Association (BCHPA). BCHPA represents BC beekeepers and is the voice of 100% of the managed BC honey bee colonies nationally through the Canadian Honey Council. BeesCene is delivered free of charge to all members. Non-member subscriptions are welcomed: \$50/year (Canadian funds). Deadline for submissions: 15th of the month prior to publication (i.e. July 15th for the Aug. issue). A complimentary sample copy will be sent on request.

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Our cover story:

Seven year old Aliana Darbey, Salt Spring Island's youngest beekeeper, manages her top bar hive with her Granddad, Vancouver Island & Gulf Islands Inspector, David Macdonald. Aliana has been in love with honey bees since the time "Andrew", her favourite honey bee, landed on her big toe when she was two. Needless to say, honey is her favourite food.

From the President

There are so many discouraging stories in the global news: conflict, violence, pompous belligerence, dishonesty, abuse of power and human generated tragedy (not to mention accidents and natural disasters). I'm glad we're involved in beekeeping. Whether as a business, an interest, a science or an uplifting and inspiring craft. Even with the challenges, it has so many positives. If we're going to leave a mark in the world, let it be a positive one - and bees are a good way to accomplish that.

Our March BCHPA meeting in Kamloops was by all measures a great success: thanks to Dan Mawson for arranging the speakers as well as continuing with a professional audio-visual service (speaker presentations coming soon to the website). Thanks to Ian Farber too, for arranging a new venue to accommodate our larger turnout of members, even for the business meeting! Treasurer Irene Tiampo confirmed that our association is in very good financial status, and we have embarked on some initiatives, guided by a Research Committee headed by Heather Higo, and with the talents and experience of Ali McAfee, Liz Huxter and Gerry McKee. Secretary Christina Rozema quickly generated the minutes (included in this issue) where you'll find reports by CHC Rep Stan Reist, of the complications and challenges to the national bee industry, and notice of the annual meeting being arranged by Jeff Lee and the host group, the Capital Region Beekeepers in Victoria. This event will take place Friday October 26th through Sunday Oct 28th. We may also hold a course for Honey Judging on the afternoon of Thursday the 25th, so if that interests you, keep the date open.

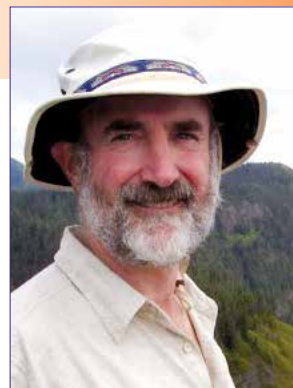
I missed updating a message on our website immediately after the Kamloops semi-annual meeting - perhaps it was the distraction from becoming a grandfather (my son Sheldon and his wife Selina had a girl named Thalia) in December. Connie and I took the opportunity to visit them in Vancouver after the meeting.

Since then there have been many messages exchanged in relation to BCHPA involvement in upcoming research. First, a study of foulbrood, using the new tools of molecular biology. This involves YOU: one of the contributions of BCHPA members is to FIND the "needles in the haystack" of foulbrood-infected colonies for the study to use. On our website (see "Got foulbrood?") you will find links for how

to REPORT your search effort and MAIL samples of suspected foulbrood, to the National Bee Diagnostic Lab in Beaverlodge, Alberta. Even if you think it is "regular" foulbrood, please send it in, as it may have special properties (like resistance to antibiotics) that are not obvious. An optional addition to your foulbrood sample would be digital photos showing several dead larvae in their cells, and the brood pattern of the whole comb. The photos can be emailed to pwolfveiga@gprc.ab.ca with the same date and identity number you use for your mailed-in sample (examples of such photos are below).

The second research effort initiated by the BCHPA is a study of the health of honey bee colonies involved in blueberry pollination. You may have heard or seen press articles about this. Unfortunately, some of these cast the issue as a battle between beekeepers and berry growers. We never intended that. It has always been a search for the validity of the serious concerns of beekeepers, of thousands of colonies. This season we will be gathering evidence and hope to find answers and solutions: the win-win result. BCHPA has many partners in this, including the Blueberry Council.

May 29th is Day of the Honey Bee, and BCHPA has been invited to attend at the BC Legislature for an announcement by Minister of Agriculture Lana Popham. Stay tuned for news about this. Try to find a way of promoting awareness of honey bees in your community, and ways that everyone can make the environment better for both bees and people. Some of our Executive will attend the announcement at the Legislature, but on that date I will be involved in introducing beekeeping to the community of Fort Chipewyan (why? It's a great challenge, especially this year with such a cold spring. But why not! I'll be able to report results later). There is a lot to look forward to. My Best Wishes to you and your bees for the upcoming summer. Bees be with you. ☘



Kerry Clark
BCHPA President



Foulbrood? Scattered empty brood cells and 3 dead larvae puddled in bottom of cell indicate a possible foulbrood infection.



The scattered or shotgun capped brood pattern across the whole frame indicates a brood problem.



Beelines

News from the Ministry of Agriculture

PAUL VAN WESTENDORP, Manager, BCMA Apiculture Program
paul.vanwestendorp@gov.bc.ca.

New Apiary Inspectors

In the previous issue of BeesCene, I mentioned that we were seeking an Apiary Inspector for the Northwest region of the province. After close examination of beekeeper distribution of this large area, we decided to appoint two inspectors instead: one for McBride-Prince George-Vanderhoof, and another inspector for Telkwa-Smithers-Terrace.

There were two successful candidates and we would like to welcome them to our Apiculture Inspection and Extension Team:

Barry Clark, Prince George:
barrydouglasclark@gmail.com. 250 301-6266
Phil Briennes, Smithers:
phil@northernbeekeeper.com. 778 210-1020

Barry and Phil have acquired a lot of beekeeping experience over the years and have served in their local beekeepers clubs as president, teacher and field day organizer. I look forward to seeing Barry and Phil deliver quality inspection and extension services to beekeepers of Northwest BC.

Apiary Inspector – North Okanagan

In the last issue of BeesCene, I invited applicants for the position of Apiary Inspector of the North Okanagan to replace Doug Gordon. Doug has indicated that the increasing demands of operating his own beekeeping operation have made it difficult for him to also provide effective extension services. He has agreed to stay on until a replacement has been found. I invite experienced beekeepers of the North Okanagan to consider applying for this interesting part-time, seasonal position. For details, please send me an email.

Colony Deficit in Blueberry Pollination

Commercial beekeepers have reported poor colony condition during and after blueberry pollination in past years. In 2017, the colonies were in such poor condition that they failed to improve for the remainder of the season. Several commercial beekeepers indicated that they wouldn't make their colonies available for blueberry pollination this year.

During 2017, there was speculation about the possible causes that led to the poor condition and reduced productivity of colonies. These included:

- Increased incidence of EFB.
- Nutritional deficiency of colonies.
- Exposure to fungicides that were applied prior to and during crop bloom.

Increased incidence of EFB associated with blueberry pollination was reported over 30 years ago, and was believed to be the result of increased pH levels in the bee's digestive tract caused by blueberry nectar. The alkaline environment is conducive to the development of EFB. Studies have also shown that blueberry pollen is deficient of some amino acids needed by honey bees. Supplemental feeding can effectively lower the pH level.

The poor condition and performance of colonies in 2017 led beekeepers to speculate that frequent fungicide applications before and during blueberry bloom may have been partly responsible. Record-breaking precipitation and low temperatures in early 2017 caused berry growers to apply fungicides throughout the spring season. Fungicides have traditionally been regarded as safe around bees when used correctly but this assumption is now being questioned. Commercial beekeepers, growers and the BC government recognize the importance of identifying any health and productivity risks associated with established management practices of the two industries. As a result, various funders and supporters including the BCHPA, the BC Blueberry Council, the BC government and others have initiated a multi-year study to determine whether fungicides used in blueberries have an impact on honey bee colonies.

Blueberry growers have not applied significant changes to their production practices in recent years. The most significant difference between 2017 and previous years was the unusual spring weather conditions. Not only was the berry crop delayed, the cold and wet spring had a huge impact on the condition of the colonies. It seems beekeepers may not have taken the poor weather into account enough in assessing the causes responsible for the poor 2017 production year.

Recent media reports have speculated on a possible shortfall in the number of colonies made available to meet crop pollination requirements. I'm not sure that this will be the case as blueberry pollination contracts have become an important income stream for many beekeepers. Since factual data is not available, a final assessment will have to wait. However, the mere speculation of a potential colony shortfall has resulted in a spike in pollination fees.

Annual Winter Colony Mortality Survey

In May, the Apiculture Program will carry out its annual Winter Colony Mortality Survey. The survey form will be emailed to all beekeepers registered with 10 colonies and more.

The data will be compiled according to the different regions of the province, and the overall estimates for the province will be shared with the national survey. Beekeepers who don't receive the email notice but wish to participate in the survey

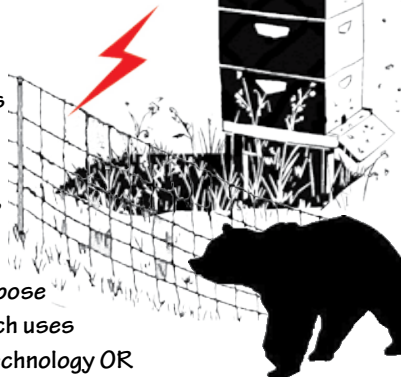
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can visit the government website www.gov.bc.ca/apiculture and select "Surveys".

As with all of our surveys, the data you submit will be anonymous and deleted when entered into the database. Even though survey participation is voluntary, the compilation of the data is carried out to the benefit and interest of all beekeepers. I strongly urge everyone to take 5 minutes and complete the survey form.

Swarm Collection Etiquette

Bees have become a hot commodity and beekeepers are all too eager to collect them. This is fine but competing claims can quickly lead to conflict and bad feelings. There are no official rules or regulations concerning swarm collection but there are a few things beekeepers should adhere to:

- When a beekeeper finds a swarm, he/she can lay claim to it: "Finders Keepers".
- After the beekeeper finds the swarm and needs to get equipment to collect it, he/she should hang a piece of clothing close to the swarm to indicate that the swarm has been "claimed".
- When the swarm has been found near an existing apiary, it is very likely that the swarm originated from that apiary. The finder beekeeper should have the courtesy to alert the beekeeper of the apiary that a swarm has probably come from the apiary. Only after contact efforts fail, is it okay to collect and remove the swarm.
- The finder beekeeper does not have automatic right to access private property where the swarm is located. It is important to take reasonable efforts to contact the property owner first and obtain permission for access.
- Please be aware that the swarm could harbour a disease. After having the swarm, keep a close eye on the condition of the colony and monitor for any signs of disease for several weeks.

Discontinuation of Fumagillin Production

In mid-April, Medivet of Alberta made the unexpected announcement that it would close its doors for good because the production of the Nosema-controlling antibiotic fumagillin would stop permanently. No reason was given why the European manufacturer with a near monopoly, had decided to cease production of the active ingredient needed to produce fumagillin. At this point, it is not clear what medications will be available to control Nosema in the future.

Medivet


It is unfortunate that the discontinuation of fumagillin production has precipitated the end of Medivet. This small, family operated pharmaceutical company in Southern Alberta became an iconic fixture of Canadian beekeeping since Willy Baumgartner started it in the 1970s. Medivet became the principal supplier of veterinary drugs for honey bees across the country, especially for Prairie beekeepers. Selling veterinary drugs was not the only motivator for Willy. For him, the social contacts and friendships he made were equally important. Willy attended an endless number of beekeeper meetings, and whenever there was a research project or initiative in need

of corporate support, Willy was often the first one to step forward.

When Canada had secured the bid for hosting Apimondia99 in Vancouver, Medivet promptly signed up as the first corporate sponsor, and Willy became personally involved by promoting Vancouver at the conferences in Lausanne (95) and Antwerp (97). As the years passed by, Willy's partner and wife Ursula took on more operational responsibilities and they began to attend beekeeper meetings and conferences together.

In recognition of many years of support, Willy was awarded the Fred Rathje Award in 2008, not long before he passed away. Ursula continued to manage Medivet and honoured the tradition of supporting the beekeeping community. Many beekeepers will recall the incident when a bee supply business of Eastern Canada attempted to obtain exclusive registration rights for formic acid. As corporate sponsor, Medivet stepped forward and registered the product on behalf of and to the benefit of the Canadian beekeeping community, without expecting any benefit in return. The loss of fumagillin represents a very big part of Medivet's business, and after analyzing all options, Ursula had to make the tough decision of not continuing the business. Thank you Medivet and thank you Ursula for the many years of friendship and support.

*~ Paul van Westendorp
Provincial Apiculturist
British Columbia*


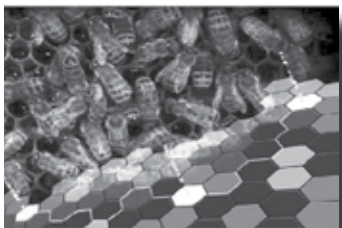


Hive Contamination Management

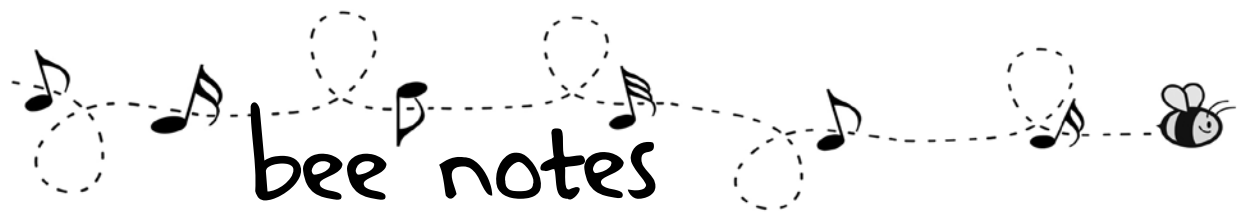
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Improved productivity and decreased costs allow Beekeepers more assurance that revenue targets will be met and, with new markets opening to residue-free honey, also provides an opportunity to reduce drug treatment in the Beekeeper's IPM program.



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Pritchard Ranch Captures Top Honour at 2017 Interior Provincial Exhibition



Steven and Jennifer Zachary of Turning Point Ranch in Pritchard (centre) are presented with the Interior Provincial Exhibition's Honey Division Premiere Award by (from left), Ted Fitchett, IPE president, Lisa Babchuk, Honey Division director, Yvonne Paulson, IPE general manager, and Keith Rae, Honey Division judge.
~ Fiona Montgomery photo

Steven and Jennifer Zachary of the Turning Point Ranch in Pritchard were the clear winners of the IPE Premiere Exhibitors Award in 2017, sponsored by directors and IPE members.

"During the fair this was given to Division 15 – Honey," said IPE general manager Yvonne Paulson. "The award was decided on by the total number of points accumulated by one exhibitor from the classes in this division."

For the Zacharys, it was their first time entering the honey division at the IPE. "This year was a rough year for bees with the drought this summer but Turning Point Ranch brought very well presented entries of honey and beeswax," said Paulson. "We were honored to present them with the Premiere Exhibitor Award at our 118th IPE Fair."

They were presented with a cheque for \$250 as well as a first place ribbon in each of the novice beeswax and novice and liquid honey class and third place ribbon in the regular liquid honey class.
~ submitted by Keith Rae

Got Foulbrood?

The National Bee Diagnostic Centre is collecting suspected foulbrood samples (EFB and AFB) to contribute to a Canada-wide study. But first, we need your help.

The goals of this research are to 1) develop better foulbrood diagnostic techniques (especially for EFB), 2) better understand the factors contributing to active vs. benign infections, and 3) compare virulence of different bacterial strains as well as their susceptibility (or resistance) to antibiotics. We hope that this will lead to faster, more reliable diagnoses and more targeted treatment strategies.

To do this, we need a broad sample of the different bacterial strains found in Canada. If you identify a colony with a suspected foulbrood infection, please consider sampling affected larvae and submitting the samples to us. The success of the project depends on collecting an adequate number and diversity of samples to get a good representation of the population.

If you suspect you have EFB or AFB in your colonies, please sample the affected brood according to the instructions, details of which can be found on the BCHPA website. Your contributions will make this study more powerful and will help make us all better equipped for dealing with this disease in our apiaries.

Sincere thanks,
Patricia Wolf Veiga
Acting Manager/Diagnostic Technician
National Bee Diagnostic Centre
Beaverlodge, Alberta

Producer Programs to Continue in BC

The federal and provincial governments have recently announced the Canadian Agricultural Partnership (CAP). This partnership replaces Growing Forward 2, the five-year federal-provincial agreement that ended March 31, 2018.

The partnership will offer enhanced programs for market development, agri-technology and on-farm and processor food safety, as well as continuing climate adaptation, the Environmental Farm Plan program and business-development services. New programs will target knowledge transfer from agricultural leaders to new farmers, as well as a continued suite of support services to prepare and support new entrants.

The outcome of this agreement is a five-year investment of \$115 million in B.C. programs that will offer widespread support to the farming, ranching and food-processing sectors. Included in this funding is the promise of continued delivery for the Environmental Farm Plan (EFP) program and Climate Action Initiative (CAI). Both of these programs have proven to be critical to the continued sustainability of agriculture in British Columbia.

BHW Fund to Support Honey Bee Microbiome Research



by Abigail Chapman

I have just finished my third year in the Honours Biochemistry undergraduate program at UBC Vancouver, where I am part of the International Leader of Tomorrow Scholarship program. I began working in Leonard Foster's lab a year and a half ago because I always had a fascination with bees and since then have absolutely fallen in love with them.

The project I am embarking on this summer, with support from the BHW Fund, will investigate if the microbiome of honey bees can be manipulated with probiotics and if it is affected by some of the synthetic treatments beekeepers apply to their colonies. The microbiome is a complex community of symbiotic, commensal, and parasitic microbes, which is hosted by virtually every plant and animal we know of. These microbes serve many functions, including nutrient recycling, producing vitamins, and protecting against invading pathogens. Some members of the microbial community can also cause disease, while the community as a whole can offer disease protection, when it is properly balanced. Though many details of the relationship between the bee and its microbiome is still poorly understood, the community composition certainly has direct and substantial consequences for the health and lifespan of honey bees themselves.

Understanding if this community is disturbed significantly by treatments for Nosema and other pests/pathogens will inform better treatment strategies, and knowing whether or not probiotics actually do change the microbiome in the way that they are marketed will provide valuable information to beekeepers about what products to invest in for colony health.

Next year, for my undergraduate thesis project, I am hoping to further expand on this project and investigate the interaction between probiotics, *Nosema*, external treatments, and the immune system of honey bees.



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Apimondia Montréal 2019

The Canadian Honey Council and its industry partners are proud to invite you to join the 46th Apimondia Congress, which will be held in Montréal, Canada from September 8-12, 2019. Apimondia 2019 Montréal proposes a theme outlining the importance of bees for our society: **Working together within agriculture, Canada's answer to sustainable beekeeping.**

As many of you know, APIMONDIA is the International Federation of Beekeepers' Associations. Its major objective is to facilitate the exchange of information and discussions by organizing Congresses and Symposia where beekeepers, scientists, honey-traders, agents for development, technicians and legislators meet to listen, discuss and learn from one another. Apimondia meetings are fabulous events that offer great opportunities to learn about all the aspects of the beekeeping world. During these meetings, from morning

until late evening, participants explore various exhibits and learn about cutting edge research from all parts of the world.

The organizing committee of Pierre Giovenazzo, Rod Scarlett and Steve Pernal have recently been meeting with officials in Bucharest, working tirelessly on the project to pave the way for a smooth planning process.

Preliminary plenaries and symposium topics are posted on the Apimondia website: www.apimondia2019.com.

Registration is officially open at: <https://goo.gl/4i9Rge>. We are collecting high resolution photographs to showcase our province and our beekeepers at Apimondia 2019. Don't miss the opportunity to have your area represented in front of the world! Please email your photos to media@bchoneyproducers.ca.



Bee Research Update from UBC

The Bee'Omics project, which is aimed at finding new molecular markers for selective breeding of a variety of beneficial colony traits, is advancing slowly but surely. We are still acquiring data and will share any preliminary results as soon as they come available. In the meantime, we are also keeping busy with two other projects.

One is the original Marker-Assisted Selection project, which you have probably heard about in previous years. In the past, we have demonstrated that measuring protein molecules in honey bees' antennae can accurately predict if colonies are both hygienic and resistant to *Varroa destructor*¹. Now, our focus is on actually implementing this technology and working with collaborating beekeepers to get these selected bees on the market. Last year, you may have seen some advertisements from local bee breeders selling queens which were selectively bred by this method. If you purchased any queens from this project, please let us know how they fared – if they did exceptionally well, we want to know, and if they failed, we want to know that too. Our goal is for this to be a useful tool – we've done the lab work, but having this method succeed in the

industry will inevitably require some finishing touches. We are continuing another iteration of breeding this year, and any feedback, positive or negative, is welcome. Please email Leonard Foster (foster@msl.ubc.ca) or Heather Higo (heather.higo@gmail.com) if you have information you think would be useful for us. Thanks for supporting the project!

The second project is on Bee Health in Blueberries, spearheaded by Marta Guarna with support by our lab at UBC, Agriculture and Agri-food Canada, the BCHPA, and the National Bee Diagnostic Center. I wrote about preliminary aspects of this project in the last BeesCene issue. I'm happy to report that Marta has received some funding to initiate the project, which is aimed at determining if better management of honey bee nutrition during blueberry pollination can improve colony health outcomes. Field work is commencing for the current blueberry pollination cycle and we hope to have preliminary results to report this fall.

Reflections on the Bee Masters, 2018

On the night of Sunday, February 11th, I hardly got a wink of sleep. I was too



Alison McAfee

PhD Candidate,
Genome Sciences and Technology
Michael Smith Laboratories, UBC

full of nervous energy. The next day, 45 dedicated students and 16 esteemed speakers (8 men and 8 women) from Canada and the USA would be gathering at UBC, despite it being a provincial holiday, to commence the week-long, biennial Bee Master course. This year, I co-organized it with Paul van Westendorp (a process which began as early as the previous summer). As both a first-time organizer and one of the speakers myself, I was invested in having it go smoothly.

From February 12th-16th that nervous energy transformed into an unforgettable bee education experience. Throughout the week, we learned about everything from emerging honey bee pathogens, to the hidden world of gut microbes, to wild pollinator diversity, and much more. Most of the course was heavy on science, so Leonard Foster set the stage by reminding us of how the scientific method works. Later that day, Nadia Tsvetkov (lead author of one of the two neonicotinoid Science studies I wrote about in BeesCene last year) taught us the fundamentals of genetics, with bee-centric examples, of course – knowledge which was indispensable for understanding many of the subsequent talks. Nadia's enthusiasm for genetics was infectious. Several students voiced the same sentiment: "I never understood this stuff in high school, but now I do."

As the course went on, we built on these fundamentals with lectures on



Bee Master speakers, 2018. Back left to right: Jeff Pettis, Michelle Flenniken, Cheryl Wiens, Paul van Westendorp, Andony Melathopoulos. Front left to right: Heather Higo, Nadia Tsvetkov, Mark Winston, Alison McAfee, Waldan Kwong. Missing: Leonard Foster, Steve Pernal, Kyle Bobiwash, Sarah Common, Marta Guarna, Renata Borba.

selective breeding (Leonard Foster), queen quality (Marta Guarna and Heather Higo), genetic engineering (myself), discovering new viruses (Michelle Flenniken) and molecular disease diagnostics (Cheryl Wiens).

Of course, you can't have a honey bee course without also having a comprehensive discussion on pathogens and their management. We covered the biology of *Nosema apis*, *N. ceranae*, American foulbrood and European foulbrood (Steve Pernal), as well as small hive beetles and Tropilaelaps mites (Jeff Pettis; because really, we've heard enough about *Varroa*), trypanosomatid parasites (Marta Guarna), and the stealthy world of viruses (Michelle Flenniken). And what can we do about them? Integrated pest management, of course (Paul van Westendorp). The bees, too, have a whole suite of their own defenses – both behavioural (Renata Borba) and individual, with the bees' gut microbes playing a surprising role (Waldan Kwong).

Andony Melathopoulos and Jeff Pettis gave us a much-needed, nuanced view of the relationships between growers, pesticides, and honey bee health. The discussion was more positive than the

typical pesticide-pollinator debate and was geared towards understanding all sides. We learned what goes into toxicity testing, understanding what the usage restrictions on agricultural pesticide labels really mean (it's not as obvious as you may think), and how to navigate a handy cell phone app that makes it easier for beekeepers to learn about the pesticides their bees may be exposed to.

The science of honey bee health is a relentless rush, but we ended the course with the softer side of bees. Mark Winston shared his personal story of how honey bees influenced and changed his life throughout his time as a researcher and a writer. Kyle Bobiwash reminded us of the unbelievable diversity of native pollinators and the flowers with which they co-evolved. Finally, Sarah Common nearly brought us to tears with inspirational stories of how her and her mother, Julia, have used honey bees and the culture of the hive to change the lives of countless people living in Vancouver's Downtown Eastside.

As we neared the final hours of the course, it was the students' turn to generate the nervous energy: it was time for their final exam. While marking the exams, I reflected on what aspects of the

course did and didn't work. We received feedback that some of the handout notes were too hard to read, so next time we would like to produce higher quality handbooks that can serve as a lasting reference. At the request of some students, I arranged two spontaneous laboratory tours around our UBC rooftop apiary, proteomics facility, micro-injection room, cell culture room, and everyday bench space. Next time, I hope to have this (optional) tour pre-arranged and worked into the course schedule.

Despite a few other minor points of improvement (such as – and this is important – there was no free coffee and the pub night patio was too cold), I walked away from the course already feeling excited for Bee Master 2020. All the students and speakers contributed the perfect mix of perseverance, positivity, and curiosity, which I hope we can reproduce in the future. Congratulations to this year's crop of Bee Masters, and I look forward to new faces in 2020. ☼

1. Guarna et al. (2017). Peptide expression biomarkers for the selective breeding of a complex polygenic trait. *Scientific Reports*. 7(1):8381.



2018 MEMBERSHIP APPLICATION FORM BC Honey Producers' Association

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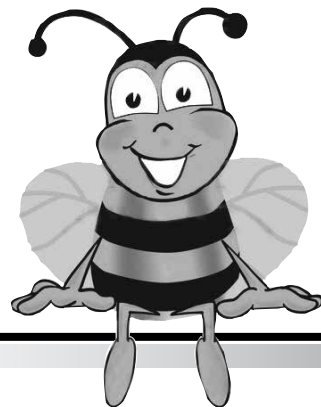
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Ask the Buzzers...

This column is a place where all beekeepers are encouraged to both ask questions and give answers. It has been said that if you ask three beekeepers a question, you will get four different answers, so readers will have to take answers under careful consideration. Beekeepers are encouraged to respond to answers when their thoughts may differ.

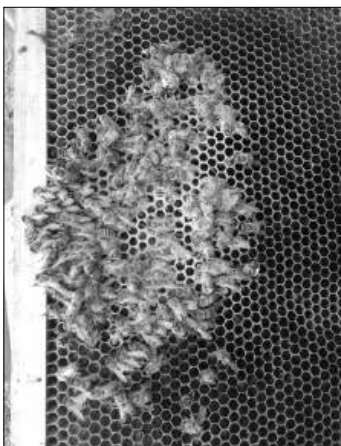
An important thing to always keep in mind is the wide range of environmental conditions we encounter in our province. It's best to be cautious when taking advice for your bees, and to take into consideration where that advice is coming from. Always consult experienced, successful beekeepers in your area.

Please send questions and responses to the editor at BeesCene@bcbeekeepers.com.



Q: I have some moldy comb from winter deadouts. What is the best way to deal with them?

A: I don't worry about mold. When I sort through comb I carefully inspect it for American foulbrood (AFB; which can be tricky to spot, so beginners should always have a mentor show this disease to them). I burn any comb that is suspected of having AFB. I also check if brood comb is getting old - I like to rotate out comb that is more than 5 years old. Finally, if comb has problems - like a lot of drone comb or a broken ear - I like to get rid of it. But if I have a nice new comb with mold, I just put it back into the colony and let the bees clean it out. ~ *Andony Melathopoulos, Oregon*



A: Give it to a big colony to clean up when you are adding boxes. ~ *Brenda Jager, Gabriola Island*

A: Dry them out, brush off the dead bees and reuse them with strong colonies, unless of course you see signs of AFB or *Nosema*. ~ *Barry Clark, Prince George*

A: This is a good time to cull old any undesirable combs out of your system. As far as moldy combs go that are otherwise in good condition and disease free they can be reused, gradually placing over time in strong colonies that will have no problem cleaning them up. ~ *Garret Wilkinson, Parksville*

A: Add one or two of the moldy combs to the centre of a brood nest in a strong hive. ~ *Steve Mitchell, Duncan*

A: On the moldy frames I just scrape them, spray vinegar or peroxide then put them out in the sun to dry, and then eventually introduce them back into a strong hive. I will no longer blindly do this if there is any sign of dysentery in the hive, after having trouble with *Nosema* this past winter. ~ *Etienne Tardif, Whitehorse, YK*

A: We put one moldy frame in per strong hive super, and the bees look after it. ~ *Joe Lomond, Savona*

A: Since I keep all my hives at home for the winter, I am able to take any deadouts and bottom boxes where the bees have moved completely into the top boxes into the shop. Once there I clean and scrape them, then place them into a super, well spaced (8 frames). I use an old super and cut a large opening in the front of it and place it on a bottom board.

I then stack the supers with cleaned frames on top of the open bottom box and blow a fan into the front of it. The blown air passes up through the stack and dries them out which stops any mold from progressing, and gets rid of excess moisture from exposed stores. When I return the equipment to the hives, I make sure that frames with mold on them are

not placed near the wall of the hive. The bees do the rest of the clean up.

~ *Dave Johnson, Nelson*

A: Put bees into the equipment as quickly as possible; the more it dries out the harder it is for the bees to clean up. If left too long the bees will have to tear down the comb and start rebuilding it, which usually results in the bees making drone cells in its place. ~ *Keith Rae, Vernon*

A: "Moldy" is variable. A strong colony will clean up mildly moldy combs so they may be worth keeping, but if there's a lot of moldy pollen, the work that bees have to do to rebuild it is not worth their trouble. If the comb is in bad condition and has no food in it, take the opportunity to get rid of it, with minimal waste. ~ *Kerry Clark, Dawson Creek*

A: Should I buy a full coverall bee suit or just a bee jacket?

A: I like a coverall bee suit. I wear nice pants and do not see the advantage of mucking them up. ~ *Andony Melathopoulos*

A: Depends on how much time you spend doing bee work. A full suit is not necessary for hobby level work. However, it does give you a sense of comfort. Do remember that the

bees can still climb up your legs and you have to remember to close the zipper on your hood.

~ Brenda Jager

A: Personal preference I guess. I have both but usually wear the full suit, I find I keep my clothes cleaner. Just one item to wash.

~ Barry Clark

A: Both a bee jacket and coveralls have their place in the bee yard. A bee jacket with a hood is really all that's needed 95 percent of the time. However, there are times when bees can be extremely aggressive, e.g. after a bear attack or when you are taking their honey. There are definitely times when one might wish for more protection than that afforded by a jacket.

~ Lance Cuthill

A: This really depends on your comfort level in working bees. Use what allows you to work the bees without feeling like you have to worry about getting stung. Either is fine and some will use less protection. If your plan is to move up into commercial beekeeping the full suit would be the best choice.

~ Garret Wilkinson

A: I have both - full coveralls for when doing full inspections, and a jacket for quick inspections and work around the bee yard.

~ Ivan McGill, Prince George

A: Coveralls make the most sense, especially if you're going to be working for an extended period of time. Jackets are useful when you're visiting another beekeeper who might ask you to help, but really does not want your help.

~ Peter Christie, Dawson Creek

A: It depends on how comfortable you are around bees. I just wear a long-sleeved shirt, jeans and a tie-on veil.

~ Steve Mitchell

A: I am very happy with my bee jacket as it meets all of my requirements, just make sure you wear thicker work style pants or else you will likely get stung through lightweight pants. I started wearing boots/gators to keep my ankles from getting stung. I also have an "Alexander" veil when I do quick checks on my hives.

~ Etienne Tardif

A: We use a long-sleeved shirt over a veil, and tucked into long pants that are tucked into tall socks.

~ Joe Lomond

A: Whatever you feel comfortable and confident in.

~ Keith Rae

A: To me, a major use of a bee suit is to not get propolis on a lot of other clothes, something that a jacket won't do. If the cost bothers you, check for coverall laundry businesses: they sometimes have slightly used or even brand new white coveralls for very little: maybe \$25.

~ Kerry Clark

Q: How can I tell if my bees have *Nosema*?

A: Microscopic analysis is the only way to tell. Basically you have to squish the contents out of the bees guts and count the number of spores. It requires equipment and training - all the more reason to belong to a bee club and the BCHPA!

~ Andony Melathopoulos

A: You can look at a sample under a microscope - but a good idea to send a sample to the Apiculture Program. Dysentery is not necessarily a sign of *Nosema* - can be caused by fermented syrup, honeydew and other causes.

~ Brenda Jager



A: The simple time-worn answer is that when you see bee poop covering the exits or excessive poop on the frames inside the hive it may indicate *Nosema*. However, *Nosema* can occur without these visible symptoms. We have had hives seriously weakened in spite of good mite control, food supplies etc. Upon testing for *Nosema* spores it was determined that it had reached damage levels. In short, if bees are dwindling and appear sick in spite of other factors, send a sample away to the Ministry to be tested.

~ Lance Cuthill

A: A lab test is the only way to be sure of a *Nosema* issue. We are fortunate that we have

a free service that does several lab tests for a variety of bee diseases. Collection, preparation and mailing instructions can be found on the BC Apiculture web page under Beekeeping Bulletins.

~ Garret Wilkinson

A: Excessive poop around the entrance, bees with swollen abdomens, reduced brood production, poor winter survival.

~ Steve Mitchell



A: Really hard to tell without testing; lethargic bees and slow growing hives are typical ways of identifying *Nosema*. I recently invested in a microscope and now test my hives myself and have put out the offer to other Yukon beekeepers (we don't have access to a free provincial testing service as in BC). I have tested 2 yards so far and have been able to identify what I think are *Nosema ceranae* infections in the deadouts. We had the coldest Yukon winter in many years and excessive dark (honeydew?) honey in the hive as well, which may have contributed to the problem.

I tested the altruistic bees (collected dead bees from mass suicide events during several -45°C events), tested random dead bees from inside the hive as well as frame scrapings and swabs from inside cells where feces were evident. All came back with different levels of infection. I will be testing some of our winter survivors (winter bees) in the next couple of weeks and I will take follow-up samples in about 6-8 weeks to see if the infections work themselves out. I use the Randy Oliver testing approach (25 bees comparative test, random 10 bees individually to get infestation level to 10%). One of my new projects will be to understand the impact of *Nosema* in the North.

To clean up the equipment from my dead hives, I scraped the top, side and bottom of the frames (wood part), used a

torch on any area with excessive bee feces, sprayed peroxide on the frames and sun baked each side for 12hrs. Doable for the hobby beekeeper with a small number of hives but would be lots of work for a large commercial beekeeper.

~ Etienne Tardif

A: If you see a lot of brown feces on the outside of supers and on the top of frames send a sample of bees in to be tested for *Nosema*.

~ Joe Lomond

Q: Funniest or strangest tool you've used in beekeeping and the story behind it?

A: I am the only person who uses a strap-on milking stool while beekeeping. I was sick of kneeling. It looks ridiculous, but I don't care. Lynae Ovinge with the Lethbridge research crew sewed me a little cushion for it before I left Shelley Hoover's lab. I cried when she gave it to me.

~ Andony Melathopoulos

A: I purchased an electronic bee tool at a convention some years ago. It uses a single AA battery and emits a frequency above the human hearing level. This soundless device is turned on and clipped into the pocket of your coveralls. I was assured the bees would avoid flying near the device thus providing a bee-free zone around the beekeeper. It not only didn't work .. but the bees were noticeably more aggressive when I used it. No doubt scams and suckers existed even before computers. It's for sale.

~ Lance Cuthill

A: Once I went to a bee yard that was about 15 km from home, and I forgot my bee bucket which contains my hive tools. This bee yard is on a ranch and I had to open several gates to get to it. Not wanting to spend an hour to go back and get my gear, I searched the truck and ended up using the tire iron to open hives and get some frames out for inspection. Not the best substitute for a hive tool but it worked.

~ Barry Clark

A: I just bought a stainless steel hoe from Amazon to the tune of \$115, which I will use for scraping cappings onto the draining screen, prior to moving them to the cappings centrifuge.

~ Peter Christie

A: Not really a funny tool, but the first time I open fed pollen substitutes using an old coffee can I couldn't understand how 2 hives worth of bees could go through a couple of pounds of powder in a day, until I spotted 2 squirrels completely covered in white powder. I have since changed my design.

~ Etienne Tardif

A: No smoker? Roll up some cardboard, light one end and blow through the corrugations to smoke the bees. Teaspoon handle, screw driver and car keys for hive tools...they were there and they worked.

~ Keith Rae

A: "No swarm cluster frames" were plastic frames designed to be hung between brood combs. The idea was they provided space for clustering inside the hive (i.e not at the entrance) which supposedly would stop a colony's impulse to swarm. I received a set as a birthday present, probably in the 1970s. As I recall, you would put 5 or 6 in a brood box, one between each brood comb, displacing 2 regular combs. I took a nice photo (not digital) of a big queen cell built on a comb right next to the cluster frame. This product is no longer available I think. But, there are some new inventions: just send the money.

~ Kerry Clark

Q: Is it possible to deal with AFB without using antibiotics or burning the hive?

A: Yes, if its early enough in the season, you can shake the bees onto foundation. Dr. Pernal and I did research on this in Beaverlodge and it was more cost-effective than killing the colony and buying a new package (<http://capabees.org/content/uploads/2013/02/shaking.pdf>.) The equipment can then be irradiated. Keep an eye on these shaken colonies for a year to make sure the disease does not return.

~ Andony Melathopoulos



A: Yes, shaking bees to new equipment and then radiating boxes at Iotron. Or burning all frames (and bottom boards in my experience) and then scorching the inside of boxes, inner covers and lids.

~ Brenda Jager

A: For me any AFB frames should be burned. Make sure it is AFB not EFB first with pull test, toothpick or twig off tree.

~ Ivan McGill

A: Yes. The immediate solution would be to shake all the bees from the diseased hive into a box of foundation which is on a new bottom board. Close with a 'new' inner cover and lid. If there is no nectar flow, feed light syrup. Isolate all the remaining hive parts of the diseased hive. Burn the combs and scorch the rest. Alternatively, diseased combs and associated equipment could be irradiated, but the cost may be prohibitive.

~ Steve Mitchell

A: Not without risk. Search for "shook swarm and AFB", saving the bees but destroying the brood and combs. It's a lot of work, requires new equipment, and is not guaranteed, so you really risk throwing good money after bad, and after all the work and expense, still having AFB.

~ Kerry Clark

Continued on page 18 ...

American Foulbrood

American foulbrood (AFB) is caused by the gram positive spore-forming bacterium *Paenibacillus larvae*. It is considered by some to be the most widespread and destructive of honey bee brood diseases. The geographical origin of AFB is unknown, but it is found almost worldwide; the designation between AFB and European foulbrood (EFB) does not refer to the geographical distributions but to the areas where they were first investigated scientifically.

Field Diagnosis

A particular foul odour will develop as the infection progresses. In severe cases, the odour may be detectable without opening the hive. However, the presence of a bad smell does not necessarily mean that AFB is present, as any kind of larval decay will smell unpleasant to those who are able to detect it.

Other Signs of AFB

- Capped brood is uneven with puncture holes in the caps of brood cells. Puncture holes in capped cells does not necessarily indicate AFB; with AFB the holes are generally jagged and uneven.



In a colony heavily infested with AFB you will see moisture on the sealed brood. You will also see brood oozing from perforated cells at this stage.

~ Photo Rob Snyder, Bee Informed Partnership

- An infected hive may show less than normal bee flight with dead bees on the bottom board. The colony may appear weak after opening the hive.
- Colonies with a heavy infestation often display irritable behaviour.
- Over time, the larval remains in the cell will dry and harden into a dark brown leathery scale on the bottom side of the brood cell. A single scale contains millions of spores that remain viable for decades, and bees cannot remove the scales from cells. The scales can be readily detected in the field by holding the brood frame at an angle of approximately 15 degrees. Scales should be easily visible.
- The toothpick test can be performed on a colony with an active infection. With a toothpick, matchstick or small twig, lift a punctured cell cap and remove the contents of brood cell. The larval remnant may be a light brown mass sunk onto the bottom side of the brood cell. If the larval goo is ropy when withdrawing the toothpick from the cell,

and this ropy mass draws out in a string greater than 2 cm, this is a strong indication of AFB. Dead and dying larva from many different causes will look unpleasant, and many will discolour, but only AFB will cause dead larvae to string out to this length. The larva must be in the correct stage of decay for the ropiness to occur, and it may be necessary to try multiple times. The failure of larvae to rope does not mean that AFB is not present.



AFB infected larvae in the ropy stage.

~ Photo Ontario Ministry of Agriculture

Because of the persistence of the spores, which are long lived even in hostile conditions, many regulations require an AFB diseased hive to be burned completely. Burning is the best option for reducing the chance of transmission, the safest way to rid the yard of the disease and to prevent transmission of the spores. A less radical method of containing the spread of disease is burning the frames and comb and thoroughly flame scorching the interior of the hive body, bottom board and covers. Irradiation is effective for empty boxes, bottom boards and lids, but is effective only for combs with minimal honey (the beams are blocked by water). Dipping the hive parts in hot paraffin wax or a 3% sodium hypochlorite solution (bleach) also renders the AFB spores innocuous. It is also possible to sterilize an infected hive without damaging either the structure of the hive or the stores of honey and pollen it contains by sufficiently lengthy exposure to an atmosphere of ethylene oxide gas, in a closed chamber, as hospitals do to sterilize equipment that cannot withstand steam sterilization.

Many beekeepers are resistant to burning their bees, and in some cases, it is not necessary to burn all of the equipment. If you live in an area that does not require

burning, the colony is large, and it is early enough in the season for the bees to draw wax, you can make a 'shook swarm'. In some studies on the efficacy of this method, the infection levels of AFB among the colonies shaken onto foundation or new comb were very light, consisting of less than 10 cells of AFB, and always transitory, and it was done early in the season (during the dandelion flow). If it is late in the season (fall) then the colony should be euthanized, and the equipment destroyed.

Antibiotics, in non-resistant strains of the pathogen, can prevent the vegetative state of the bacterium forming. Chemical treatment is sometimes used prophylactically, but this is a source of considerable controversy because certain strains of the bacterium seem to be rapidly developing resistance. In addition, hives that are contaminated with millions of American foulbrood spores have to be prophylactically treated indefinitely.

Bees clean out infected cells and then distribute spores throughout the entire colony. Nectar stored in contaminated cells will contain spores, and as this honey is moved up into the supers, the entire hive can become affected. Weakened colonies are targets for robber bees, who will enter and take contaminated honey back to their hives, spreading the disease to other colonies and apiaries. Beekeepers also may spread disease by moving equipment (frames or supers) from contaminated hives to healthy ones.

Be aware that AFB spores can be transmitted by hands, hive tools, and any beekeeping equipment. A good option is to wear nitrile or latex gloves when working in hives that may have foulbrood, remembering to remove and safely dispose of them before handling another hive. It's also a good idea to keep your suit and tools clean. Bleach solution can be used to sterilize equipment, and rubbing alcohol to remove propolis from tools.

AFB can devastate an otherwise healthy hive. It does not require another stressor, and colonies do not spontaneously recover – AFB generally leads to death. AFB is a reportable disease according to the Animal Health Act in BC, so if you suspect it is present in your colony, please contact your nearest Apiary Inspector.

References

Dobbelaere W. et. al (2001). Disinfection of wooden structures contaminated with *Paenibacillus larvae* subsp. *larvae* spores. J. Appl. Microbiol. 91 (2): 212–6.

en.wikipedia.org/wiki/American_foulbrood

Matheson, A. and Reid, M. 1992. Strategies for the prevention and control of AFB. Parts I, II and III. Am. Bee. J. 132: 399-402; 133: 471-475; 134: 534-547.

Milbrath, Meghan. Diagnosing and Treating AFB in Honey Bee Colonies: www.sandhillbees.com/education/

BC Ministry of Agriculture, Apiculture Bulletin #205.

Morse, R.A. and Shimanuki, H. 1990. Summary of control methods. In: Morse, R.A. and Nowogrodzki, R. (eds). Honey Bee Pests, Predators and Diseases, 2nd edn. Cornell University Press, USA, p.341-361

Munawar, MS et. al (2010). Controlling American Foulbrood in honey bees by shook swarm method. Pakistan Journal of Agricultural Research. Vol. 23, 1-2.

Robinson. (1972) "Gas Sterilization of Beekeeping Equipment Contaminated by the American Foulbrood Organism, *Bacillus larvae*". 55. The Florida Entomologist: 43–51. JSTOR 3493642.

... Continued from page 16

Q: Should I provide summer shade for my bees?

A: It's nice, but you can also make sure the entrances are open - bees have the capacity to ventilate the colony.

~ Andony Melathopoulos

A: In Prince George we don't have many days (if any) that get above 30°C, although last summer was different. Summer shade isn't as for us important as protection from north winds.

~ Barry Clark



A: Some shade would be beneficial if you live in an area where summer temps go above 35°C. Bees are incredibly efficient at regulating in-hive conditions, but at high temps they will need to allocate a much higher water collecting force to maintain ideal conditions in the hive. There is no reason for the beekeeper not to help their bees out with a little shade in times of high heat.

~ Garret Wilkinson

A: In our area we don't need shade, for me full sun is best.

~ Ivan McGill, Prince George

A: In the Okanagan and other hot summer places it is a must. Two pieces of 2x4 and a piece of plywood (4' X 4') over the top of 4 hives will keep tops cool. The bees will bring water and cool the hives inside, just make sure there is a puddle of wet sand nearby.

~ Bill Ruzicka, Kelowna

A: Not required in the Peace Country.

~ Peter Christie

A: North of 60 we set up our hives in full sun. The shade temperature sometimes drops to 5°C to 10°C. This is especially true in very dry climates (15 to 25 RH and only 6-7 inches of rain per year).

~ Etienne Tardif

A: Humans like to keep their homes at around 20°C, bees on the other hand like their hive at 35°C. Bees spend more time and energy heating the hive than cooling. All the fanning they do while cooling is to keep the air moving through the hive, to remove the moisture from the ripening nectar. Bearding at the front of the hive through the evening is the forager bees staying out of the way as to not obstruct the flow of air through the hive, as they are not needed in the hive to create heat.

~ Keith Rae

A: Depends where you are. Shade might be a benefit to bees in the hot Okanagan, but isn't necessary in the Peace.

~ Kerry Clark ☼

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Canadian Honey Council



**Stan Reist,
Canadian
Honey Council Rep**

Spring has finally arrived in BC. You could actually see when the good weather kicked in because the brood patterns went from 8 inch circles to full frame patterns. I've never seen this before, it's quite amazing. Winter losses are all over the show, and yet for the group we normally work with, the losses are 10 - 15%. There are losses a lot higher than that. In Alberta there are losses in the 50% range and again I am also hearing about losses of 10 -15% there. One beekeeper said, 'Stan get me the queens and I will make you packages.' Quebec has also had high losses in some reports that I've heard. Their honey crop came in late and was made up of aster and goldenrod. The bees don't winter well on dark honey, so there was a lot of dysentery in the hives.

Some beekeepers here were proactive where it was needed over the winter and early spring, getting feed into the hives and then rewrapping them. It's a lot of work but it saved some of the colonies. Because of the heavy losses there have been calls for an emergency opening of the CDN/US border so that packages can be obtained at reasonable prices. I believe that the key word is reasonable prices - packages are available but as usual offshore pricing is high. Beekeepers that wintered better than they expected have released their pallets of packages for

other beekeepers who require them.

A committee from the CHC is working on a survey to assess the potential of Canadian beekeepers to find out what we actually can do in supplying replacement stock, and not just queens, but packages and nucs. My guess is that the potential is quite high. I have heard that in parts of the Prairies beekeepers have stopped producing nucs because they couldn't give them away. I haven't kept tabs on the Manitoba nuc market lately but that has met with varying degrees of success and failure as far as price goes.

Preparations for Apimondia are rolling along quite nicely. The commercial space is selling very well, and you can now book your registration online. Both Rod Scarlett and Pierre Giovenazzo are in Europe working on the details for the scientific program, contests and rules. We will have an update when he returns this week.

I have a phone call in to Paul inquiring about the status on antimicrobials but have not had a response. We have learned that the product Fumagilin-B is no longer going to be produced, because the company overseas which manufactured an active ingredient for it has stopped making it, and there is no other source. The CHC is working to find a solution to this problem, and we hope for a good outcome.

Adulterated honey is still a concern, and the CHC is still looking into what the best method will be for detection, mass spectrometry or NMR.

The bees are going bananas and we have lots of nucs to make and ship. The weather is super (at this point) so on to beekeeping. ☼

65th Annual Beaverlodge Beekeepers' Field Day Friday, June 22, 2018

**Agriculture & Agri-Food Canada Research Farm
in Beaverlodge, Alberta**

Our guest speaker this year is Dr. Jeff Pettis

As former research leader of the USDA-ARS Bee Research Laboratory in Beltsville, MD and now an independent consultant, Dr. Pettis has focused on improving colony health by limiting the impact of pests, diseases and pesticides on honey bees. His research areas include: IPM techniques to reduce the impacts of parasitic mites and disease; effects of pesticides and pathogens on queen health and longevity; host-parasite relationships and bee behaviour. Dr. Pettis serves on several international committees concerning bee health and is frequently interviewed by the media for his opinions on worldwide pollinator declines.

Learn about the current trends in beekeeping and the vital role bees play in agriculture as scientists, provincial apiarists and industry specialists gather to share research highlights from the past year.

Talks and demonstrations by bee experts

- Prize draws
- BBQ lunch at noon

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The Work and Publications of Dr. Eva Crane

by Richard Jones

Eva Widdowson was born on the 12th of June, 1912 and became Eva Crane when she married Jim Crane on the 14th of July, 1942. She grew up in South London and throughout her school days showed ability in many subject areas, regularly gaining book prizes that became part of her library, a library that never ceased to expand during her lifetime. Always modest, she attributed her school success to the quality of instruction she received from dedicated teachers. A combination of their teaching and her intelligence won her a scholarship to Kings College, London where in two years she obtained a BSc (Hons) in mathematics followed just two years later, in 1933, by a similar qualification in physics. An MSc in the then groundbreaking field of quantum mechanics soon followed, and she was awarded her PhD in nuclear physics in 1937.

The concept of women having a career path such as this may not have been recognised in the 1940s, but if it had been then Dr. Crane was certainly bound for academic heights when she took up lecturing posts in Hull and then at Sheffield Universities. It was 1942 when, almost by accident, a simple purchase had the effect of shaping the rest of her life. She acquired a hive of bees. The initial reason was purely practical: the provision of honey to give sweetness at a time of national sugar shortage.

Although bees were kept in hives in most parts of the world there seemed to be no way to access information on the subject. In the space of a few years, the business of collecting, collating and disseminating information about bees and beekeeping became the dominant force in her life, and in January of 1949, she set up the Bee Research Association (BRA). This organisation became a clearinghouse for beekeeping information and research from all over the world. International from the very beginning, her organization added the word to its title in 1976, becoming the IBRA.

In 1950 she took over editorship of the well-established journal *Bee World*, and made it the link between beekeeping science and practice, always making sure that material was accurate and worthy of inclusion. Out of this journal grew a second, called *Apicultural Abstracts*, which had the express aim of linking isolated workers and research institutes, beekeepers and the research that would help them. In its 55-year history it recorded over 60,000 abstracts and remains a valuable and comprehensive database. It was only at the beginning of the 21st century that this wonderful service was superseded by the Internet, although the material available through this latter medium does not undergo the rigorous verification that applied to *Apicultural Abstracts*.

Access to a large part of this treasure trove of information is available and searchable through the Eva Crane Trust website (www.evacranetrust.org). You have to register to log in but there is no charge. Furthermore, if having found an interesting abstract, the reader wishes to look at the original paper, there is, for most examples, a service to obtain copies provided by the National Library of Wales at Aberystwyth (<https://www.llgc.org.uk/>).



Dr. Crane turning to greet me as I arrived in her study.

Photo by Richard Jones

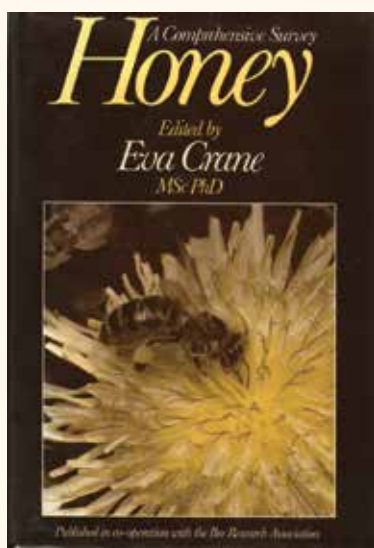
In 1962 a third journal was established, the *Journal of Apicultural Research*, which remains to this day the premier English language vehicle for the publication of cutting edge apicultural research. The verb “to Google” was unknown to Dr Crane. Equally, in this age of instant electronic access it is almost impossible for the young generation of researchers to realize the importance of these paper-based journals. The material they contained made possible the careers of many scientists, often working in isolation in a world divided by an Iron Curtain, Apartheid and other political and economic difficulties.

Dr. Eva Crane was Director of the International Bee Research Association (IBRA) for 35 years and a towering figure in the world of apicultural research for over half a century with some 330 published books, papers and articles to her name. Retirement from the IBRA only meant she could concentrate on her writing and she still continued her travels.

Dr Eva Crane's Major Books

Dr Crane had over three hundred publications on the theme of honey bees. Most of these can be found on the website of the Trust that bears her name www.evacranetrust.org

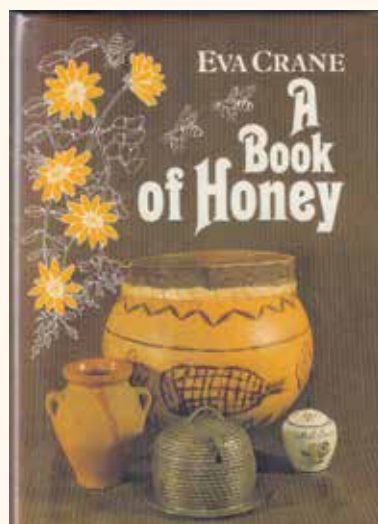
However, she is probably best known for the five or six major works that she produced between 1976 and her opus magnum, *The World History of Beekeeping and Honey Hunting*, in 1999. All, except the last named, are now out-of-print and have proved to be an investment to those who had the interest, and foresight, to buy their copy when it first published. Prices on internet auction sites and in book auctions everywhere have really escalated; some now ten, twenty, or even more times the original price.



Honey – A Comprehensive Survey

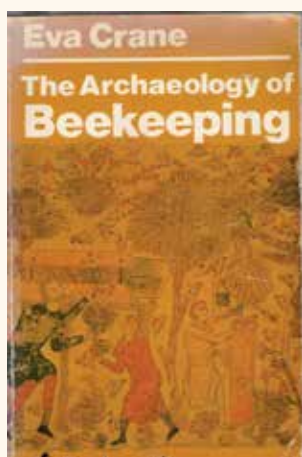
Edited by Eva Crane

1976, Heinemann (originally 15 GBP). This is a lively but authoritative book written by eminent world experts covering the whole subject of honey. The contributors cover the flowers that honey comes from; the role of the beekeeper; the chemical, physical and biological properties of honey; modern methods of processing, storing and quality control; legislation; world trade; its many uses, including its fermentation; the language of honey, and its history from early primitive societies to the present. Each chapter is almost a book in its own right. It may be 42 years old and could do with revision and updating but it still gives vital information that is relevant today. What is more it is a collector's item.



A Book of Honey

1980, Oxford University Press, paperback (original price 5.50GBP). Dr Crane always referred to the main scientific tome as “Big Honey” and this book as “Little Honey”. It was in fact almost a casual spin off of the major work designed more for the lay reader and containing a lot of folklore, the uses of honey in social and religious settings and even some cooking recipes. I believe it was published in English, Portuguese, Spanish and German and there were a limited number of hardback versions but it was mainly sold as a paperback. The price for this little book, which Dr Crane considered as an entertainment, when you can find it on websites trading in second hand books, is quite phenomenal and by far the biggest pro rata return on an “investment”.



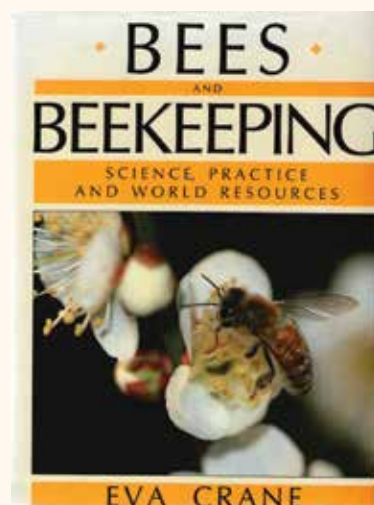
The Archaeology of Beekeeping

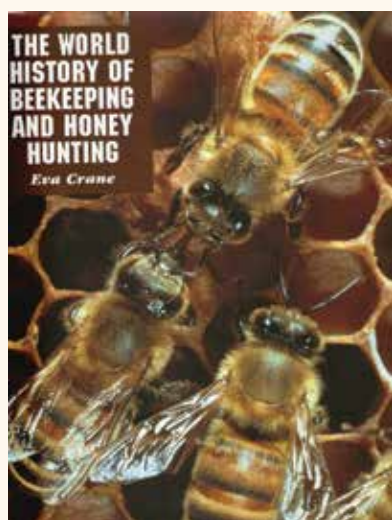
1983 Duckworth (originally 12.95 GBP). This covers the human association with bees and honey since the Stone Age. Information

has been gathered from rock art in Spanish caves, from tombs and temples which indicates that bees, or at least bee nests, have been hunted for their honey for over 10,000 years. Early horizontal hives, bee shelters and bee houses from different parts of the world are described along with the techniques used to harvest honey from earliest times up to the evolution of the moveable frame hive. It is fully illustrated throughout with black and white photos of carvings, paintings, manuscripts and ancient hives. It is a key reference book, scientific, detailed and totally absorbing.

Bees and Beekeeping, Practice and World Resources

1990, Heinemann Newnes (originally 85GBP). This impressive book describes the scientific principles underlying beekeeping as it is practised today in different conditions worldwide. Different sections are written at different levels according to how and by whom they will be used. It is in six parts: I. An account of Apis species; II. Modern beekeeping management; III. Traditional, modern, fixed frame and top bar hives; IV. Combating disease, pests and predators; V. Bee products; VI. Appendixes for equipment, bee organizations etc. A scholarly integrated picture of world beekeeping which probably could only have been compiled by Dr Crane based on her knowledge, research and travels.

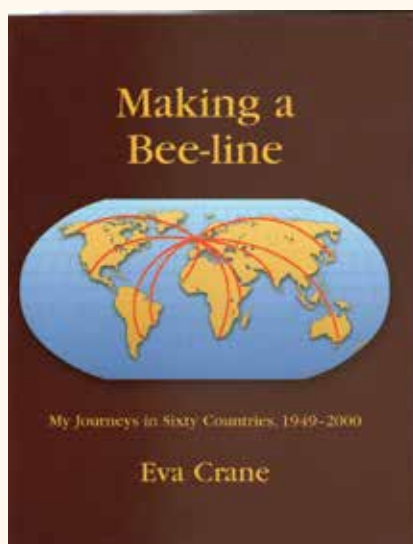




The World History of Beekeeping and Honey Hunting

1999, Duckworth (Originally 90GBP) This is the first book to document such a broad history of man's relationships with bees. The 54 chapters are grouped under the following headings: I Setting the scene; II Opportunistic honey hunting by man; III History of collecting honey from owned or tended cavity nests; IV Honey bees that nest in the open: tending and beekeeping; V History of traditional beekeeping using fixed-comb hives; VI History of practices in both traditional and movable-frame beekeeping; VII Development of beekeeping using more advanced hives; VIII Development of beekeeping using movable-frame hives; IX History of bee products; X Bees in the human mind. There are two Appendixes: (1) China: References to bees, beekeeping, honey and beeswax, from 2000 BC to AD 1600; (2) List of some beekeeping museums.

This synthesis presents a vast amount of information in a very readable text, which is supported by some 2,000 references to other publications and sources. The book has nearly 500 illustrations of rock paintings, manuscript drawings, woodcuts and engravings, and photographs of activities and equipment worldwide. There are 53 tables and four detailed indexes (personal names, peoples, geographical and subject). The book was brought out with two different dust jackets; the content is identical. The book first went on sale at Apimondia in Vancouver in 1999 at 90GBP. If you missed out then a second edition (2011) has been printed and may still be available from a source like Northern Bee Books in the UK at around 110GBP – a first edition will cost a lot more.



Making a Bee-line, My Journeys in Sixty Countries 1949 – 2001

2003, IBRA.

This was Dr Crane's last major publication. She refused to write an autobiography as she insisted that she was not of any interest, it was the people she had met and the places she had visited that were of real interest. She was Director of the International Bee Research Association from its establishment in 1949 to her retirement in 1983 and continued to travel in her retirement. Everywhere she went she sampled the life of the local people, sometimes in very remote areas and involving arduous journeys. She writes vividly of her experiences and the book is well illustrated with photos from her own collection of over 6,000 slides.

Dr Crane would be delighted to see the upsurge of research that is going into bee conservation and preservation and equally delighted with the increased interest being shown in beekeeping including urban beekeeping. A new generation of beekeepers is becoming involved in apiculture, a generation that is familiar with the Internet, eager to access new knowledge and the latest research to improve the effectiveness of beekeeping. They are standing where Eva Crane stood 70 years ago, but much groundbreaking work has been done. To them I say check it out and build upon it.

A good place to start is to visit the web site of the Eva Crane Trust (www.evacranetrust.org) where there is not only access to the information stored in Apicultural Abstracts but also a chance to look at, and search by country, Dr Crane's own photographic record of her travels and discoveries. Furthermore, a good number of her papers and monographs are also available on the site which is being added to and continually developed. ☼



About the author: Richard Jones is a Geographer by degree, and was a head teacher before moving into international public relations and fund-raising. This experience then brought him to the International Bee Research Association (IBRA) in 1996, the organization founded by Dr Eva Crane in 1949. As Director for almost 16 years he had the opportunity to travel widely in order to learn about, and promote bees and beekeeping worldwide. In 2002 Dr. Crane asked him to become chairman of the Eva Crane Trust: www.evacranetrust.org.

Honey Bee Foraging in Blueberries

by Elizabeth Elle and Kyle Bobiwash,
Department of Biological Sciences,
Simon Fraser University

Honey bees are incredible foragers. We've known for decades about their sophisticated communication ability, which allows colonies to work effectively in gathering resources, but we are still learning about their foraging preferences.

For example, work by members of our lab has shown that honey bees prefer some cultivars of blueberry (*Vaccinium corymbosum*) over others when foraging for nectar. In 2013 we shared with BeesCene that this is largely due to flower shape. Flowers with wide openings and short tubes are easier for honey bee nectar foragers to access, and so we saw many honey bee visits to the cultivar "Duke". We see substantially fewer visits to "Bluecrop", which has narrower flower openings and longer tubes, because honey bees have difficulty reaching the nectar. In fact, we see quite a bit more nectar 'robbing' in "Bluecrop", which is when honey bees access nectar from the back of the flower rather than legitimately, from the front (Photo 1, facing page).

We now have new data that shows honey bees foraging for pollen tend to avoid blueberries. We caught honey bees in multiple blueberry fields, removed their pollen loads, and mounted the pollen on microscope slides for identification. Pollen can be identified this way at least to plant family, and sometimes to genus or species, because it differs in shape and structure (Photo 2). Sometimes, if pollen shape is such that we can only identify to plant family (like "Rosaceae", the rose family) we can infer what species it is likely to be based on what we know is flowering nearby at that time (in this case, Salmonberry, *Rubus spectabilis*, which is in the rose family, or possibly thimbleberry, *R. parviflorus*, or trailing blackberry, *R. ursinus*).

What we learned in our study is that only 15% of honey bee pollen

grains used for nest provisioning were blueberry pollen (Figure 1). Honey bees collect more pollen from *Ranunculus* (buttercup, 23%), growing between the rows of blueberry bushes. They also collect from Rosaceae (17%) and Fabaceae (clover, 14%), and surprisingly, from *Juncus* (rush, 7%), which is normally wind pollinated but is present in the fields, growing between the blueberry rows.

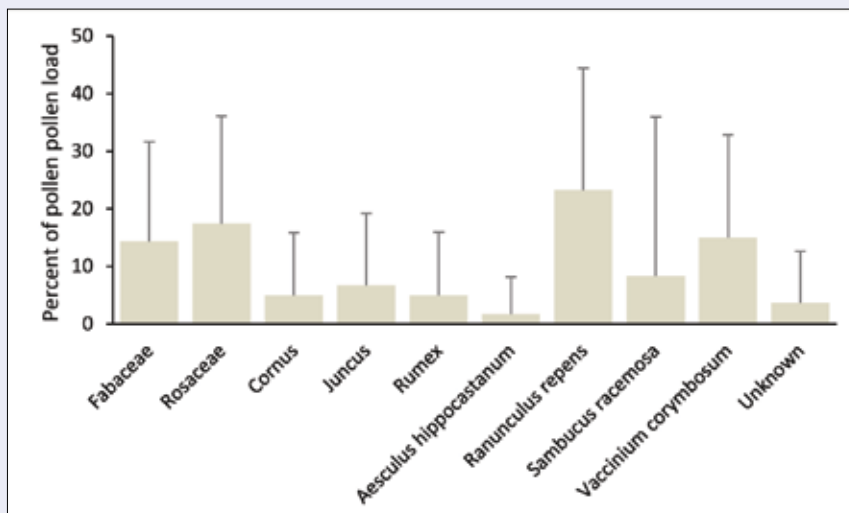
Not much is known about how different pollens attract bees, but some of it is likely due to protein content. For honey bees, a pollen source with less than 20% protein is considered to have a negative impact on honey bee colony health and brood rearing. Blueberry pollen contains only 14% protein. In contrast, clover has 30-40% protein

depending on species, Rosaceae is ~24%, and *Ranunculus* is ~16%. It may also be important that blueberry is low in some essential amino acids, namely cysteine and histidine. Finally, the protein to lipid ratio has been shown to be important in some recent studies of honey bee foraging, but there is no available information on the ratio for the plant species our honey bees were foraging on.

There are a few implications of our findings. First, although blueberry has low nutritional value, our data indicate that honey bees are compensating for this by foraging off the crop on higher-protein pollen sources. Although they frequently do this within fields (buttercup, clover, and even rush) they also forage off the farm. Shrubs



Photo 2: Pollen grains from different plants have different structure. A. blueberry, B. salmonberry, and C. buttercup. Photo by Kyle Bobiwash



Pollen types collected by honey bees on blueberry (*Vaccinium corymbosum*) farms. Fabaceae = the bean family, including clovers; Rosaceae = the rose family, including salmonberry; *Cornus* = dogwood; *Juncus* = rush; *Rumex* = sorrel; *Aesculus* = horsechestnut; *Ranunculus* = buttercup; *Sambucus* = red elderberry.



Photo 1: Honey bee foraging from wide-mouthed Duke flower, left, and robbing from narrower Bluecrop flower, right.
Photos by Elizabeth Elle

like salmonberry and other Rosaceae, and elderberry (*Sambucus racemosa*), are not found on farms and in fact are actively removed when nearby as they are alternate hosts for the spotted-wing *Drosophila* fruit fly, an emerging pest. Although the growing guidelines from the Ministry recommend removing “distracting” weeds like clovers and dandelions, our data suggest the bees will continue to forage off-farm in an effort to find higher-protein pollen. It might make more sense to encourage honey bees to stay close by letting non-crop flowers remain in the fields. Second, honey bees are likely doing less crop pollination than farmers think, especially in cultivars like “Bluecrop”, because of the combination of hard-to-reach nectar and low-protein pollen. Together, these pollination challenges encourage the bees to forage off-farm. Our recommendation to farmers continues to be that they should consider bringing in more colonies on difficult-to-pollinate cultivars, and to

also consider how to enhance on-farm habitat for pollinators.

Acknowledgements: this work was completed with financial support from the USDA-NIFA Specialty Crop Research Initiative to the Integrated Crop Pollination Project, as well as from the Natural Sciences and Engineering Research Council of Canada. We owe huge thanks to all the growers who have given us access to their farms over the years, and to a small army of undergraduate assistants.

About the authors:

Kyle Bobiwash is completing his PhD under the supervision of Elizabeth Elle; both are in the Department of Biological Sciences at Simon Fraser University. Kyle will start as an Assistant Professor at the University of Manitoba (Department of Entomology in the Faculty of Agricultural and Food Sciences) in the fall. Elizabeth is Professor and Chair of Biology

at SFU, and studies pollinators and pollination in urban, agricultural, and natural systems in southern BC. ☼



Localizing Drone Congregation Areas for a Breeding Apiary

by Aude Sorel¹, Georges Martin², Émile Houle² and Pierre Giovenazzo³

¹Université de Picardie-Jules-Verne (France)

²Centre de recherche en science animales de Deschambault (CRSAD - Deschambault, QC)

³Université Laval (Quebec City)

The CRSAD is a non-profit corporation in Deschambault, Quebec that carries out and supports research and development in animal sciences according to a collective strategy, to enrich the expertise of various livestock industries. It operates on over 150 hectares of land and in a context of consultation and partnership. The CRSAD has research projects in 7 agricultural sectors: apiculture, dairy and beef cattle, pigs, dairy goats, and hen and broiler chickens.

At the CRSAD, we have had a honey bee breeding program running since 2010. We had isolated mating apiaries during the first years of the program, but had low mating success with them which may have been due to bird predation since they were in a forested area. We relocated the breeding apiary to an area near the research center, where we have had much improved mating success (85%). We produce a few artificially inseminated queens, but most of our queens are naturally mated.

To control the origin of the drones mating with our queens, we flood the area with drones from selected breeding colonies. We select our breeders for honey production, hygienic

behaviour, brood production and winter food consumption; we run 100 colonies and select the 20 best ones to graft and raise drones with. With the selected colonies, we create 120 nucs for the following year's selection.

For drone production, we put a drone comb frame in the middle of the brood chamber in 8 to 10 of the selected colonies. This ensures the production of 20,000 to 30,000 drones every 24 days. Since we can't be 100% sure that our queens really mate with those drones, we wanted to better understand the reproduction dynamics occurring with our mating apiary. The first step of this process was to find the drone congregation area (DCA) of our breeding apiary.

A DCA is the area where sexually mature drones congregate and wait for virgin queens. This area is located at the same place year after year and the presence of a queen is not a necessity for its formation. DCAs are formed in areas protected from winds where flight is unimpeded. There are no obstacles within the DCA, but there should be some surrounding it for wind protection and to help the bees with orientation. In optimal weather conditions, drones in a DCA patrol a zone 100 - 200m wide at an altitude of 5 - 40m,

and this area gets smaller in less favourable weather conditions. When a queen enters a DCA, a swarm of pursuing drones rapidly forms behind the queen in a comet shaped formation. The borders of the DCA are well defined, and when a queen leaves it, the drones rapidly cease pursuit.

Most of the drones in a DCA come from nearby apiaries. More than 96% come from apiaries located at an average of 900 m from the DCA. They transit between their apiary and the DCA via migration pathways that can form in areas protected from winds by the landscape or by buildings. Only 0.5% of these drones successfully mate with a queen. From a biological point of view, the closer the DCA is from the apiary, the higher the chances are for a drone to successfully mate. Since drones wait for queens and can't fly indefinitely, a short transit distance will increase the time they can spend in a DCA.

Drones have two types of flight: short orientation flights of 1-6 minutes and long mating flights of 32 ± 22 minutes. Flight duration is limited by the honey they can stock in their crop and between two mating flights, they spend an average of 17

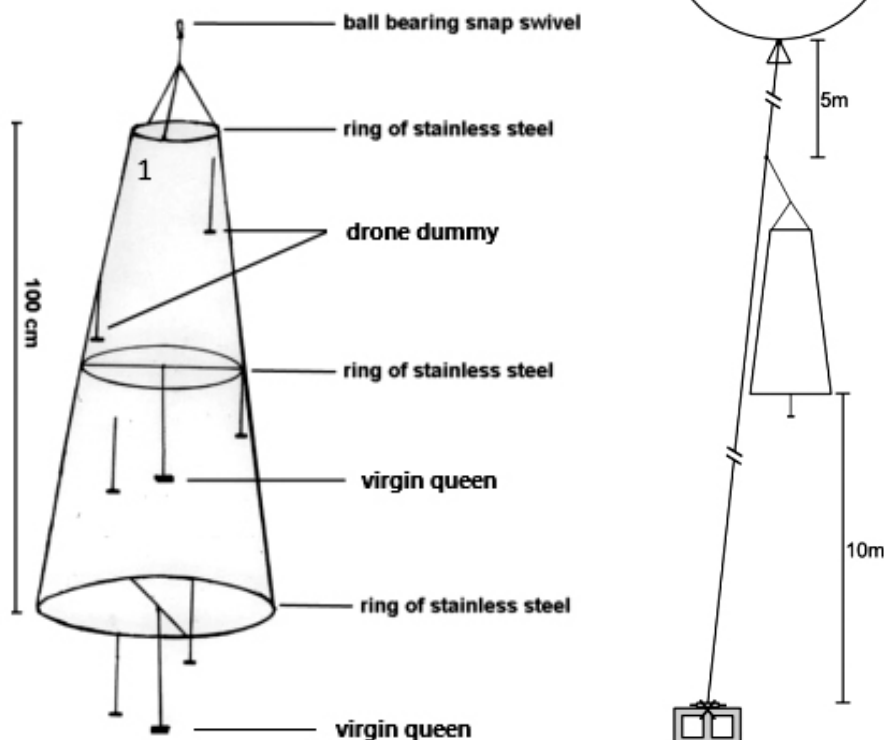


Figure 1. Schema of the drone trap model on the left (adapted from William, 1987) and on the right (Mortensen and Ellis, 2014).

minutes feeding inside the hive. Drones don't necessarily come back to their native colony, and can choose to stop in a colony closer to the DCA they are visiting. Weather greatly influences the flight activity of drones. Favorable weather includes a sunny or partly clouded sky, temperature in the 19-38°C range and winds under 22 km/h. Normally, peak mating flight activity occurs between 2pm and 5pm.

DCA localization techniques can be complicated and strenuous: listening for the buzzing of drones, queen observations, radar surveillance or landscape analysis. In 2014, Mortensen and Ellis developed a simple method that can be executed by a single person. This method consists of positioning drone traps in potential DCA areas that were identified beforehand via satellite imagery. This was the method that we adapted to locate our DCA.

The first step was to use Google Earth software to locate potential DCA areas within a 1 km radius from our breeder's apiary (areas in open fields with protection from wind). We identified 13 such areas that were further subdivided up to 6 subplots.

Then we built drone traps (figure 1). For each trap, the following material was required:

- White nylon tulle fabric (140 cm x 160 cm)
- Steel wire (1.58 mm), used to form 3 rings of respectively 22 cm, 35 cm and 50 cm of diameter
- Fishing nylon mono line
- 6 cigarette filters
- Black spray paint
- Hot glue
- 4 virgin queens
- 3 steel nuts (approximately ¾")
- 2 balloons (90 cm)
- Kite line (50 m)
- Helium tank
- A 3-way ball bearing swivel
- A 2-way ball bearing swivel
- Sewing thread
- Kite reel

The 3 steel wire rings and the nylon tulle were sewn together to form a trap with a height of 100 cm, in a cone shape. The 22 cm ring was at the top, the 35 cm in the middle and the 50 cm at the bottom. The top of the trap was closed with tulle, but the bottom remained open. The cigarette filters were painted in black and randomly attached inside the trap with fishing line (approximately 15-20 cm of line). A drop of hot glue was used to secure the filters to the lines; these represent drone dummies. We don't know if the dummies are necessary, but since they were used in previous research and were cheap to produce, we put some in our traps.

A fishing line was fixed across the middle ring and a second one across the bottom ring. In the middle of each line, we fixed a fishing line 20cm long, ended by a small hook (figure 1). This small hook serves to easily attach and remove queens from the trap. We used 3 short pieces of fishing line to bind the top ring of the trap to one end of the 2-way ball bearing swivel. To the other end, we fixed a 90 cm kite line and the end of this kite line was bound to one end of the 3-way ball bearing swivel. A 5m kite line was fixed to another end of the 3-way swivel and served to tie the balloons. The remaining kite line (45m) was tied to the last end of the 3-way swivel.

To help us estimate the height of the trap, we put paint marks

on the kite line every 5m. We also built a homemade reel with a wood plank, 12" nails and a plastic tube (google would help you with that). The steel nuts are fixed to the bottom ring to prevent the trap from being pushed horizontally by the wind; you can adjust the quantity to match your weather conditions.

We used two 90cm party balloons, which are much cheaper than weather balloons, but also more fragile. The grass is as sharp as a needle for an inflated balloon! One balloon didn't have enough lift power and three balloons offered too much wind resistance, which tends to send the trap close to the ground, unable to gain height. We found that two of the balloons worked well. To be able to reuse the balloons on multiple days, we cut a 50 mL plastic test tube and secured it to the balloon with a rubber castrating ring. This allowed us to inflate and deflate the balloons at will.



Virgin queen tied with sewing thread.

We tied the virgin queens with a 10cm sewing thread between the abdomen and the thorax. You need to be careful to avoid tying the queen's legs or wings. The sewing thread with the bound virgin queen was fixed to the small hook of the free fishing line; one on the middle ring and one on the bottom ring of the trap. We replaced the queens after one hour to prevent them from dying of exhaustion. Since we needed to add weight with steel nuts to our traps, we believe that using plastic queen cages would be an interesting option instead of tying queens with thread, which is a difficult task to complete. We will try using plastic cages in future tests.

Next was the drone hunting part. During the afternoon on sunny days, we went onto a field identified with Google Earth as a DCA potential zone. Since the DCA size is quite small, instead of fixing the traps on the ground, we patrolled the whole DCA potential zone. Two people patrolled the zone in an "S" pattern, maintaining the trap at an elevation close to 10 m; when higher than 10 m, it is difficult to see the drones in the trap. When drones were seen entering the trap the evaluator stopped and waited 20 minutes. After the time was elapsed, the trap was lowered, and the drones were counted. If the count was below 50, the evaluator moved further away in the zone. If the count was over 50, a second measurement over a 20 minute period was done to confirm the DCA.

When you count 20-30 drones over a 20 min period, this is a possible indication of a migratory pathway, and you can try following it until you reach the DCA. You can also use visual and auditory cues to locate a DCA such as the direction drones are taking when leaving their hive, the buzzing of the drones



Drone hunting with Émile Houle (left), Pierre Giovenazzo (middle) and Aude Sorel (right).

in flight when you are close to the DCA or the formation of drone comet.

We patrolled half of the potential DCA zones before finding a DCA which was only 60m away from the breeding apiary. The drones were going through a small patch of trees to access an open field highly protected from winds by the trees and



Drone trap in action.



Comet of drones pursuing a virgin queen.

by a small hill. On days with weak winds, the DCA extended over the treeline bordering it (left side in figure 2). During our hunt, we had a windy period with winds of 25-27 km/h but still got lots of drones in our traps at the DCA, so even if the weather conditions are not optimal, you can still find a DCA.



Figure 2: The apiary in blue, the migratory pathway in white and the DCA in red.

We tested half the potential DCA areas identified with Google Earth, and only found one DCA. By the distance from the apiary and the number of drone comets we were observing, we are confident that most of our selected drones were going there. Still, we intend to test the other half of the identified areas as well as marking selected drones, and trying to capture them back at the DCA. These are future projects. Eventually, we also would like to find a way to track queens, and observe if they are going to other DCA areas that are further away.

I would like to thank Émile Houle (CRSAD) for the design and building of the drone traps as well as the field support. I also thank Pierre Giovenazzo (Université Laval) for traineeship supervision. Pictures in this article are from Aude Sorel and Mélissa Girard. ☺



Aude Sorel was a second-year student in bioengineering, option agronomy, at Université de Picardie Jules Verne in Amiens, France. She came to the CRSAD for a traineeship.

Georges Martin is a biologist with an M.Sc.

degree in veterinary sciences, with 12 years of experience in honey bee research. He has been working as a project manager at the CRSAD since 2011. Georges presented some information about his group's work at our AGM last fall.



References

- Clement, H. et al., (2015). *Traité rustica de l'apiculture(ie)* n. Éd., Rustica, 528.
- Galindo-Cardona, A. et al., (2012). Landscape analysis of drone congregation areas of the honey bee, *Apis mellifera*. *Journal of Insect Science*, 12: 122.
- Koeniger, N.; Koeniger, G. (2004). Mating behavior in honey bees (*Genus Apis*). *TARE*, 7, 13–28.
- Koeniger, N.; Koeniger, G. (2005). The nearer the better? Drones prefer nearer drone congregation areas. *Insect Soc* 52, 31-35.
- Koeniger, G.; Koeniger, N.; Ellis, J.; Connor, L. (2014). Mating biology of honey bees. *Wicwas Press*, 50-75.
- Koeniger, N.; Koeniger, G.; Gries, M.; Tingek, S. (2005). Drone competition at drone congregation areas in four *Apis* species. *Apidologie* 36, 211–221.
- Koeniger, N.; Koeniger, G.; Tingek, S. (2010). Honey Bees of Borneo. Exploring the Centre of Apis Diversity. *Natural History Publications*. Kota Kinabalu, Borneo, 262 P.
- Loper, G. M.; Wolf, W. W.; Taylor, O. (1987). Detection and monitoring of honey bee drone congregation areas by radar. *Apidologie*, 18(2) :163-172.
- Loper, G. M.; Wolf, W. W.; Taylor, O. R. (1992). Honey-bee drone flyways and congregation areas - radar observations. *J. Kansas Entomol. Soc.* 65, 223–230.
- Mortensen, A. N.; Ellis, J. D. (2014). Scientific note on a single-user method for identifying drone congregation areas. *Journal of Apicultural Research*, 53:4, 424-425.
- Ruttner F. (1956). The mating of the honeybee. *Bee World* 3:2-15, 23-24.
- Ruttner, F. (1985). Reproductive behaviour in honeybees. *Fortschr. Zool.* 31, 225–236.
- Scheiner, R. et al., (2013) Standard methods for behavioural studies of *Apis mellifera*. In V Dietemann; J D Ellis; P Neumann (Eds) *The COLOSS BEEBOOK, Volume I: standard methods for Apis mellifera research*. *Journal of Apicultural Research*, 52:4, 1-58.
- Soland-Reckweg, G. (2006). Genetic differentiation and hybridization in the honeybee (*Apis mellifera* L.) in Switzerland. PhD thesis, Universität Bern, Bern.
- Williams, J. L. (1987). Wind-directed Pheromone Trap for Drone Honey Bees (Hymenoptera: Apidae), U.S Department of Agriculture.
- Witherell, P.C. (1971). Duration of flight and of interflight time of drone honeybees, *Apis mellifera*. *Ann. Entomol. Soc. Amer.* 64:609-612.

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*Please contact the Editor
with any changes.*



Ursula Da Rugna

Answers the BeesCene Proust Questionnaire

As Medivet closes its doors after three and a half decades, Ursula looks back at what Willy and she accomplished; why beekeepers and bees are so special; how she likes to "overwinter"; the vex of mites; heroes in life; plus her penchant for golf and BC smoked salmon. Happy retirement our friend!

What is your idea of perfect happiness?

Being healthy is very important. With good health, one can do everything one aspires to.

What's the most common beekeeping question over the years that you've gotten over the phone at Medivet?

Mostly about how to apply the products we sell.

What's your best piece of advice to a new beekeeper?

Keep varroa mites under control.

What's your best piece of advice for a veteran beekeeper?

Keep varroa mites under control.

What is your greatest extravagance?

My fancy golf cart in California.

What is your current state of mind?

A bit stressed; this company shut down has been very stressful.

Which talent would you most like to have?

A better golf player.

If you could change one thing about yourself, what would it be?

My nose!

What do you consider your greatest achievement?

I have been a Rotarian for many years, and receiving the 4 Avenues of Service Award I think was one of my great achievements.

Where would you most like to live?

I love where I am; summers in the foothills of Alberta and winters in the desert of California.

What is your favourite occupation?

I love to play golf and I love to read.

What has been the biggest surprise for you in life?

I never thought in my wildest dreams that I would be so involved in the honey bee industry.

What do you most value in your friends?

Honesty and integrity.

Will you please still keep coming to our meetings?! We'll miss you.

I will try my best, I always very much enjoyed the BC beekeeping meetings, plus I will have to replenish my canned salmon supply.

What motivated you and Willy to pour so much back into honey bee research?

Willy saw a business opportunity and developed it; I just carried it on. To work with beekeepers is a wonderful experience. In general, beekeepers are honest and hardworking people who also like to have some fun. There is not a group out there that I would much rather be associated with. (99% of the beekeepers also pay their bills on time!)

Who is your hero of fiction?

I don't have a fictional hero, but I love Isabelle Allende's books.



Who are your heroes in real life?

Jonas Salk & Albert Sabin, the scientists who discovered the polio vaccination and did not take money for it.

If you could solve one beekeeping health dilemma, what would it be?

Getting rid of varroa mites.

What do you find most intriguing about bees?

Bees are always different, and yet the same. You can learn much by working and observing bees. Patience, quietness, teamwork, work for the good of all - and then apply it to your own life. Bees make you slow down and smell the roses, which in my opinion, is very important to do.

Editor's note: this article idea was submitted by Diane Dunaway. Thank you Diane, and thank you Ursula for participating.

Famous Beekeepers of the World

The following is a few entries from a list made by Ron Miksha, which can be found on his blog: badbeekeepingblog.com in the 'bonus pages' section. Visit his site for many more entertaining and educational stories about beekeeping, and life in general. In addition to famous beekeepers, he includes a few people who have had interesting things to say about bees and beekeepers, as well as some of the great innovators in the world of bee culture.

Abbé Collin – This French beekeeper invented the queen excluder in 1865. He realized the queen can be excluded from honey supers by adding a mesh with holes big enough for workers but too small for queens to sneak through. This keeps the queen from putting brood into honey boxes. And no one wants to see eggs and worms larvae among the honey.



Alexander the Great – Conquered the world, then died thousands of miles from home – his men carried his preserved body home for burial in a golden coffin filled with honey. Not sure what happened to the honey when they got home.



Anton Janša – Maria Theresa's Royal Beekeeper, from Slovenia. In 1771 Anton Janša discovered how bees mate. He unraveled the ridiculous honey bees system of no fathers for drones, sisterhood among the workers (and sometimes the queen). He was the first headmaster of the first beekeeping school in the world.

Charles Butler – (1560–1647) This versatile beekeeper realized the "King Bee" is a "Queen Bee", finally sinking Aristotle's 2,000-year-old mistaken notion when he printed (in 1609) a book that asserted that drone bees are male bees. Charles Butler's book was *Feminine Monarchie*, the first full-length beekeeping book in the English language. It was a practical beekeepers' guide and also the first time the feminine nature of the queen was described in print. Lucky for Butler, Queen Elizabeth had been in power just before the book came out, so it was seen as plausible that a lady could lead an army. Butler was also the first to show that bees make wax and don't gather it from plants, as was commonly assumed.

Columela – Born in Gades (Cádiz), Spain, in the first century – After retiring from the Roman military (where he served with distinction in Syria), Columela returned to Spain to farm and keep bees. He wrote *De Rustica* which discussed the honey bee and the first system of cuadros móviles (moveable frames!).



D.C. Jarvis – (1881-1966) This Vermont doctor's book *Folk Medicine* made honey very popular in the 1970's – honey prices went from about \$0.20 US to \$0.50 US per pound after the release of his million-copy selling book! DeForest Clinton Jarvis particularly urged a

prescription of two teaspoons of honey and two teaspoons of apple cider vinegar taken in a glass of water one or more times a day.



Earl Emde – A clever beekeeper and queen breeder, he began keeping bees in southern California where he went to high school with Richard Nixon (a "weird kid" Earl told me). Earl Emde ended up with thousands of hives throughout the US and Canada. He and his sons may have been the first to use forklifts and pallets to move hives.

I worked with Earl in the northern Saskatchewan bush where he kept 500 hives back in the 80s. He had an uncanny knack for making the right choice about almost everything. Before beginning a task, he'd focus a bit while I wanted to jump in and work. (I was pretty young and impatient.) Once he'd schemed the bee chore in his head, he'd then move faster than I could.



E B White – Author of *Charlotte's Web*, *Stuart Little*, and a frightening grammar book, White also wrote the 1945 *New Yorker* magazine poem *Song of the Queen Bee* in which he criticizes Harry Laidlaw's development of artificial insemination of queen bees.

New Yorker Magazine, 1945
"The breeding of the bee," says a *United States Department of Agriculture* bulletin on artificial insemination, has always been handicapped by the fact that the queen mates in the air with whatever drone she encounters."

When the air is wine and the wind is free
and the morning sits on the lovely lea
and sunlight ripples on every tree
Then love-in-air is the thing for me

I'm a bee,
I'm a ravishing, rollicking, young queen bee,
That's me.
I wish to state that I think it's great,
Oh, it's simply rare in the upper air,
It's the place to pair
With a bee.



François Hruschka – Czech beekeeper who invented the honey extractor, in 1865, after watching the centrifugal effect of a bucket of milk being swung in circles by a young milk maiden. (Makes you wonder, doesn't it?) This European invention allowed combs to be emptied and refilled by beekeepers. Adaptations are still in use and help separate the world's production of four billion pounds of honey every year.



Jim Powers – (1927-2009) During the 1960s, 70s, and 80s, Jim operated 30,000 hives in Idaho, the Dakotas, Hawaii, Florida, and Texas. He had the largest honey farm in the USA at the time and was generally a rather wise and progressive beekeeper. Before that, he spent a few years as a Foreign Service Officer in Central America. I knew him when he was running his thousands of colonies. He was the only beekeeper I knew who regularly wore a bow tie and who was a graduate of Harvard Business School. To manage his far-flung beekeeping empire, Jim would drive from

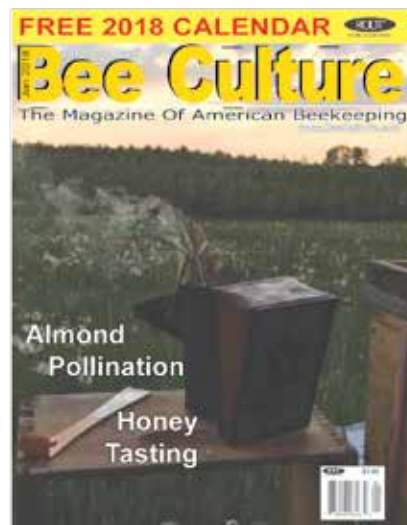
state to state in a small Volkswagen, then show up asking, "OK, what are we doing today?" It kept his crews on their toes.

John Eels – America's first known beekeeper is known to us today because he went broke. Mr. John Eels was put in charge of an experimental apiary in Newbury, Massachusetts, in 1645 (just 25 years after the Mayflower). Operating the village bees, Eels quickly became North America's very first pauper, requiring financial assistance from the town in order to survive. (Let that be a forewarning to potential beekeepers: a beekeeper was the first welfare case in the USA.) In fairness to Eels, honey crops in Massachusetts are small and wintering is difficult.



Lê Quý Quỳnh – (1923-2012) A Communist politician, soldier, and physician, Lê Quý Quỳnh resided in Ho Chi Minh City (Saigon), Vietnam, for most of his life. He was respected in Vietnam as a "Hero of the Revolution" for leading forces during Vietnam's wars of independence. He served as Adjutant to General Giap, and as defense minister in Ho Chi Minh's first post-war cabinet. However, his real claim to fame is his 50 years as a beekeeper and his research in medical treatments using bees and bee products. He was chair of the Vietnam Beekeepers Association for several years

and helped expand commercial beekeeping from several thousand colonies to over a million by the time of his death.



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Leo Tolstoy – (1828-1910) This Russian author was an avid beekeeper. His wife, Sonja, talked about him “crouching in front of his hives, net over his head.” And she wrote in her diary, “The apiary has become the centre of the world for him now, and everybody has to be interested exclusively in Bees!” Tolstoy mentions beekeeping twice in *War and Peace* (it’s a long book, you’d expect beekeeping to come up, wouldn’t you?) Tolstoy describes the evacuation of Moscow: “Moscow was empty. It was deserted as a dying, queenless hive is deserted.”

Luis Mendez de Torres – Spanish scientist, discovered the queen is a female and mother to the bees in the hive in 1586. This discovery is sometimes credited to Charles Butler, but Mendez published his findings twenty years earlier.



Marcus Aurelius – This famous Roman emperor, philosopher, and potentially world’s first socialist said, “What is not good for the swarm is not good for the bee.”



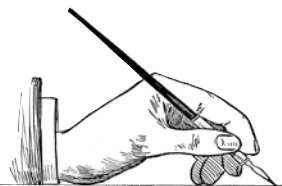
Moses Quinby – (1810-1875) This beekeeper invented the modern bee smoker in 1875. But much earlier – in the 1830s, he was the first large-scale commercial honey producer in North America with 1,200 colonies. Moses Quinby made as much as 20,000 pounds of honey a year from hives kept in boxes – no moveable combs, no foundation for frames, no extractors in those days. His 1853 book, *Mysteries of Bee-Keeping Explained*, encouraged the rapid growth of beekeeping as a business.

Rob Smith – This Australian beekeeper produced a world record 762 pounds from each of 460 hives in 1954. I learned this bit of trivia when I was a teenager and I’ve never been the same since. Others have claimed the world record for honey production, but Rob Smith was surely number one. I’ve been corresponding with Smith’s daughter, Jenny. She sent news clipping about her father’s celebrated super-crop of Karri eucalyptus honey in western Australia, south of Perth. One day (soon, I hope) I’ll write a story about him.



Waldo McBurney – He was recognized as America’s ‘oldest worker’ at age 104 in 2006. His job? Beekeeping, of course. 🐝





Letters...

Timing of Treatment for Varroa (why you lost your bees, or my lifetime legacy to all beekeepers). You have probably used and heard of the buzz phrase Integrated Pest Management. In simple beekeeping language it means doing too many things, none of which work well, at the wrong time, and hoping for the best.

In terms of wintering success, it is essential to treat your bees for mites at the right time for your area. To protect winter bees: All treatments in late September or October are too late! The damage to the brood of winter bees is already done and the colony may collapse. Last year, I had many questions about treating bees with formic acid in the high heat conditions that we experienced in August. The problems that occur are with methods that use a flash or blast method of application. Slow release methods do not have these problems as they use the remarkable ability of the bees to maintain the brood temperature and humidity, and therefore are not outside weather and temperature dependent.

I sent out an email to people in regards to this and to my surprise I got this answer:

Hi Bill, I agree completely with your statement about timing of mite treatments. Lloyd Harris studied the age structure of bees in colonies in Winnipeg for his Master's degree. My student Heather Mattila reinterpreted his data and was able to demonstrate when winter bees are produced. In the prairies (Winnipeg), the first winter bees are emerging in late August, with the bulk of them having emerged by the 25th of September. That means that mite levels need to be much reduced by the 15-20th of August to prevent damage from mites during the sealed brood stage.

Probably here in southern Ontario the timing is shifted later by 10-14 days, but nevertheless your statement is correct: treat bees in August to prevent damage by mites and the viruses transmitted by them. By September, the game is over. Best wishes, Gard W. Otis, Professor School of Environmental Sciences, University of Guelph.

Gard agreed to write the following summary of the above referenced paper and has given his permission to reproduce it here:

WHEN ARE "WINTER BEES" PRODUCED IN COLONIES?

Mattila, H.R., J.L. Harris, & G.W. Otis, 2001. Timing of production of winter bees in honey bee (*Apis mellifera*)

colonies. *Insectes Sociaux* 48: 88-93. Mattila and Otis, 2007. Dwindling pollen resources trigger the transition to bloodless populations of long-lived honeybees each autumn. *Ecological Entomology* 32: 496-505. Summary in beekeeper friendly language by G. W. Otis, 2017.

Twenty years ago I asked the question: When are winter bees produced? I was interested in this question from a practical standpoint: when should beekeepers have Varroa mite populations in their hives under control if they want good overwintering success and strong, healthy colonies in spring?

As luck would have it, Lloyd Harris had studied the age structure of bees in colonies in Winnipeg for his MSc degree. He established colonies from 2-lb packages (approximately 7000 bees) and released the queens on 25 April, 1976. Starting on 14 July, he introduced cohorts of newly emerged bees into colonies at 12 day intervals, and then recorded the numbers alive in each cohort every 12 days thereafter. From these data he determined the age structure of bee colonies under different late summer re-queening methods as well as in control colonies. Within his data lay the answer to my question, but it was difficult to visualize the answer. I recruited then undergraduate student Heather Mattila to reinterpret his data and demonstrate when winter bees are produced.

Heather's reanalysis of the data yielded somewhat surprising results. In the prairies (Winnipeg), the first newly emerged bees that became long-lived "winter bees" were recorded on 31 August. For that Aug. 31 cohort, approximately 60% died before winter (before 1 November), while 40% became "winter bees". Twelve days later, 70% of the bees became long-lived winter bees, with the proportion of "winter bees" increasing with time until the last bees emerged around the end of October. With the large amounts of sealed brood present at the end of August and early September, even though only a proportion of the bees emerging during that time period join the winter bee population, more than half (53%) of the winter bee population had emerged by 12 September. Not many worker bees emerged after 6 October.

THE IMPLICATION OF THESE RESULTS IS THIS: If a beekeeper has not controlled Varroa mite populations earlier in the year and wants to treat hives at the end of the season so that they contain healthy bees going into the winter (i.e., bees that have not been fed upon by Varroa mites or had viruses injected into them through mite feeding), then he/she should reduce mite levels before



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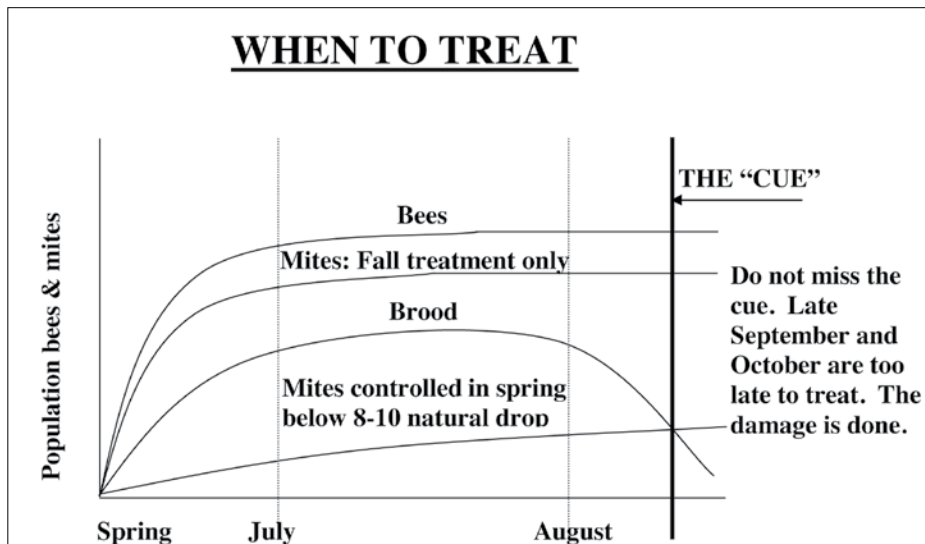
significant numbers of winter bees have been produced. As an example, if beekeepers want to control Varroa mites in their colonies by 31 August when the first winter bees are emerging as adults in the prairie provinces, then miticide treatments should be applied before 17 August; that is the date when worker larvae are being sealed into their cells that will emerge as adults on 31 August. If beekeepers wait until 1 September to treat their hives, approximately 55% of the bees destined to become winter bees will potentially already have been fed upon by mites.

Heather Mattila subsequently studied the effects of the amount of pollen entering colonies in Ontario in September on the transition to winter bees (Mattila and Otis, 2007). In the control colonies (i.e., the colonies in which the amount of pollen was not manipulated), no winter bees developed among the bees introduced to colonies on 1 September. However, by 13 September, about 40% of the young bees that were introduced to colonies became winter bees. Those bees would have been sealed into their brood cells at the beginning of September. These data indicate that the transition from summer to winter bees occurs about 2 weeks later in Ontario than in southern Manitoba. We do not have comparable data for the lower mainland of BC or the Maritime Provinces. However, the same process, i.e., a gradual increase in the proportion of winter bees among emerging workers over time, undoubtedly occurs everywhere as pollen foraging declines in fall. Note that feeding additional pollen or a high quality pollen substitute in fall would delay this transition to winter bees.

In summary, to have healthy worker bees over the winter, Varroa mites need to be controlled by the time the first winter bees are emerging in colonies. That means miticide treatments should have been applied by mid-August in the Prairie Provinces, the first of September in Ontario, and probably by mid-September in the lower mainland of BC. Beekeepers must also remain vigilant as the fall progresses because the numbers of Varroa in colonies can increase quickly if nearby colonies are collapsing from high mite infestations.

I have been preaching this fact of how and when to treat for the past twenty years. The graph below has been on my website since 2007. In Canada, beekeepers must treat at the following times for the treatment to be effective. The dates are:

- Prairies - August 17th,
- Ontario - end of August
- British Columbia (Okanagan Valley) - August 25
- British Columbia (Lower Mainland) - beginning of September.



Any beekeeper can establish his own "CUE" Day. It is when the queen reduces laying at the end of the summer from many to only a few frames. Your own date to treat will be just few days earlier.

KEEP MITES BELOW 8-10 MITES spring and late summer natural drop prorated to 24 hours

Treat twice per year:

In the late summer treat before mites cause damage to brood that will become winter bee stock.

In the spring treat before extensive brood build up, when you are reversing hives or preparing for pollination.

Slow release methods prevent re-infestation from collapsing colonies; such a treatment kills the mites drifting on bees before they can get to brood.

~ Bill Ruzicka, Kelowna, BC



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Top Bar Hives

by Randy Chencharik and Rebecca Austin

My wife Rebecca and I first started attending the monthly bee meetings of the Prince George Beekeepers group in the Fall of 2011. It was she who was first interested; the idea of keeping bees was something I had never considered. As we became more conscious of the challenges facing the honey bee we thought that it was something that we would like to try. We love gardening on our small acreage and would appreciate the pollinating that the bees would provide.

After we had attended a few meetings, long-time beekeeper Gerry Bomford suggested that we try a top bar hive. We did not know this style of hive from anything else and the thought of keeping bees “more naturally” was appealing. The next step was to search Google for information.

I found a few different plans on how to build a top bar hive and chose one, adding some modifications from other plans. Cedar was one of the recommended woods to use, and I was able to utilize reclaimed cedar planks that I had been given.

By the time we had learned enough to feel ready to start keeping bees, we had missed our chance to order a bee package, but we were able to get a nuc from Gerry. Because the frames from the Langstroth are not compatible with the top bar, we had to bonk and brush the bees into the hive cavity, but all was well so far.

We really didn't know what to expect as far as comb building and the growth of the hive. When the temperature dropped that autumn, I optimistically insulated the hive, hoping the bees would survive the winter.



Rebecca holding a very busy bar intently looking for the queen.

When spring came around, we realized that our first attempt at beekeeping had been a failure. Our bees did not make it through the winter and we realized that we had made a few operational mistakes. We had placed the hive without consideration for wind protection and early exposure to morning sun. We also gave the bees too much room in the top bar hive cavity to start, discouraging the bees from building



The bee yard.

comb across the entire width of the bars. The best advice we received was to relocate the hive, which we did.

Our second year was much more rewarding. We had relocated our hive to the middle of our yard in front of a copse of birch that provided protection from the north wind, and positioned the hive facing south so that it would receive the best exposure to the sun. We were also able to order a package of bees in time for the spring of 2013. Everything seemed to be going well and we were noticing more and more bees and trying to keep them contained, but gave them room as they needed it.

I remember it being a nice Sunday afternoon around 1 pm when my wife mentioned she could hear a sound like the wind, except that it was a calm, sunny early summer day. I was in the garden weeding. The bees were beginning to swarm. We saw the bees fly en masse in the direction of our neighbour's yard, and hastened over to let them know. The neighbours were not alarmed by the bees and we stood and chatted for a few minutes. As we were leaving my wife noticed the cluster not too far up in one of their spruce trees.



A typical full comb with pollen, capped brood, larvae, a queen cell and a few drones.

We were not ready for this at all! Not having any experience capturing a swarm, we made a couple of excited phone calls and finally reached another fairly new beekeeper who gave us good advice and moral support. We made room in our hive by moving the remaining bees from the centre into one end of the hive so that we could put the swarm in the other end.

I was able to bonk the bees off the branch they were on into a cardboard box my wife was holding and then we shook them into the hive, locking them in for 5 or 6 days. I drilled another hole in the hive so that I could place an outside feeder. When we checked on them, they were building comb nicely.



The first hive Randy built.

In no time at all both colonies were doing well and, by the end of the summer, the two colonies had grown to take up the most of the 4-foot length of the hive with only a space of 3 bars between them. I knew that having two colonies in one hive was a temporary arrangement, at best. Over that winter, I built 2 more hives, and, as it turned out, both colonies survived the winter. Although I had previously sworn that I wouldn't have more than 3 hives, today we have 4 top bar hives of our own and are fostering another hive for a beekeeper who had to move last fall and is establishing a new location for her bees.

I will admit that every year keeping bees has not been so rewarding. We lost a hive to mites and had another hive, that

seemed to be flourishing and healthy, just absconded. Upon further consideration, we feel that the colony must have been overwhelmed with varroa. In the last couple of years we have re-queened with some success.

During the winter of 2016 we had our two colonies survive. We split them both placing the split portion into each of the two empty hives that we had. It was interesting to see the difference in growth over the season between the two splits.

Last year was challenging for us as well as many keepers in the north due to the hot and dry July. The forest fires south of us in the Cariboo also had an effect and I noticed on particularly smoky days, the bees were not leaving to forage. All of this equated to very low honey stores. We didn't take any honey this past fall, instead supplementing all five colonies. We made fondant according to directions and placed it into fondant frame feeders that I made. This year, we have our four hives and the foster hive insulated and wrapped against the winter cold; fingers crossed.

I like to promote top bar beekeeping and am happy to say that there have been new people interested in taking up this method in the Prince George area over the last couple years. I mentor a group of local top bar beekeepers with tips from our experience so far. There is so much to learn and there is definitely more help on the Internet for top bar beekeeping than even five years ago.

Participating in our monthly meetings held at the college is the most important to learn the most up-to-date information from knowledgeable beekeepers. There is much discussion around traditional Langstroth beekeeping and I find myself trying interpreting this info into something I can use in our method. ❁



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- B = Bulk Bees
- C = Queen Cells
- Q = Queens
- N = Nucs
- P = Packages
- S = Shook Swarm

BCHPA Semi-Annual Business Meeting Minutes

March 9, 2018 - Kamloops BC

Call to Order and Welcome - Kerry Clark

Agenda – additions, deletions, approval, adoption.

Business arising from the minutes:

- Website: Domain name change from member motion (Dan will update during his web report).

Approval of Minutes from AGM 2017 as presented in BeesCene Winter 2017

Executive Reports:

President – Kerry Clark

Has been away for the last month on a volunteer assignment in Africa around beekeeping. Managed to continue with Executive meetings.

- Issue of Front of Package warning labels proposed by Health Canada: Attempt by Health Canada to provide more information on sugar, fat and salt on the labels of food. Meant to indicate to consumer that this product should be considered before you buy it. They had a proposal that honey should have a symbol on the label as high in sugar. BCHPA sent a strong letter of response to Health Canada and the Canadian Honey Council. The decision has been made that honey is now exempt from the whole program.
- Follow up from the BC wildfires last summer: Some beekeepers were impacted and the Executive made approaches to the Ministry of Agriculture; a couple of speakers from the Ministry attended the 2017 AGM. There have been a few applications (we think 4) for support. There was also a Red Cross program (financial compensation for businesses). Gov't program is in effect until April 6th.
- Received a call from BC Assessment regarding farm status. Executive has presented their concerns to the Minister of Agriculture. Working on rules that will be appropriate and take some of the uncertainty out of the process. We will be continuing to participate in this process and keep the Minister informed of our work.

First Vice President – Jeff Lee

- Agriculture ministry is undertaking a review of the ALR and there may be a synergy with the BC assessment review. It appears that under the new government things might be more conducive to beekeepers, however this remains to be seen.
- Decision made in Kelowna to split responsibilities around AGM and Semi-Annual. 2018 AGM is in Victoria and 2019 is in Prince George.
- Dan Mawson has created a convention guide book to take best practices forward for all future AGMs and Semi-Annuals.
- Working on getting great speakers for the 2018 AGM. We are on track with Victoria and their 5 person team getting things organized.

Second Vice President – Dan Mawson

- Magnitude of events is increasing year over year. Organized this Semi-Annual. Weather plays a bit of a part in the level of attendance. Registrations still coming in on the first day of meeting.

Treasurer – Irene Tiampo

Update at 7 months into the fiscal year:

- New Branch – North Fraser
 - Amalgamated orphan funds into a Education/Research Fund
 - \$15,000 government grant received
 - \$5,000 speakers grant now deposited
 - Memberships just over 500 new and renewals
 - 750 last year so on track
 - Advertising income in BeesCene way up
 - Insurance renewals are coming in
 - Boone Hodgson Wilkinson fund has a deposit coming from donations from members. There were events that were related to BHW fund and those were sent directly to Brenda.
 - AGM funds have not come in yet. Waiting.
 - Are our liabilities higher than last year? Funds for research are under strict rules around its commitment for use – not income.
 - Bottom line is that we are in very good financial shape
- Motion to approve financials:
Moved by Stan Reist, Seconded by Jeff Lee
Approved unanimously.

Secretary – Christina Rozema

- Many emails through the year asking about getting bees placed on properties. I always direct people to the relevant



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local club.

- Also this year we have a query re: organic raspberry honey for export to France – if you do this please connect with me and I will forward the information. Interest in BC honey seems to be increasing.
- Significant correspondence with the research proposals and with the Minister of Agriculture.
- Artist in Vancouver has 4500 lbs of sugar to give away – please contact Chris for more information.
- Jeff has also been contacted regarding raspberry honey.

Canadian Honey Council Rep – Stan Reist

- Access Market Secretariat providing money for trade missions.
- Alberta has biggest honey production in country.
- BC has 27% of beekeepers but only 7% of hives. Similar numbers to Ontario.
- Beekeepers' response (or lack of) to the production surveys may be skewing the results. Need to encourage beekeepers to respond.
- Offshore honey is increasing.
- Does the CHC differentiate honey types? Is Argentina the only source able to provide organic honey?
- Data in presentation comes from Agriculture Canada - Stephen Page.
- 3 shipments of Canadian honey held up by MRLs and spores in honey. One shipment has been sent back due to AFB spores.
- NMR will be coming in and can support exports.
- Bee Health Roundtable: To facilitate the continued growth of a healthy, innovative, and profitable apiculture sector in Canada.
- Antimicrobial access for beekeepers – as of Dec. 2018 antimicrobials will be under the control of a veterinarian and will need a prescription for Terramycin. Also coming into play in the US. Beekeepers need a client/veterinarian relationship. Not quite worked out with vets in BC. Bee Inspectors seem to be the most appropriate people to diagnose diseases in bees. Currently no plan in place. CHC has spent a lot of time trying to sort this out. Health Canada and Canadian Veterinary Association need to make a plan. In the Kootenays there is a vet who is a beekeeper so they have a source. Saskatchewan has trained over 100 vets in this work. Ontario also has a plan in place. The BC Chief Veterinarian has not yet decided how the medication will be distributed and how to train vets in diagnosis and prescribing. This is an issue that needs to be raised with the Minister.

Industry Growth and Issues:

- Huge growth in urban beekeeping.
- Antimicrobial access and delivery.
- Public trust and social licence.
- Food safety/biosecurity.
- Education and training.
- Labeling.
- Adulteration and transshipping – NMR.
- Labour.
- Expansion of markets.
- Interprovincial transport of bees -- harmonization of inspection reports, processes and requirements.
- Search for Foreign markets will likely change the CHC radically over the next five years.
- Apimondia 2019 Montreal. Booth space now on sale and going rapidly. Chinese providers will be major player as will

India. What does BC want to do to help with Apimondia?

Regional Representatives

Cariboo – Anne Carter

Ton of snow later in the season. Hives completely buried. Club is growing. Critical mass of new beekeepers with enough experience to step into mentoring and education roles. Impact of fires not over and forage was slim leading to poor stores. Survival is yet to be assessed. Two disaster relief funds were set up – one provincial and one federal. Provincial program fairly stingy and doesn't recognize bees as livestock. Federal program more generous. Association should try to impact government's view of bees as livestock. Ted Hancock involved in traceability program through Federal Government. Long, painful process but achieved a \$14k grant. Likely going to renew the program this year.

Prince George – Barry Clark

Hosting 2019 AGM. So much SNOW. Hives are totally covered. Last summer there were a lot of forage issues, clover and alfalfa die offs during previous winter because of cold weather without snow cover. Optimistic there will be good forage due to moisture from this much snow.

South Vancouver Island – Barry Denluck

Warm spell beginning of January, bees were brooding and pollen was coming in. Then cool and wet, abandoned brood and colonies shrank. Seeing colony losses now in past two weeks and expecting fairly devastating losses in the Victoria area.

West Kootenays – Axel Krause

Project to collect spilled sugar from stores that don't have house bakeries in supermarkets. Club has 5 gallon pails with names on it and are collecting a lot. 100-200 lbs of sugar per month coming in. Identifying sponsors on their website.

North Vancouver Island – Gerry Rozema

Talk of great survival but not April yet and cannot forget that losses on Island, 1/3 are in March-April. New bee club in Parksville. Normal spring on the north island. Nanaimo club has sponsorship donation from Tim Horton's for coffee and Timbits.

East Kootenay – Lance Cuthill

East Kootenays are organizing into formal bee club – Branch of BCHPA in the early stages. Large number of beekeepers interested. Sugar blocks and pollen patties on once weather creeps up a tiny bit. Voiding flights being noticed.

Peace – Kerry Clark

Peace Region has started a new beekeeping association. First meeting March 8, 2018. people can participate by teleconference. Local suppliers of nucs attending. A lot of snow this year and still too early to know what losses might be. Daughter is involved in environmental impact assessments in Alberta. Has asked about starting a bee group in Fort Chipewyan AB. Only an ice road in.

North Okanagan – Richard Plantinga

Not much warm weather so not many flying days. Lots of interest in bee club. Starting with Okanagan college, will be

working with them to put beehives on campus, carpentry program building hives. Culinary arts department wants a source of honey and as payment will give small parcel of land to put hives on. 1/3 honey to beekeeper, 1/3 to club and 1/3 to culinary program. Club meeting spot at no charge.

BCHPA Archives – John Boone

Located at the SFU Archives. Minutes, correspondence, agendas, and other items. Please consider donating.

BCHPA Website – Dan Mawson

- At Kelowna AGM changing the website domain name was approved. This will happen immediately after the Semi-Annual. Two domains secured and will change the emails as well. We are keeping the two old domains to protect them. There will be a behind scenes transfer to the correct site from the old ones.
- Updates - subscription list on website has 1026 people signed up and has some new improvements now.
- Getting 1000s of hack attempts every month. We track them and we need to increase the security on our site - \$100 per year for added security firewalls against hackers suggested.
- Website online registrations for Semi-Annals and Annual General Meetings. 99% of registrations are now online. Saves hours of time tracking registrations. Mail ins are still offered but online is best.
- Memberships are online.
- Ads on website are mirroring BeesCene ads.
- Since Kelowna, BC Bee Breeders Assn section and the AGM policy and procedure manual have been placed on the website.
- Manual for conferences is password protected and comprehensive document to organize complete AGM with best practices.
- Local events can be publicized.
- Presentations on Vimeo can be downgraded in quality for those who have limited bandwidth. Videos are delayed about a month so that people aren't discouraged from coming to the meeting.

BeesCene - Heather Sosnowski

- Encourage feedback of any kind. Advertising is up significantly – doing very well. More articles, bigger journal attracts more advertisers. Content is improving. Mailing fees up as is printing cost. Paper cost went up a bit. Assessing different printers to get new quotes.
- Is there an electronic delivery option? Brought up a few years ago and members overwhelmingly desired paper copies. Heather will send e-copy if requested and take name off paper copy. Old copies available on website but are delayed one issue so people will subscribe.
- Could password protect the new versions if desired. Heather will start up a list of people who want electronic version only.
- Have been some good suggestions for increasing information – kids's page, list of inspectors, let Heather know if more ideas.
- Executive have reviewed expenses for BeesCene and have decided that compensation for Editor will be increased by \$800 per year.

Nutritional Labels

Judy Campbell can no longer continue with this work so looking for a volunteer to manage ordering and selling of labels.

Marketing Committee – Amanda Goodman Lee

- See recent reports in BeesCene.
- Survey results – 76 members responded. Marketing honey as made in BC, by BC beekeeper.
- Some of the packers who are packaging selling as BC made but not really from beekeeper. Certified producer program uplift and more marketing panache. Presented at last Semi-Annual.
- These decisions are quite big and needing member participation for movement forward.
- BC government implementing Buy BC, Buy Local, program.
- Seeking government funding to support marketing strategy.
- How can program ensure no exclusion of small producers who might not be able to afford stickers/participation?
- Is education a part of the rebranding?

Old Business, New Business

2017 AGM Financial Report – Dan Mawson

- Over 340 guests at the event – people from every province except PEI. 25 speakers 19 vendors. Partnered with CAPA and CHC to increase our registration. Scientific symposium received very well.
- 50 entries into honey/hive product competition. Mead competition had a commercial component – 15 participated with 50+ entries.
- Survey responses were very good. 180 respondents. Overall experience 4.62 out of 5 and all other aspects rated very good. 4.82 for plenary. All workshop speakers 4.5 or greater.
- 65% said they would attend AGM next year and 30% said they might.
- Total Revenue: \$89k, Total Expenses: \$54k
- 34k profit and above budget
- 75/25 split – \$25,811 to BCHPA and \$6,000 to host club.

2018 Victoria AGM planning - Jeff Lee & Barry Denluck

- Capital Region Beekeepers' Assn organizing event.
- BCHPA arranges speakers and supports organizers.
- Speakers still being worked on – both international/national speakers and local expertise.
- www.victoriabeexcellence.ca
- Website currently live but not fully populated. Items will go live as available.
- Victoria is a bit more expensive.
- Oct 26, 27, 28th
- Union Club will host the conference and Magnolia Hotel is the rooms.

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Projecting 160 participants/registrants for banquet. Room will hold 200 at tables.

- Education day will be theatre seating and allows for closer to 300 people.
- Friday night registration and social, Saturday Presentations, Competitions, Banquet, Sunday Presentations, Trade centre/show.
- 20 rooms booked at Union club for Speakers and BCHPA Exec.
- 40 rooms booked including breakfast at \$159 a night.
- Sunday parking is free.
- Budget is conservative in financial projections.
- Profit will likely be more modest.
- Parking at Magnolia, there is pay parking across the road.
- Union club has parking behind for their room guests. Consider parking extra cost as is likely except on Sunday – city lot three blocks away and is free on Sunday.
- Axel K. Question re: was supposed to be weekend after Thanksgiving – venue not available that weekend but concern about weather issues for beekeepers in places other than Lower Mainland/Vancouver Island.
- Need to consider later in March and earlier in October to respect the weather.
- Will there be an early bird fee? Might be a bit more expensive.
- Likely an option to book early bird with a deposit and if paid within 60 days still get early bird fees.
- Is there a shuttle from airport – looking into options. There is a commercial option from airport and we are looking into volunteer options.
- There is work also being done on Significant Other events.

Wildfire Recovery Fund

- Small amount of donated funds for wildfire affected beekeepers. Approx \$467.
- Motion: On a prorated, per hive basis to divide these funds to those beekeepers who have applied and were accepted to provincial program. Seconded by Stan Reist. Motion carries.
- 4 applications to the provincial program.
- It is hard to quantify the “losses” which are caused by the drought and fires.
- Do they have to be BCHPA member – likely not.
- Should we begin to develop a beekeeper fund for losses like this.
- Bee movements in case of fire – organizing a planning system is underway. Will be forwarded to Executive for distribution.

Research Funding:

- NDBC Foulbrood Study - fresh look at foulbrood diseases using new technologies.
- Blueberry Research Project – bee colony health in blueberry pollination.
- Bee Research Initiatives 2018 – presentation.
- New arrangement of our funds and injection of funds from the Ministry of Agriculture, we have a greater capacity to do research.
- Research committee: Heather Higo, Ali McAfee, Liz Huxter, Gerry McKee.
- This is the information about the funding of these projects not the research projects themselves.
- “Incurable” AFB, “curable” EFB – distinctions between

causes, symptoms, impact, detection and mitigation.

- Scale of project described by NBDC, three years, three provinces \$500k.
- BCHPA asked for \$5k/3 years = \$15000 total for consumable supplies.
- BCHPA proposal to the Investment Agriculture Foundation - accepted \$40k project with 50% cash (IAF) and 50% in kind (BCHPA) and proposal was accepted. Beekeepers will be involved in looking at their hives as part of this study. Diseased colonies will be needed.
- Question: What role do Apiary Inspectors play – need to check in with Provincial Apiculturist.
- Question: if we find a diseased colony what do we do to participate.
- In meeting with new Minister of Agriculture, Lana Popham, Executive proposed the idea of “seed money” for research. She responded with \$25k “BC Bee” funding. Once this secured, BCHPA started looking for research partners. Dr. Marta Guarna will be doing this research. More details about the project will be given at the Education Day..
- Study contributions to date:
Cash: BCHPA \$20k (funded by Province).
Cdn Bee Research Fund \$7.5k
- In kind:
Agriculture and Agri Canada – \$39k.
Beekeepers \$30k.
NNBDC \$15k.
UBC \$7k.
Hives for Humanity \$3k.
- Current total in cash and in kind \$120k.

• BCHPA also has other funds that could be used to support this project - currently the HURT fund has \$30k not allocated yet.

This project is still looking at getting more funds to complete the review of the samples.

- BCHPA has approached the Alberta Beekeepers to see if they would be interested. A proposal is also in to Manitoba.
 - Should BCHPA contribute some of its existing funds (not allocated) to this project?
- Invitations to the BC Blueberry Council to attend our meeting today and discuss our research and concerns. None have attended.

BC Apiculture Program

- During our meeting with the Minister, we addressed the continuation of the Apiculture program after the eventual retirement (not yet specified) of the current Provincial Apiculturist. The Minister has assured us that the program will continue.
- We would usually have had the Provincial Apiculturist give an update on the program, but he was unable to attend the meeting.

BCHPA Re-Branding

- Presentation given by Dan on creating a new BCHPA logo.
- Not a consistent or a strong logo to recognize organization.
- Why rebrand? Provides consistent recognition, clarifies message and values, represents us as professional, well administered organization, attracts new members, refreshes the look of the organization.
- Why now? Growing organization, increased public and government support, greater exposure, buy local campaigns, approaching 100th anniversary.

- 4 phase plan:
 1. Brand Discovery and identification (2 months) \$2k
 2. Creative Process (logo mockup options) (4 months) \$1k
 3. Brand Guideline (present at the Victoria AGM) \$1.5k
 4. Apply Concept (6 months) \$1.5k: form part of strategic marketing plan, signage and displays, BeesCene, member use in their strategies.

• \$6k total – we have a fund for marketing of \$11,481. Honey Industry fund also has funds in it. Gov't grants available in Buy Local Campaign.

Motion (Dan Mawson): that we strike a committee to lead the BCHPA through a rebranding process to design a branding package.

Seconded: Barry Clark

Motion carries

• This ties in to what Amanda was speaking to this morning. In order to be effective in marketing we need strong brand and strong logo to graphically represent who we are. How can/do we? engage the membership in the preparation of the design.

• Two AGMs ago it was suggested to review the BCHPA logo. We are not changing the name. There wasn't good response when asked previously. We need to be supportive and engaged in improving the organization.

Committee: Dan Mawson will be Exec representative. If you are interested contact him to participate. Need 5 members.

Growing Forward Update – Tracy Innes

• Growing Forward 2 ends March 2018. New round of funding announced for April 1. In negotiations with BC and progressing. Once contract signed province will roll out program for BC. Will likely include similar programs. Need to review for which ones will be applicable. Both on-farm and post-farm funding. Would be happy to attend next meeting to provide overview.

Infrared Camera Use

- Jeff spoke to use of thermal imaging – plan to do workshop in Victoria. Trying to determine if this tool (about \$250) is valuable or not and how to use it to advantage.
- Axel spoke to using it for use in identifying bee colony in wall of house. Works very well.
- Heather Higo has a section of her talk tomorrow to demonstrate what OBA is using it for.

Presentation to Ted Hancock

• Awarded at the AGM in 2017 but presented today. Ted is awarded the President's Award in recognition of many years of service, humour and golden-tongued contribution to beekeeping in BC.

Technology Transfer Team

- Heather Higo: Is a Tech Transfer team needed for BC? How do we get one, what do they do, how do we fund it, how much does it cost. There is one in the Maritimes, Ontario and Saskatchewan. They are functional and they work.
- A Tech Transfer team is a group of people who provide services for beekeepers. They also design one or two small research projects and complete them within a couple of years.
- Could sample and test your colonies.
- Bring info to the beekeeper on sampling, health, pesticides etc.
- Second level to Tech Transfer team in Ontario is the service they provide to bee breeders to test for hygienic behaviour,

honey production, overwintering etc. and give data to support choices of which hives to use for breeding production – based on what the beekeeper values most in hives.

• Maybe this can be reviewed at the AGM in Victoria. Lets review tech teams across Canada and report back.

• Is there a possibility for funding in the successor for Growing Forward 2?

• Would there be structural issues for the organization to consider?

Resolutions:

A: Whereas BC beekeepers live in vastly diverse areas of the province, which are largely separated; and whereas BC beekeepers face insurmountable challenges and their bees are under constant duress from natural pestilence and manmade threats of chemicals and habitat loss; and whereas, many BC beekeepers are unable to afford the time and/or financial cost of attending the educational conferences; and whereas, BC beekeepers' best tools to combat the challenges to our beekeeping is education;

That the BCHPA undertake a review of its recording program for its education seminars and report back with options at the October AGM in Victoria.

Moved: Steve Hasiuk

Seconded by Jeff Lee

• Lapel microphone has been purchased.

In favour: 10

Opposed 15+ Motion not carried.

Related Issue:

• Kerry Clark: Executive notice of the potential of perceived conflict of interest to Dan Mawson who, now on the Executive, receives a small stipend to format and post the audio/visual service and segments. The Executive wants to continue this arrangement.

• Ed Zurawell comments stipend is likely very undervalued and suggests a raise.


• Barry Denluck will proceed with due diligence and get a second quote for the Victoria AGM to ensure for members that the service we currently get is best value.

Steve Hasiuk:

• Is there research being done to see how well hygienic queens survive adult bee diseases and overwintering. Can we promote research into this?

• Heather Higo has not personally seen that these queens don't overwinter. This is currently what is being researched in the Beeomics project. Hygiene, overwintering, resistance to Nosema, honey production etc.

Meeting Adjourned ☼



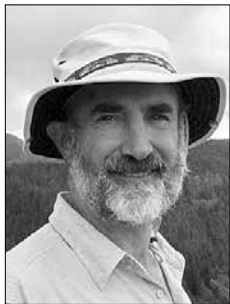
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Regional Reports



Peace Region ~ Kerry Clark

What to wear to check those hives: snowshoes, snow boots or sandals? I'm glad I waited until the end of April to write this: as of April 22 things looked pretty discouraging: a winter of usual mixed cold with ups and downs turned into an extended cold snowy spring. March was in like a lamb and

out like a lion, and April (though with a lot more light) was still cold. Willow pollen has sometimes been available in the Peace at the end of March; this year three weeks into April it seemed not possible.

It was a challenging winter and colony mortality will be higher than usual; three weeks worth of extra fuel for incubating in April is clearly a big challenge for food stores. It is difficult, less effective and possibly counterproductive to try to feed colonies below freezing, so added starvation this year is a likely result.

I think the big weather change on April 24th was widespread, maybe across most of BC. In the Peace, daily high temperature jumped within a few days from freezing to +25°C. Snowpacks which are significantly above average are melting quickly, with water over the roads, etc. I had the remarkable experience on April 26th of seeing bees actively bringing in pollen at +10°C after 7 PM (sunset is 8:30), even with about ¾ of the landscape still covered with snow, in some places over a foot deep.

The irresistible force of the sun has overcome the seemingly immovable object of tons of winter ice, which will be melted in a few days. Like last year, nuc suppliers also had losses and are close to or fully committed due to the increased interest in beginning beekeeping. Conditions are about 3 weeks behind 2017, but May will be better. Best Wishes to you all.



South Vancouver Island and the Gulf Islands ~ Edan North

After serving as your regional representative for around three years now, I would first like to say that beekeeping from ancient times up until modern times remains one of the finest lines of work that any one man or woman could find themselves in.

.Secondly, at this juncture it has happened that I will not be so fortunate as to continue on with you. This is due to a spinal health condition that will prevent me from continuing with beekeeping. There will be a new regional rep moving forward with the area of Southern Vancouver Island and the Gulf Islands. Until this appointment is finalized be sure to refer to the Capital Region Beekeepers website, www.capitalregionbeekeepers.ca.

Monthly information sessions will continue on the second

Thursday of every month. I am certain that there will be no lack of newcomers to beekeeping, and experts discussing both tried and true beekeeping techniques and modern updates in the beekeeping sector.



North Vancouver Island ~ Gerry Rozema

As we write about the spring season the general trend is to discuss survival for the previous winter. As the North Island rep, I have been delinquent over the last two months; due to pressing and urgent family issues I have been unable to attend bee club meetings so ended up a bit out of touch with the

area. For those folks I have been able to touch base with, the general consensus is that survival this year was good, but I don't have specifics on numbers. Without data from the rest of the groups in our area, I'll focus this article on results in our own yard which folks can use as a reference.

For those of you in the Interior of the province, the spring buildup is just beginning as I write this. We're still hearing about snow on the ground in some areas and the news is full of flood warnings as a large snowpack is starting a rapid melt. On the Island we are now through the spring buildup period and starting to contemplate swarms. In my own yard I found the first set of swarm cells beginning yesterday (April 29th).

At the AGM last fall I was fascinated by some of the presentations discussing spring buildup and that period of turnover from the longer lived winter bees, to the first round of young spring bees then on to the period of colony growth before first flows. There was a lot of detailed information, and most of it seemed to make sense, but being a numbers kind of person I really wanted some validation. The first step of the process was to work out the math on the potential for how a colony can build up; the second step was to document our own colonies through this period so there would be 'hard data' for future reference. This was an enlightening experience and the results we found here in Campbell River should translate well to other parts of the province with scheduling changes, based on availability of first pollen.

The results of the mathematical analysis are available for all to see on the Rozehaven website (www.rozehaven.ca) in the section labeled 'Colony Growth Model'. For those with a desire to understand the math, it's all explained in a few of the pages there and is based on two primary factors: the queen's ability to lay eggs, along with the size of brood nest a given cluster size can incubate through the cooler part of the buildup season.

I can't call the exercise of this spring an experiment as there is no particular test being done against a control, it was instead just an information gathering exercise intended to try and validate the information presented at the AGM with regards to potential for spring buildup. To gather the information I set out a fairly strict protocol, created a standard inspection sheet and made allowances for the fact that we choose not to disturb nests by lifting frames out during the cooler part of the spring.

We counted seams of bees on every look, added more patty when the supplement in place was more than half consumed, then continued with this protocol on a weekly basis through the entire spring buildup.

Our season begins with the first pollen, and here we get that first pollen when the hazelnut trees do their thing; this year that began in the last week of January. The weather was not ideal, but the bees did get two flight days during that period. On Feb. 12th we started our first round of 'pop the top' and look at the bees. I'll focus on the numbers for the hive that we keep on a scale because the data from that one is live online at the above mentioned website, so folks can look there and see the results.

On the first look, this colony was a bit disappointing we only found bees in 4 seams in the top box of a typical double deep wintering configuration, but the box was still heavy with honey. For such a small start, the expectation is that they can turn over the population during February, then through March (potentially) raise 3 frames of brood, and as that brood emerges the nest can expand to reach approximately 6 frames of brood by mid-April with a growing population just in time for the first heavy spring nectar flow (which is from maple in our area).

The results are fascinating in that they confirm the numbers presented at the AGM in more than one of the presentations, and provide a whole new set of thoughts around how we can manage our bees more efficiently for producing honey here on the Island. The colony in question had bees in 4 seams on Feb. 12th, and this number stayed more or less constant through February. By March 24th the bee count looking from the top had changed: we were seeing bees in 8 seams and did the first 'lift frames and count brood'. I found 4 frames of brood. On April 15th, we counted bees in 17 seams of the double deep configuration, with 6 full frames of brood. This growth trajectory matches the modeled prediction very closely for a queen capable of laying 1500 eggs a day, with the brood nest size limited by cluster size through the cooler part of the spring.

The other detail which I found interesting was watching how the hive weight changed over that period. From the beginning of the spring buildup until the flow began, consumption of stores was very consistent. Overall hive weight decreased at a rate of 10kg for each 30 day period. This trend was consistent from mid-February to mid-April, and changed on April 18th. I can say with some certainty that our flows started on April 18th at 3pm; that is the point where the scale showed an increase in the daily hive weight, and the upward trajectory continued until we got a couple days of rain.

Spring this year was typical for our area, and we fed patties from Global Patties with 15% pollen. From the data we collected, we can say the following with some certainty: a start on Feb 12 with 4 frames of bees, consumed 20kg of stores plus 4 patties to become 17 frames of bees with 6 frames of brood over a period of 9 weeks. At the end of that 9 week buildup, the colony was approaching full strength and able to start storing nectar from the spring bloom cycle, and they put on 7kg over the first week of the maple bloom. The April 15th look was an important date - it's when we stopped adding more feed, and instead put on the first honey super.

How consistent will these numbers be year over year? I don't know, but I do know that we will never know the answer to that without measuring. One thing I've learned from

keeping a colony on a scale for 5 years is that no two years are the same, but now I have a starting point which we can use to better manage expectations.



Thompson-Nicola

~ Amber Michaud

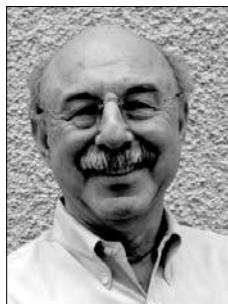
The Kamloops beekeepers held their first field day of the year at Joe Lomond's place at the end of April. It was well attended (~100 people), especially considering the cold weather, nearby flooding and rumours of, as well as real road closures!

As far as a report on regional trends goes, there is not much excitement to report. Spring was cold and late, which tempered bee activity until warmer weather and blooms arrived at the end of April. Our next field day is May 19th with a theme of swarm control. Location TBD.

Keeping bees is not the only thing that the Kamloops beekeepers do. Several extremely committed beekeepers regularly volunteer at schools and community centers, presenting on any and all bee topics that you can think of. These interactive educational presentations cover topics such as ecology, life cycles of honey bees and native bees, pollination, and how you can positively impact bee health. I recently learned of a pollination game where children physically collect pollen (a pom pom) from a flower and deliver it to a cell, and using pipets in another flower children collect nectar that is delivered to another cell. Then children are encouraged to fan their wings to cool the hive!

Another trick we have up our sleeves to interest today's youth in biology is a demonstration hive that contains life sized photos of healthy and unhealthy frames, a real frame of fully capped honey and of pollen. And that's not even mentioning honey tasting, and our observation hive with live bees and a queen!

So, let's lift a glass of mead to all the beekeepers out there that donate their time to share their passion!



Metro Vancouver

~ Allen Garr

Nothing seems to pick up the pace more noticeably than news of swarms coming in this year in the Lower Mainland during one week (finally) of good weather at the end of April, after a soggy and interminable winter. It was a significant change from a year ago, when we had an even more determined

winter and losses such that swarms, particularly for urban beekeepers, were hardly heard of.

Alan Wong of the Richmond Club conducted an overwintering survey which he presented to those assembled for the April meeting. Of 45 beekeepers surveyed, none were commercial beekeepers and most (30 percent) were in Vancouver, followed by Delta then Richmond and Burnaby. On average those who used chemical treatments had a 20 percent loss. For those who used non-chemical strategies (brood breaks and sugar dusting for example), losses were 34 percent. The primary cause for deadouts in declining order

were mites, moisture, starvation, weak colonies and *Nosema*.

Not sure what we can expect in the coming year regarding *Nosema* because, as many of you may have heard, Medivet, the sole supplier of the one product that works on *Nosema apis* and *Nosema ceranae* has lost it's only supplier of the raw materials needed to produce Fumagilin-B. Yikes!

Good news though on the chemical front. After 30 years of use the European Union has agreed to ban the use of neonics, at least from outdoor application, by the end of the year. It still can be used in greenhouses however. Over here, we seem to have stalled on the issue.

And if you didn't notice the pissing match over the impact of fungicidal spraying of blueberries and what it was doing to bees during pollination, some good news: A team made up of folks from UBC, Agriculture Canada and Hives for Humanity will be endeavouring to identify the causes of, and remedies for bee colony health problems in blueberry pollination. This study will be partly funded by the BCHPA.

With blueberries coming into bloom as I write this, Fraser Valley farmers are still on the hunt for willing beekeepers to pollinate their crops. If beekeepers continue to be reluctant to expose their bees to fungicides, this problem will only grow.

Meanwhile, both the Burnaby and Richmond clubs had speakers this spring addressing the subject of queen rearing, a more popular prospect given that imported Chilean queens are selling this year for \$45 each or more, and have been known to either abscond or produce grumpy offspring.

All that aside, the more optimistic among us have put honey supers on our hives and are hoping for the best.



West Kootenays
~ Gavin Firkser

At last, the winter is over in the West Kootenays...or is it? As of late April, we have already experienced temperature highs close to +30, and lows dropping down enough to find frost on our front yards, all in the same week! Confusing? Well that would be

an understatement for our bees, thinking it was just about time to go collect their spring stash of pollen. The pussy willows and our fruit trees are budding gloriously. From the buzzing in the air along with the sneezing happening constantly around me, I can tell that our bees have a ton of spring catch up work that's ready and available for them now.

Recently, the West Kootenay Beekeepers held their annual AGM where we introduced a fresh new smile onto the board; our new Vice President Laena Brown is taking over from Tom Bell. With only one major board member succession, the remaining executive stays unchanged.

At our AGM, I was asked about my first year as Regional Rep for the West Kootenays. I would like to take a moment to express my wholehearted gratitude towards the the West Kootenay Beekeepers and the learning opportunities I've had the fortune of gaining. Be it through seminars, the BeesCene magazine or monthly meetings, I am constantly amazed by the passion and drive I see in our members. My first year as Regional Rep has been informative, and has definitely put the stress on community. Our beekeepers seem to love helping each other out, and that's the greatest stepping stone for a future of successful beekeeping.

To take a quick look into what is to come, the season of fairs and festivals is here, and our members are enthusiastic to share their beekeeping knowledge & support. Already this year we've had a display at two fairs, and our President, Axel Krause, should have his yellow VW camper out to get a few big smiles. Make sure to keep an eye out for our locally operated Bee Awareness Society, which is running observation hives in schools and providing a live learning tool to students in the area. Society member Keith Stetsko is at most fairs, and is lovely to chat with!

Our Beginner's Beekeeping course will continue, with approximately 15-20 students participating. Led by Axel Krause, it's an outstanding way to have a group of new beekeepers learn at the same level about the same information, generally leading to the same healthy bees. Even as an experienced beekeeper, this course has value and new information every session.

With mild temperatures in sight we are all left wondering what the summer with be like. Hopefully the fire season gives us a break and at least starts late. Stay buzzy.



Fraser Valley
~ Courtney White

Spring has sprung here in the Fraser Valley! The last three weeks in April have been gorgeous and the bees are taking full advantage, even starting to swarm. I think we're in for a great season.

Once again blueberry farmers are



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scrambling to secure colonies for pollination, but it's even worse this year due to the shortage of bees returning from Alberta. I received requests for hundreds of colonies in the last week of April (and those are just the farmers reaching out to the Langley Bee Club). Beekeepers in the area either have all their colonies already contracted or are simply saying no this year, reluctant to risk the health of their bees even with pollination fees reaching as high as \$150 per colony.



East Kootenays
~ Lance Cuthill

Winter here in the East Kootenays has been most unkind to the honey bees. Winter has gone on and on and on. In spite of snowshoeing into yards in late March to give the bees some fondant, we still lost some hives to starvation. When spring should have had pussy willows and crocuses in bloom, winter

has delayed this necessary source of pollen. We have added pollen patties but they never seem to have the same stimulation as natural pollen harvested by the bees.

Preliminary reports from around the Kootenays indicate that overwinter losses are in the range of 40%, with some beekeepers having lost all their hives. Also, an unusual amount of *Nosema* has been reported with some losses being attributed to this, even though the bees had been treated with fumagillin in the fall.

Well, not all is bad news here in the East Kootenays. There

have been two successful BCHA Certified Introductory Beekeeping courses taught in Cranbrook (Lance) and in Creston (Amanda & Jeff). As well, two non-certified instructors (Fernie) and (Cranbrook) will be offering their own courses later this spring.

The last meeting of the East Kootenay Beekeepers was attended by 55 beekeepers who reviewed some training videos and arranged a June field day in Creston with Jeff and Amanda. The Kootenay Boundary Farm Advisors (KBFA) have agreed to sponsor a one day beekeeping workshop here in Cranbrook with the topics being: "Making Splits," "Overwintering Nucs" and "Identifying Viral and Bacterial Diseases".



Cariboo
~ Ann Carter

Spring has been late coming to the Cariboo, and seems to have arrived almost overnight. Deep cold spells continued into March and snow is still to be found in shaded patches in late April! The ice left Williams Lake on April 21st, tying a 35 year old late thaw record! Now, at the end of April, we

have had 10 days of warm to hot weather, but despite rapid greening I still have no dandelions. Creeks are raging and lakes are high, but the ground is already very dry. The bees have been finding pollen for 3 weeks and are very actively foraging.

Not a lot of Cariboo beekeepers are able to enjoy watching



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their bees forage though, as overwinter losses were very high. It is the rare beekeeper who did not lose a significant number, if not all of his/her colonies. The April bee club meeting was not a cheery event as individuals recounted their losses.

Many factors are at play in the successful overwintering of a colony and it is important that we look at what happened this past year. Many feel that the fires and perhaps smoke were to blame, and certainly they likely were in some ways. The extreme dryness meant little or no foraging success for the bees, and smoke limited flying at times. Beekeepers being absent due to evacuation and perhaps leaving again due to smoke, and the extra work of fighting your own acreage fires and the post fire clean up, left many chores undone. The community was exhausted, the mood was gloomy and perhaps we didn't jump back into action with our usual energy to accomplish the undone tasks. Perhaps mite monitoring and treating as well as feeding were too late. Certainly my bees were very hungry by early August and required steady feeding, with no accumulation of stores, until mid-September. Feeding went well into October. At the time that winter bees were being raised, many of our colonies' conditions were not optimal.

Winter was tough and long, with many rapid temperature fluctuations and very cold lows; challenges to the bees continued. Many deadouts are showing signs of starvation, and positive *Nosema* tests are returning, but does this really tell the story?

Beekeeping is complicated, timing is important and sometimes there are more factors than we can control. The stout-hearted carry on and hope for dandelions and rain soon!



Prince George
~ Barry Clark

Here's the news from central BC for the summer issue, submitted on April 29th. We are turning a corner I hope - spring has finally arrived! It was +20 yesterday and -1 overnight in Prince George. According to the long range forecast, we can expect warm (+10 to +20) daytime temperatures and nighttime temperatures above 0 from here on. July is looking good too. However, everyone is more than a little concerned about fires this summer.

Beekeepers in the area are reporting pollen gathering in the past couple of days, and I saw it for the first time on the 23rd of April; the bees are packing in pussy willow pollen. It's later than last year, but a welcome sight.

At our last club meeting a quick survey of those in attendance indicated heavy losses by some, and then there were folks who feel that all of their colonies are going to make it. Unwrapping of colonies is well underway, and we should hear at the next meeting what the suspected causes were for mortality. So far, I am pleased with how my bees have come through the winter but it's still too early to do a happy dance.

Since the last report, the Prince George Branch had a booth at Seedy Saturday. It was well attended by the public. A Big Thank You to the volunteers who set up and ran the booth.

Other PG public awareness events for the spring/summer are: Day of the Honey Bee information booth at the PG

Farmer's Market on May 26th, Pollinator Day activities in June, and our annual exhibit at the BC Northern Exhibition in mid-August.

On June 2nd the club will be hosting a field day with Diane Dunaway, our local bee inspector. For details on the location, come out to one of the club meetings. They are held on the 2nd Monday of each month in room 1-311 at the College of New Caledonia. The meetings start at 7 pm.

I spoke to a beekeeper in the Robson Valley who reports that they have a growing group of beekeepers that meet informally and share information and experiences about their beekeeping adventures. They last met on April 27th. It appears that their overwinter survival is similar to that in Prince George. Fraser Lake area beekeepers are also reporting a mixed account of winter survival.

There were 2 Introduction to Beekeeping courses held in Prince George this spring, with field days to be held in May. Nucs and packages are all ordered, and beekeepers are anxiously awaiting their arrival in early May. Packages are arriving on May 10th, and nucs will be later in May or early June.

Here's hoping for long and plentiful nectar flows, and a summer free from forest fires. I'll let you know how things turn out next time.



South Okanagan
~ Blair Tarves

Someone asked me the other day how the bees came through winter. I said, "Great, but the hard part was getting them through March." Not really hard, but it was a nasty month for bees. Like everywhere it was cold and wet, and we missed a lot of early spring pollen flows. Feeding pollen patties this year actually did make a difference to the bees and didn't just make me feel good. The pollen recipe we've settled on for now is 66% pollen to 34% bee pro, with water and sugar. The bees find this mixture incredibly attractive and will go through one pound in a few days or less. The only drawback (other than cost) to these patties is keeping them on the bees when the weather feels too lousy to open a hive.

Inclement weather is relative. I spend much of the winter in the Yucatan, and this year we missed most of a major late winter flow from a plant called tajonal, because it's nectaries shut down when the night temperature drops below 18°C. Likewise the Yucatec fireflies won't venture out on those chilly nights. I helped a friend put in entrance reducers one day when the thermometer plunged from 30 to 22°C.

In the extreme South Okanagan, the last bees went into apple pollination May 4th. Tree fruit pollination had a slightly different vibe this year. The growers were more solicitous. I think this is the blueberry effect.

The hives from Alberta that have been quarantined in this region for the winter have almost certainly not been moved or used for pollination because Grant Hicks is a well known, long time migratory beekeeper in the area and has a good reputation to uphold. However, there would be no way to tell since the only monitoring being done in BC on these hives is to count them when they arrive, and count them when they

leave. In Grant's case it doesn't matter, but what if the next beekeeper we quarantine is less interested in self policing?

Every beekeeper I've spoken to in the South Okanagan feels that it is ridiculous to implement a quarantine and then have no plan to monitor or enforce it.



North Okanagan
~ Richard Plantinga

Winter did not provide any nice flying days so the ladies had to stay home and rely on the stores we arranged for them. Having snow on the ground for days on end really tested our reputation of having snow-free winters.

Any hope of a normal spring was fading fast with the extended winter conditions. However, in the last week of April things warmed up, and by the end of the month, the blossoms were out. Mind you, the apricots bloomed and dropped their petals in a few days, and cherry blossoms quickly appeared, so we may have another compressed spring. Take extra care while driving in orchard areas to avoid getting run over by those nocturnal pollination people.

As expected, some of our members had high losses while others had light loss. Most who lost colonies put the root of the cause on poor queen quality, caused by the sporadic suitable weather for mating last summer.

Another culprit was allowing mites to get out of hand. As high quality queens and timely mite control are the key to successful wintering, failure to accomplish these goals means

that our well intentioned efforts at feeding, careful wrapping, etc. will be in vain.

There continues to be an increased interest by first time beekeepers in this area. While we encourage them all to learn more about the fascinating world of honey bees, for some the best advice is to plant more pollinator friendly plants.

We plan to participate in the Day of the Honey Bee at our local Farmers' Market with a display hive and information. Now we have to get by the flooding threat and look forward to (hopefully) a 'normal' summer.



Terrace
~ Rudi Peters

Well, winter is finally over. Ok - I had better go knock on some wood, having said that. What can only be described as a very long and harsh winter is finally giving way to instant summer. No point wasting time with spring. Sub-zero one week, mid-teens the next.

The long harsh winter has had a detrimental effect on the hives within the region. The winter survival numbers are down across the board with some losing all their hives and with some losses reaching 80%. Most, however, appear to hover around the 50% numbers.

With the late spring it appears that all the local fruit trees will bloom at the same time. The cherry tree in my backyard has flowered in the third week of April for years, but not this year. This year it will be the second week of May before it will



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starts to flower. The boom of flowering should be great for the buildup of hives, allowing for spring splits to be made.

Terrace now officially has a bee club, and while still small, it is attracting people; the name of the new club is the Skeena Beekeepers' Club. The region also finally has a bee inspector. It remains to be seen how everyone will adjust to having one. If nothing else it should save a fair bit of phone calling down to Paul.



Sunshine Coast
~ Allan Cobbin

Our early spring weather consisted of far too much rain and inclement conditions but in March and April, temperatures warmed and we did experience some much needed sunshine.

Elections were held at our February meeting and we agreed to meet at the Mission House in Davis Bay in the winter months, and at the Botanical Gardens for the balance of the year. At our April meeting Steve Clifford gave an interesting talk on queen rearing methods and establishing six frame nucs as he had done in both Texas and in Saskatchewan. Here on the Coast we've never wrapped our hives for winter (at least to my knowledge) but Steve noted that he wrapped his colonies locally as he has done on the prairies and this resulted in a very low winter loss here.

The Club's eight colonies at the Botanical Gardens all came through the winter in excellent condition and spring

management has begun. We removed about 40 frames of brood, and using the Werner Gysi method of Sustainable Mite Control, started several new hives. We will be raising our own queens again this year and will prepare some nucs for sale to our Club members. Rob Haines along with other Executive and Club members, continues with the necessary weekly assessment and action. Newer members are encouraged to participate and ask questions. In beekeeping there is no such thing as a 'dumb' question - if you don't know, just ask!

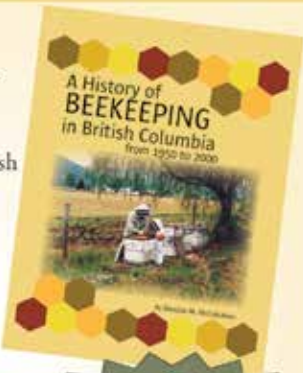
Once more, arrangements have been made with some local elementary schools for students to observe our bees. This project is again being ably supervised by Harry Meier with some assistance from other Club members. In addition, a local government business group has recently asked to visit our site and plans have been made to accommodate them sometime in May. We will be celebrating the Day Of The Honey Bee for our sixth time on Saturday May 26th. Plans have been made with Quality Farms (a garden and pet store) in Gibsons to recognize this day in a full day event. We will be "open for business" from 10:00 am to 4:30 pm and will be selling our Club's newly purchased T-Shirts, mugs (with our logo), copies of The Magic School Bus book (*Inside a Beehive*), a top-bar hive and our own honey, as well as coffee and other goodies. We have made up colourful posters to advertise our event and these will be distributed throughout the Lower Coast. We will also have 2 observation hives from one of our President's nearby sites.

Lisa Liknes, one of our newer members who is on our Executive, has graciously agreed to re-set our Facebook page. She and her husband Graham have generously donated an iPad/iPhone stand for video work.

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At our next meeting on May 14th the theme will be a demonstration on "How to make up a nuc" and we will perhaps try out our new recording device. Our June 11th meeting will be our annual potluck barbeque and it has been rumoured that Paul van Westendorp will pay us a visit on that day.

Hopefully everyone will enjoy a fruitful summer and I'll close with an adage from Aristotle who noted: "For the things we have to learn before we can do them, we learn by doing them." Not a bad thought for all, including beekeepers. 🐝

The following note and photos are from Sunshine Coast Club member Harry Meier:



Here are a few photos from past 2 days up at the bee yard. You will notice that the new observation hive was a big hit with the 4 groups of Kindergarten students that visited the Botanical Gardens yesterday. After a short talk with the kids, I removed the slide covers off the top frame with the queen, and 3 out of 4 groups found the queen; we even saw her inspect cells and lay a few eggs.

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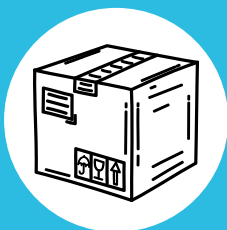
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