

Bee SCENE



SPRING 2019
Volume 35 #1

Promoting and Encouraging Beekeeping
in British Columbia since 1920

BCHPA Website: www.bcbeekeepers.com

BRITISH COLUMBIA HONEY PRODUCERS' ASSOCIATION

Publications Mail Sales Agreement No.40828130



Inside:

- *New NMR Lab*
- *Apiary Inspector in the Peace*
- *Oceanside Hive: A Beekeepers' Collective*
- *Hives for Haiti*
- *Semi-Annual Speakers*
- *Interview with Zac Lamas*
- *Harvey and John Boone*
- *Alaska Beekeeping Conference*
- *The Year of the Wasp*
- *BCBBA Profiles*

To:

Start Spring Applications Soon



Nozevit+ helps PREVENT Nosema
Get applications done early
to STOP Nosema before it appears

urban  bee
SUPPLIES

Making Good People Great Beekeepers

Learn from the Pro's at our
FREE monthly Seminars

Order online, by phone, or shop in store

6721 Ladner Trunk Road, Delta B.C.

604-364-1993

www.urbanbeesupplies.ca

Letter from the editors . . .

Some people gonna call you up
Tell you something that you already know
Sane people go crazy on you
Say "No man that was not
The deal we made, I got to go, I got to go"
Faith is an island in the setting sun
But proof, yes
Proof is the bottom line for everyone.
~ Paul Simon

In his book "The Truth about Stories", Thomas King, Professor Emeritus of the University of Guelph and one of Canada's most prolific writers, tells about how we construct narratives to understand ourselves, how they change over time depending on the circumstances and on who's telling the story:

There is a story I know. It's about the earth and how it floats in space on the back of a turtle. I've heard this story many times, and each time someone tells the story, it changes. Sometimes the change is simply in the voice of the storyteller. Sometimes the change is in the details. Sometimes in the order of events. Other times it's the dialogue or the response of the audience. But in all the tellings of all the tellers, the world never leaves the turtle's back. And the turtle never swims away.

One time, it was in Prince Rupert I think, a young girl in the audience asked about the turtle and the earth. If the earth was on the back of a turtle, what was below the turtle? Another turtle, the storyteller told her. And below that turtle? Another turtle. And below that? Another turtle.

The girl began to laugh, enjoying the game, I imagine. So how many turtles are there? she wanted to know. The storyteller shrugged. No one knows for sure, he told her, but it's turtles all the way down.

Stories are important. In a sense, when you get down to it, they are all we've got. It seems that we've got more than the usual number of stories in this issue, and as always it was such a pleasure to get in touch with people from all over to gather them. There's an article in this issue about a new club on Vancouver Island, whose current President told me a few times, "It matters." He was talking about what their club is trying to do, to work as a collective, but in light of the malleability of stories, I am taking it to mean that their individual stories matter too. As usual, I was only able to meet a few of their members over the Internet, but their personalities shone through despite that. On a few occasions they even had me laughing out loud at the computer screen.

I got in touch with Zac Lamas as well this time around, and not surprisingly he was happy to share some of his experiences; for those of you who saw him speak at the

AGM last year, he was as energetic and full of information over email as he is in person. He shared many more stories with me (in a pretty short period of time) than we could fit in these pages, and it was difficult to pick which to keep. He said something about stories that I've been thinking about since – that in most cases people construct an identity (he was referring to beekeeping, but this could be universally applied) and then get kind of stuck in it. He suggested that perhaps the narrative should be more flexible, especially with regards to outside circumstances, which can be unpredictable.

Shortly before we were getting started on this issue, I was saddened to hear that Ilya Jung passed away. Ilya was a bee inspector in the Peace from 1974 to 1987, and the first woman full-time inspector in North America. I have been hearing some stories from those who knew her, and they all confirm my feeling that we have lost someone special; another that had endless energy, a positive outlook, and good sense of humour, which probably served her well in her inspecting duties. From the McCutcheon history book: "Ilya recounts that there was some negativity about a woman being a bee inspector, but her professionalism and knowledge soon changed that. ...Beekeepers soon learned that Ilya couldn't be pushed around." And also from the history book, an entry from her record book which will perhaps give us some heart: "Yellow jackets are awful, guess I'll manage."

She wrote a note that was printed in *Canadian Beekeeping* magazine in 1974: "I thoroughly enjoy my position as Apiary Inspector. I have had some exciting experiences, some unusual and some very ordinary, but always interesting and enjoyable. I put in unusually long hours some days, but when a job has to be done, time doesn't enter into the picture." We were blessed to have her in our industry and our sincere condolences to her family for their loss.

So the spring slowly approaches, and we'll await the stories that will come out of the busy season this year. Impossible to know what the year may bring, but we hope for the best for all. Looking forward to seeing some faces in Kamloops in March!



I cajoled the girls into taking a selfie with me..greetings from the North!

EDITORIAL & ADVERTISING: Heather Sosnowski

12180 Hislop Road, Telkwa, BC V0J 2X1 tel 250-877-3495 email: BeesCene@bcbeekeepers.com

Additional Editing & Proofing: Ian Bissonnette – hometownhifi@yahoo.com

Graphic Design & Layout: Jill Schick - jillschick@telus.net

Printer: International Web Express Inc., Coquitlam, BC

Publisher: BC Honey Producers' Association

BCHPA CENTRAL EXECUTIVE AND REGIONAL REPRESENTATIVES 2019

PRESIDENT **Kerry Clark**
PO Box 2090, Dawson Creek, BC V1G 4K8
tel 250.782.6646
email: president@bcbeekeepers.com

1ST VICE-PRESIDENT **Jeff Lee**
220 East Placsko Road, Creston, BC V0B 1G5
tel 604.328.5028
email: firstvicepresident@bcbeekeepers.com

2ND VICE-PRESIDENT **Dan Mawson**
1613 West Creston Road, Creston, BC V0G 1G7
tel 250.215.0037
email: secondvicepresident@bcbeekeepers.com

SECRETARY **Christina Rozema**
3072 York Road, Campbell River, BC V9H 1A8
tel 250.923.9466
email: secretary@bcbeekeepers.com

TREASURER **Irene Tiampo**
PO Box 5609 Station B, Victoria, BC V8R 6S4
tel 250.216.7601
email: treasurer@bcbeekeepers.com

CANADIAN HONEY COUNCIL REP **Stan Reist**
6124 Metral Drive, Nanaimo, BC, V9T 2L6
tel 250.390.2313
email: chcrepresentative@bcbeekeepers.com

PRINCE GEORGE **Barry Clark**
18835 Ness Lake Road, Prince George, BC V2K 5L7
tel 250.967.4141
email: barrydouglasclark@gmail.com

CARIBOO **Ann Carter**
2498 Sutton Road, Williams Lake, BC V2G 5H4
email: anncarter@shaw.ca

WEST KOOTENAYS **Gavin Firkser**
6117 Wills Road, Nelson, BC V1L 7A4
tel 250.509.0728
email: g.firkser@gmail.com

EAST KOOTENAYS **Lance Cuthill**
4300 Wilks Rd, Cranbrook, BC V1C 6S9
tel 250.426.6049
email: lcuthill@gmail.com

METRO VANCOUVER **Allen Garr**
2750 West 14th Ave., Vancouver, BC V6K 2X2
tel 604.736.4184
email: bygarr@telus.net

PEACE RIVER **Kerry Clark**
PO Box 2090, Dawson Creek, BC V1G 4K8
tel 250.782.6646 email: kccsclark@gmail.com

THOMPSON-NICOLA **Amber Michaud**
281 McGill Road, Kamloops, V2C 1M2
tel 778.257.0362
email: aclunn@gmail.com

NORTH OKANAGAN **Rick Plantinga**
24-1101 Cameron Ave., Kelowna BC, V1Y 8V7
tel 250.712.9496 rhplantinga@telus.net

SOUTH OKANAGAN **Blair Tarves**
208 Ritchie Drive, Cawston, BC V0X 1C2
tel 250.499.2555 email: blairtarves@gmail.com

SOUTH VANCOUVER ISLAND **Vacant**
NORTH VANCOUVER ISLAND **Gerry Rozema**
3072 York Road, Campbell River, BC V9H 1A8
tel 250.923.9466 email: gerryr@rozeware.com

SUNSHINE COAST **Allan Cobbin**
2737 Lower Road, Roberts Creek, BC V0N 2W4
tel 604.886.7006 email: alcobbin@telus.net

FRASER VALLEY **Courtney White**
4530 198 Street, Langley, BC V3A 1E8
tel 604.309.1684
email: courtney.leigh.white@gmail.com

TERRACE-SMITHERS **Rudi Peters**
4524 Haugland ave., Terrace, BC V8G 1G3
tel 250.615.7404 email: r.peters@telus.net

BOONE, HODGSON, WILKINSON TRUST FUND **Brenda Jager**
948 Harrison Way, Gabriola island, BC V0R 1X2
tel 250.755.5834
email: bzbees@telus.net

LIBRARIAN/ EDUCATION **Ian Farber**
3249 Schubert Rd, Kamloops, BC V2B 6Y4
tel 250.579.8518 email: ian_farber@telus.net

ARCHIVES **Ted Hancock**
General Delivery, Dog Creek, BC, V0L 1J0
tel 250.440.5689 email: hancock.ted@gmail.com





In This Issue

Message from the President	6	Mead Making Course	37
Beelines	7	Clips From the Past	39
Bee Notes	10	Alaska Beekeeping Conference	40
A New Club on the Island	13	Club Contacts	45
Hives for Haiti	16	In Tribute - Ilya Jung	46
Bee Research Update from UBC	18	The Year of the Wasp	48
Canadian Honey Council Report	20	An Old Beekeeper Goes Back to School, Part 2	51
Honey Authentication Project	21	BCBBA Profiles	52
Semi-Annual Speakers	22	BCBBA Listings	57
Interview with Zac Lamas	26	Regional Reports	58
Harvey and John Boone	31	Classifieds, Advertiser Index	63

Okanagan Beekeeping Supplies

Hive Equipment » Frames and Foundation
Extracting Equipment » Protective Clothing
Tools » Queen Rearing Supplies
Medications » Nucleus Colonies

*We produce our own woodenware
and offer assembly and wax dipping
of all equipment we produce.*

Okanagan Beekeeping Supplies
2660 Lower Glenrosa Rd West Kelowna BC
1-250-768-7078
www.okanaganbeekeepingsupplies.com
info@okanaganbeekeepingsupplies.com

ARTICLES PUBLISHED IN BEESCENE ARE THE
OPINIONS OF THE AUTHORS AND SHOULD NOT BE
CONSTRUED TO BE THOSE OF THE BCHPA.



Our cover story:

Honey bee on a cornflower, taken by Megan Cowling of Comox, BC. She's part of the Oceanside Hive: A Beekeepers' Collective, a new club on Vancouver Island; see their story in this issue.

From the President

I think 2019 will be a big year for beekeeping and bee research in BC and Canada. In BC we are fortunate to have the continued support of the Minister of Agriculture Lana Popham, and general public agreement that honey bees are valuable and worthy of investment to improve their health and welfare. The broader beekeeping community of BC has been enabled by the establishment of the Bee BC program, seed money to fund a diversity of community scale projects to address local concerns about the viability of honey bees. We look forward to seeing the results of these projects, and more to come: Minister Popham announced in October that the program will have another \$ 25,000 to enable such projects through 2019, administered by IAF, the BC Investment Agriculture Foundation.

Our semi-annual meeting organizing team, led by Second Vice President Dan Mawson, is working diligently to bring another fine slate of educational presentations to the meeting in Kamloops on March 22 and 23; check the website for details. Among the speakers will be Les Eccles and Paul Kelly of Ontario, where a Technology Transfer Team has been working to improve honey bee management for many years. Just recently, it has been announced that the Honey Bee Research Centre at Guelph University will be rebuilt at an estimated cost of \$10 million.

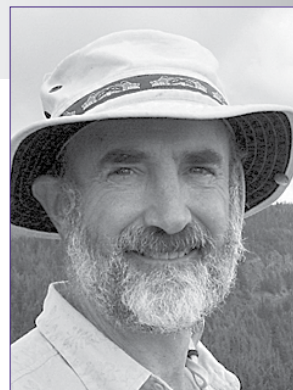
And of course, 2019 is the year for Apimondia in Montréal, September 8 through 12, a world class event. The BCHPA plans to participate, and we encourage you to consider attending. The event is a big commitment for both organizers and attendees (of which it is expected there will be over 10,000). If you are considering participating, the early bird registration fee ends on March 30, and a further 10% discount is available if you register through a special link. Contact me if you want to get the double benefit (10% discount from the early rate).

Back to BC, the BCHPA will be presenting a course to certify beekeeping instructors on the day before our March

business meeting, and we expect to be making further project announcements. Enabled by the much appreciated contribution of funding announced by the Minister of Agriculture, our Research Committee (chaired by Heather Higo) and board have gathered research ideas from BCHPA members, and prioritized a list (see elsewhere in this issue) to be considered for support as our resources permit. This will allow the BCHPA to guide and assist professional bee researchers (universities, research centres, etc.) in BC and Canada. We will have a report from one of the projects undertaken last year and we expect to assist several more projects this year and in the future.

To round out 2019, our main AGM and educational days will be held October 4, 5 and 6 in Prince George. We can hope for a beautiful time of year there; expect golden aspen leaves and blue skies on the drive through the Cariboo. We will find out more at the Kamloops meeting.

Bees be with you. ☼



Kerry Clark
BCHPA President

BOONE HODGSON WILKINSON FUND

*Funding the Study of Apiculture in British Columbia
Since 1965*

Applications
are processed
during the winter
months.

For further
information
or donations
please contact:

SECRETARY-TREASURER

Brenda Jager

948 Harrison Way, Gabriola Island, BC V0R 1X2

tel 250.755.5834 email: bzbees@telus.net

2018 DIRECTORS


Brenda Jager

Alan Paulson • Joe Lomond • Bob Meredith

CRA Registered Charity

*Receipts for tax purposes will be issued
for donations of \$20.00 or more.*





**Lamb Acres
Electric Fencing**

Ab, Eva and Wyatt Gorrill

Box 100
Bulyea, Saskatchewan
S0G 0L0

Phone: 306-725-4820
Fax: 306-725-3193
www.lambacres.ca

MiteGone®

**WORKS. Go to www.mitegone.com
READ THE CREDIBLE USE STATEMENTS.
CALL FOR SEMINARS: 250-762- 8156**



Beelines

News from the Ministry of Agriculture

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

Spring is Coming But Leave Your Bees Alone, For Now

Every year, a few weeks after New Year's beekeepers get itchy fingers and have the urge to open their hives and check the bees. It is quite understandable, as they have not seen bees for months. Attending the local beekeeping club meetings makes things worse because there is endless talk about bees and all the possible threats they may face, from losing the queen and a dwindling bee population to running out of food and lack of pollen. Worry, worry, worry.

So, before doing anything, you must ask the question whether it would hurt the bees when you open the hive. If the daily temperatures have remained low, you may disrupt the winter cluster. Bees cluster when the temperature is 12°C or lower, it is an effective strategy for bees that are cold-blooded to retain heat. Unlike warm-blooded creatures, bees must expand physical energy to generate heat. The heat is necessary for their own survival but also vital to any small patch of brood they may have started.

The second question you must ask yourself is what you could possibly do to remedy a problem that you have identified. When the weather conditions are still too cold for the bees to be active, it is also too early to do anything. The only possible remedy you could apply is to provide food when the colony appears to have run out. For a rough estimate, you don't have to open the hive; just tilt the hive forward gently and gauge whether it feels light. So, the general advice is to have patience and wait opening your hives when the bees have become active and show the first signs of foraging.

When the Season Starts

When weather conditions are finally warm enough to break the cluster and the bees come out for their "cleansing" flights, you may want to look at some key parts:

- Assess colony strength. A healthy viable colony should have at least the equivalent of 1 kg of bees or about 4-5 frames covered with bees on both sides.
- Don't search for the queen but look for bee brood. Only focus on a few centrally located brood frames. If there are eggs, open brood and/or capped brood, everything is fine.
- Before closing the hive, look for food reserves, especially pollen. If there is little or no stored pollen, you may want to install a pollen patty. There are various commercial ready-made formulations available.
- Don't leave the hive(s) open for too long. Close them up when you have completed your inspection so that the bees can retain the temperature of the brood nest.
- Gauge food reserves by carefully tilting the hive forward. If it feels light, you may have to feed the bees sugar syrup. There are various feeder designs including the frame feeder, pail feeder, and top feeder. Some beekeepers prefer sugar

patties placed on top of the top bars.

A few weeks later when the weather has improved and the bees have become more active, you may want to do a thorough brood inspection for brood diseases and Varroa mites. In addition to looking for brood diseases, it is equally important to test for mites. There are various detection methods available. It is recommended that you select one particular detection method for the entire season as it provides a standard measurement. The Alcohol Wash method and the Icing Sugar Shake method are the most commonly used. Even though these tests may not be very accurate, it is the frequency of measurement that will provide the information you need. Carry out mite detection tests every 4 - 6 weeks and record the number of mites counted. This will indicate the population trend of the mite and will help you in deciding when to treat. Don't wait to think about mites until the end of the summer.

The importance of regular monitoring of mites can't be overstated. Varroa has shown to be so extraordinarily virulent

PROTECT YOUR HIVES FROM PREDATORS

***Complete Portable 'N Permanent Electric Solutions Available**

***Plug-in, Battery and Solar Energizers**
(Defender, Patriot, Speedrite brands)

***Original Power Probe II Fence Tester**
(with directional fault indicator)

***Residential, Ranch, Horse 'N Wildlife Fencing**
***Pressure Treated Post Yard**

FENCE 'N MORE

10520 Hwy 97D, Logan Lake
(Located between Kamloops and Merritt, BC,
just off the Coquihalla Hwy,
Exit 336

5 kms toward Logan Lake)

Ph: 778-257-9473

Email: info@fencenmore.com

LIKE us on Facebook to stay posted!

Website: www.fencenmore.com (coming soon)

that failure to control the mite population will result in colony death. It has been determined that a colony with only 3% infestation or higher should be treated.

NMR Lab

In the spring 2017 edition of BeesCene I wrote about the international honey market and the challenges faced by North American commercial beekeepers. Approximately 500 million lbs of honey is consumed in the US annually while domestic production is approximately 150 million lbs. This shortfall has been met through imported honeys from overseas sources. Despite the high demand, there has been a steady decline in the wholesale price of domestic honeys. The only possible explanation of these conflicting trends is widespread adulteration of honeys. The trade data between 2012 and 2016 showed that Asian countries experienced a 13% increase in hive numbers, while their total honey exports increased by 196%.

Irregularities in the international honey market go back much earlier. In the early 2000s, the US imposed tariffs on Chinese honey imports in response to the dumping of honey below the cost of production. In those days, a few shipments had also been found to be adulterated with foreign sugars and contaminated with chloramphenicol, a potent antimicrobial drug illegal for use in beekeeping. To obscure their origin and bypass US tariffs, large volumes of Chinese honey were subsequently transhipped through other countries, a practice that has continued until recent times.

Adulteration involves the intentional dilution of honey with foreign syrups, feeding bees during the nectar flow and masking the origin of honey. Other forms of adulteration include the addition of water and applying “ultra-filtration” techniques to remove pollen grains and other traces of origin. Traditional testing techniques through pollen identification of honey samples were no longer reliable.

Nuclear Magnetic Resonance (NMR) was first introduced in Germany as an effective diagnostic technique to identify exogenous sugars. Samples are tested against a reference database of honey samples previously diagnosed and verified of their purity and origin. Adulterated honey samples would produce different signatures on a graph with characteristic peaks produced by exogenous sugars such as corn and rice sugars.

A 2015 study using NMR technology showed that 80% of randomly selected honeys imported into the US were adulterated and virtually all were of Chinese origin. The technique has proven so effective that some European market chains now require NMR testing. The incidence of adulterated honeys imported into Europe stopped almost immediately while for honeys imported into the UK where NMR testing had not been adopted, high levels of adulteration continued.

To combat the practice of honey adulteration, Peter Awram of Worker Bee Honey Company near Chilliwack established the first NMR lab in Canada. In recognition of this important event, the Honourable Lana Popham, Minister of Agriculture, Laurie Throness MLA, Ken Popove, Mayor of Chilliwack and Councillor Chris Kloot were on hand for the official opening of the lab on January 24. To become fully operational, the lab must develop a reference library of BC honeys that may eventually expand to other areas of North America. BC beekeepers can participate in this project by submitting honey samples to Awram’s NMR lab. Details to follow.



Peter Awram and Lana Popham at the opening of the NMR facility near Chilliwack.

Samples for Disease Identification

In the coming months, I expect a surge of samples to be submitted to the Abbotsford lab for diagnosis. BC beekeepers are welcome to take advantage of this free service but it would be helpful to heed the following instructions:

Brood Cell Samples

- Normally, samples are analyzed for AFB and EFB.
- Use a toothpick and carefully remove the larval contents from abnormal-looking brood cells. Place the cell contents and toothpick into a plastic sleeve or piece of cling wrap. (Please don’t use a stick or stem from the ground as it will introduce contaminating material into the sample).
- Place the plastic sleeve in a normal plain envelope and mail to the animal health centre in Abbotsford (address below).
- Make sure to include your full name and contact details (phone or email) and provide a short description of the problem.
- Don’t send frames with comb unless you personally drop it off at the Animal Health Center in Abbotsford.

Adult Bee Samples

- Bee samples are analyzed for Nosema, Varroa mite damage, and other abnormalities.
- Collect a minimum of 50 adult bees that have recently died or are dying.
- Place the bees in a paper bag (~NO plastic) and freeze for 3 days. This allows the bees to dry out on the outside, preventing mold growth.
- After 3 days, remove and allow sample to thaw to room temperature. Place bees onto a paper towel and carefully fold the sides inward. Alternatively, keep the bees in the paper bag.
- Place sample in a padded envelope. Include your name, phone number and email address and a short description about the problem.
- Mail or courier to the Animal Health Center in Abbotsford.

Samples should be sent to:

BC Ministry of Agriculture “BEES”
1767 Angus Campbell Road
Abbotsford, BC V3G 2M3.

New Apiary Inspector - Peace Region

The Peace Region hasn't had an Apiary Inspector for over 20 years. In the late 1990s, there were only a few commercial beekeepers who felt they didn't need government inspection services. While some of the commercial beekeepers have since closed down, there has been a sharp increase in new beekeepers in the area in recent years. Some of the established beekeepers also need the mandatory inspection for shipping colonies to other parts of BC or other provinces. To meet these inspection and extension requirements, I'm delighted to introduce Kerry Clark as the newly appointed Apiary Inspector of the Peace Region.

As some of you remember, Kerry was previously involved in the Apiculture Program as the Apiculture Extension Specialist in Dawson Creek. John Gates of Armstrong had the same position in the Okanagan. When the government decided to discontinue the two positions, Kerry was re-assigned other duties within the Ministry. Yet, Kerry remained actively involved in beekeeping and with the beekeeping community. With his vast experience acquired over 30+ years, the Peace River beekeepers will be well served.

Bee Courses and Bee Masters 2020

The annual Introduction to Beekeeping webinar course has been completed for this year. The course continues to attract the interest of people throughout the province and other parts of the world. The equivalent classroom course is planned to start at Kwantlen University - Langley campus on March 27.

For experienced beekeepers, we will again present the biannual Bee Master Short Course at UBC from February 10 - 14, 2020. It is worth mentioning that the BC Bee Master course is the oldest such course in North America since its introduction in the mid-1950s. Details about the 2020 course program and registration instructions will become available in the fall.

For those interested in either one of these courses, please send an email so I can add your name and email address to the appropriate contact list.

Fumagillin

Fumagillin is the antimicrobial used to control Nosema disease. The product was sold under the trade name Fumadil B for many years. Medivet of Alberta was the sole manufacturer of the product and when it closed its doors for good, the product was no longer available. Since then, there have been negotiations between Medivet and the Canadian Honey Council to transfer ownership of the product to CHC to ensure its future availability to Canadian beekeepers. Information will be shared as soon as it becomes available.

Beekeepers have asked about the future status of Fumagillin in the new federal policy on veterinary drugs including Oxytetracycline and Tylosin. Fumagillin has not been scheduled for inclusion under the new policy because the product has only one single use, not associated with human health. When Fumagillin becomes available again, it is expected that bee supply outfits will be permitted over-the-counter (OTC) sales.

Ilya Jung, former Apiary Inspector - Peace Region

Others will have submitted comments about the recent passing of Ilya Jung of Dawson Creek. Ilya was the apiary inspector of the Peace from 1974 until 1989. As a summer student working with Doug McCutcheon in the Cloverdale office in the late

1970s, I was asked to take a truck with a fumigation chamber on a trailer up to Dawson Creek to help Ilya with an outbreak of AFB.

Ilya was instantly likeable with a neverending smile and plenty of stories to tell. Instead of staying in a local motel in Dawson Creek, Ilya thought it far better for a young student to stay at her place in Arras, west of Dawson Creek. The basement was an excellent location where I rolled out my sleeping bag among dozens of pieces of unglazed pottery. Yes, this was one of the many projects Ilya got herself involved with. It seems that Ilya was always busy with one hobby or project instead of relaxing and taking it easy. There were endless things to do and discover and that kept her going!

The purpose of the trip was to deal with the AFB problem and one instance I remember clearly. It didn't take long and Ilya took me to an apiary of a commercial beekeeper outside Dawson Creek who was trying to sell his outfit. The problem was the AFB infestation that spoiled his plans to sell. Ilya and I were in the yard early and began separating equipment when we heard the roar of a truck coming up the hill. For the first time, I had the experience of meeting a very angry beekeeper who was ready to do battle with Ilya. No, nothing of the sort happened. I suppose meeting two inspectors toned him down somewhat, but Ilya reasoned with him enough that he turned around and decided to help sorting out all the infected equipment. In fact, we ended up going to his warehouse to sort out stored equipment. What a bonfire it was!

Ilya faced many challenges and hardships throughout her long life but the strength of her personality made her overcome adversity and she always looked at the positive things in life. We met on a few occasions after her retirement including the BCHPA annual meeting in Dawson Creek in the early 2000s. Ilya was a remarkable woman and I will remember her with great fondness. ❀



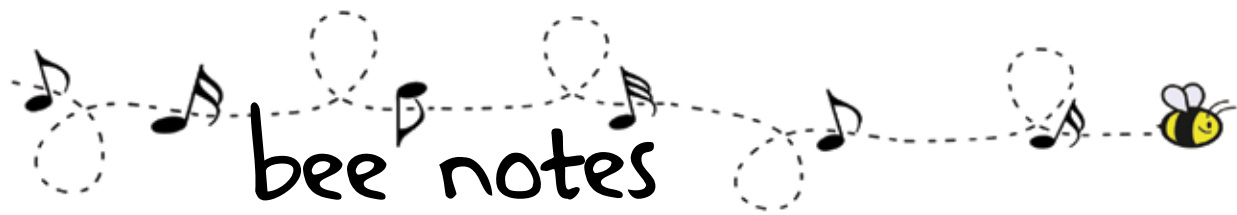
BEEKEEPING SUPPLIES
Canadian Woodenware
Extracting Equipment - Protective Clothing
Beekeeping Kits
www.9hives.ca 250-212-8815
robertsonfai@gmail.com
1766 Garner Road, Kelowna, BC

Available
Mid-May



Beauty Queen
BEES
— CHILLIWACK, BC —

5-FRAME NUCS FOR SALE
Call (587) 281-3555 or
Email sarah@beautyqueenbees.ca



Bee Awareness Getting “Buzzy” for 2019 Season

The Bee Awareness Society is again gearing up for another busy year of installing observation bee hives in Kootenay Region schools. 2019 will be the Society’s fifth year of activity.

The Society’s mission is to install the observation honey bee hives and then to provide age appropriate learning activities for the students to teach them about honey bees, their life cycles, and how they impact human food sources and agriculture. The lessons also include how other native pollinators from bees, butterflies, and moths to hummingbirds and bats are also involved in the process of pollinating plants.

In addition, students are shown how they can help pollinators by planting pollinator friendly plants in their home gardens to encouraging their parents to restrict their use of chemical herbicides and insecticides. The hives have glass panels so that the children can watch the bees safely and a connecting tube through a window so the bees can enter and exit the hive.

Observation hives have been installed in 11 school classrooms: Columbia Park Elementary (Revelstoke), Jewett Elementary (Argenta), Ecole des Sept-sommets (Rossland), Redfish Elementary (Balfour), W.E. Graham (Slocan), Winlaw Elementary and the Whole School (Winlaw), Wildflower Elementary and L.V. Rogers (Nelson), Mt. Sentinel (South Slocan), and Salmo Elementary. If you are interested, you can also see one of these hives in action at the Frog Peak Café in Crescent Valley, the Four Nations Indigenous Coalition in Passmore, or the Selkirk College Library at the Castlegar campus. If your child’s school does not have an observation hive and would like to get one, ask your child’s teacher or school principal to contact the Society at: [https://](https://westkootenaybeekeepers.ca/bee-awareness-society/contact-the-bas/)

westkootenaybeekeepers.ca/bee-awareness-society/contact-the-bas/. If you would like to donate funds or in kind materials to the society, you can also contact them at the link above. 🐝



Bee Awareness Society Secretary-Treasurer Linda Martin accepting a \$1000 cheque from West Kootenay Beekeepers President Axel Krause. They are joined by Society members; (l-r) Sharon Myers (President), Henry Hutter, Keith Stetsko (Vice-President), Peter Relkoff, and Laena Brown.

Research Committee Update

The BCHPA’s research committee, composed of Liz Huxter, Gerry McKee, Alison McAfee, and Heather Higo, was asked to collate and discuss the ideas brought forward by members at the October 2018 AGM; members were asked to recommend topics for research that are deserving of BCHPA support, should funding become available. Based on BCHPA members’ priorities and the committee’s own evaluations, we passed on the following recommendations to the Executive for their consideration. Support for these projects is still under discussion and negotiation, and further input from BCHPA members may help to define and channel the specific areas of support.

Bee Health in Blueberry Pollination – proposed by Dr. Marta Guarna. Additional funds are required for the chemical analyses of bee bread and honey samples collected in 2018

in order to determine what residues they may contain, and if chemical residues may be affecting the health of bees pollinating blueberries.

Honey Authentication – proposed by Dr. Leonard Foster, to be matched with additional funds from other sources to bring the total up to a level that will be sufficient for the start-up of the project. This would be a novel honey authentication method using UBC’s mass spectrometry facility and could work in cooperation with the NMR technology testing newly set up by Peter Awram at Worker Bee Honey in Chilliwack.

Mystery Brood Disease – support for the NBDC to define and find the cause of an unidentified brood disease that has emerged in various parts of the province, but which does not test positive for AFB nor EFB.

Novel Varroa Control Compound – support toward the work of chemistry professor Dr. Erika Plettner at Simon Fraser University who has been conducting lab tests on a promising varroa control compound that will be field-tested this summer. Support would help enable continuing lab tests and assist in the initial set-up of the first field tests.

Queen Quality Testing – queen quality continues to be an important issue to BC beekeepers. In order to determine if our BC queen producers are producing well-mated queens with high sperm viability throughout the season, both early and mid-season testing could be done using fluorescence microscopy techniques available at UBC and NBDC. This could be co-supported by the BC Bee Breeders, and funding would help to cover the costs of individual queen producers sacrificing a proportion of their queens. These results would help to advance the queen industry in BC.

Other items for consideration

1. Encouraging the BCHPA to continue to bring in speakers for the annual and semi-annual meetings who are great examples of self-sufficiency in queen and stock production, to provide inspiration, motivation, and knowledge to help support our growing BC bee breeding industry.
2. Recommending an update of the BC Ministry of Agriculture's bee calendar to reflect regional differences.
3. Support for additional wasp research projects, as wasps have become a major honey bee predator, decimating colonies in many areas of the province.
4. And lastly, we suggest that more information is sought from ON Tech Transfer Team Lead, Les Eccles, on how their team is financed (in addition to the Maritime and Quebec teams), how this might work in BC, and if a Tech Team would be advantageous in this province – all questions for Les Eccles and Paul Kelly at the semi-annual in March. ☘



Apimondia 2019

In 1999, Vancouver played host to Apimondia, the world's largest beekeeping scientific symposium and trade fair. Up until that point, the event was large, attracting two thousand or so international visitors. Nevertheless, those involved with the Vancouver event strove to make things bigger and better, and so they did, attracting nearly 5,000 participants and setting the stage for larger Apimondia events. Spring forward twenty years, and the Canadian Honey Council is once again proud to host Apimondia, this time in Montréal at the Palais des Congrès, from September 8-12, 2019.

Since winning the bid to host the event in 2015 in South Korea, thousands of hours have gone into the preparation and planning of a world class event – making it one that even the Vancouver congress organizers would be proud of. The President of Apimondia 2019, Dr. Pierre Giovenazzo, is a renowned professor at Laval University and has worked tirelessly at setting the groundwork. Dr. Stephen Pernal, an internationally well-respected researcher in his own right, is the Apimondia 2019 Scientific Program Chair, while at the same time works his day job as a Research Scientist at AAFC's Beaverlodge Research Farm.

This core team has expanded, getting volunteers from across Canada to

look after workshops, tours, publicity, volunteers and science advisors. In addition, all the provincial associations have been asked to help out at various Apimondia contests. The Canadian Association of Professional Apiculturists and the Board of the Canadian Honey Council are also playing key roles.

Though it is only February, the keynote speakers have been confirmed and it is an extraordinary lineup. Dr. Thomas Seeley, the Horace White Professor in Biology at Cornell University, has written five books on honey bees and has received numerous prestigious awards. Dr. Rufus Isaacs is a Professor and Extension Specialist at Michigan State University, and has done extensive work on sustainable management for pollinators. Dr. Gene Robinson is a faculty member at the University of Illinois, who pioneered the application of genomics to the study of social behaviour in honey bees. Finally, Dr. Peter Rosenkranz is a professor at the University of Tübingen in Southern Germany, and has specialized his work in varroa control and honey bee communication.

In addition to the four keynote speakers, there will be over 300 researchers and scientists speaking on topics set forth by the seven Apimondia Commissions. To "Canadianize" the program, there will be eight beekeepers from across Canada presenting on their operations, each with different specialties. Further to that, we have a

number of evening workshops that, in part, supplement the scientific program. Sessions in apitherapy, honey tasting and urban beekeeping will highlight these workshops.

The trade show will be the largest of its kind ever held in North America. At the "Api-Expo", it is expected that over 250 booths focusing on all aspects of the industry will be participating. There should be something there for everyone no matter the size your operation, or even if you are just trying to get information on how to start.

There are numerous contests in such areas as honey, meads, bee art, wax, and literature. Don't be afraid to enter! There are also pre- and post- event tours that will surely fill up quickly. The opening ceremonies will feature a Juno-nominated band from Iqaluit, "The Jerry Cans". This will be sure to excite a few people as they do a mix of up-tempo roots-rock music and traditional Inuit throat singing.

Those in Canada in the beekeeping industry realize that early September may not be the most convenient time to attend, but Apimondia 2019 will probably represent a once-in-a-lifetime opportunity to see and hear world-class activities in our own backyard. To register, to book accommodation, and to keep up to date on activities and events, check the Apimondia 2019 website at <http://www.apimondia2019.com>. ☘

~ Rod Scarlett, Executive Secretary,
Apimondia 2019

BEE KEEPING SUPPLIES

NOW AVAILABLE

- Quality Hive Equipment & Tools
- Frames & Foundations
- Beekeepers Apparel
- Electric Fencing Products to Protect Your Hives



NORTHERN ACREAGE
SUPPLY LTD

Located next to
GREENHAWK

250-596-2273

www.northernacreage.ca

4870 Continental Way • Prince George, BC • fax: 250-596-2274

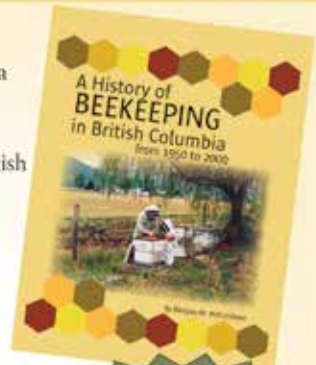
A History of Beekeeping in British Columbia

from 1950 to 2000 written by Douglas M. McCutcheon

This book is about us and our industry and what it means to be a beekeeper in BC, following in the footsteps of pioneer beekeepers. The History of Beekeeping in British Columbia from 1950 – 2000 is the result of more than 10 years of talking with beekeepers, inspectors and specialists around the province, and searching out records, reports and files.

As Doug says: "In the fifty years I write about, there have been great changes in beekeeping in our province.

There are a lot of great stories! Enjoy the read!"



\$29.95
plus Shipping

Contact Irene Tiampo for further details
treasurer@bcbeekeepers.com

Any proceeds realized by the sale of this book above and beyond retrieving the cost of production are kindly directed by the author to the Boone Hodgson Wilkinson Trust Fund for Honey Bee Education and Research.



MEMBERSHIP APPLICATION FORM

BC Honey Producers' Association

Promoting and Encouraging Beekeeping in British Columbia since 1920

New ☐ Renewal ☐

Please check here if renewing with an address change ☐

Name

Address

City

Province

Postal Code

Phone ()

Email

Club Affiliate

Please make cheques payable to the British Columbia Honey Producers' Association or BCPA:

BCHPA, Treasurer,

P.O. Box 5594, Victoria, B.C. V8R 6S4

New Memberships and Renewals can also be done online at www.bcbeekeepers.com.

Also see our website for more information about the group insurance program and other benefits of membership.

Membership dues are based on the number of honey bee colonies you keep.

BCHPA MEMBERSHIP DUES

		# of Hives <input type="text"/>
0 to 25 Hives	\$40	} Includes BeesCene & Hivelights
26 to 50 Hives	\$50	
51 to 150 Hives	\$60	
151 to 300 Hives	\$70	
301 to 500 Hives	\$120	
501 to 1000 Hives	\$130	
Over 1000 Hives	\$200	

* OPTIONAL \$5,000,000 BCHPA GROUP LIABILITY INSURANCE

ADD ON \$75

** OPTIONAL Additional \$1 million Forest Fire Fighting Expense Endorsement

ADD ON \$100

*** OPTIONAL DONATION BC's Boone Hodgson Wilkinson Trust Fund for Honey Bee Research (tax registered charity, receipts issued)

ADD ON

TOTAL \$

\$5 Million Coverage for only \$75 year!

Oceanside Hive: A Beekeepers Collective

by Heather Sosnowski

Martin Lindauer, a German zoologist, first described the process by which honey bees look for new homes in the 1950s. By closely observing several swarms, a process which Tom Seeley noted was “a marathon task that demanded many days of steady bee watching and frantic note taking”, Lindauer was able to determine that only the bees on the outside of the swarm were involved in scouting a new nest site, while the rest remained inactive to conserve energy. The various proposals were then gradually whittled down until a collective decision was reached.

The first time that I spoke to Don Fowler, President of the new bee club Oceanside Hive: A Beekeepers' Collective, on Central Vancouver Island, he related Lindauer's work to describe the formation of their club, saying that the word 'collective' was meant to represent Lindauer's swarm observations. “Despite rumours to the contrary, we are not Bolsheviks,” he jokes. “If honey bees can make decisions collectively, our Collective should be able to do that too.”

In an early conversation with Don, he outlined the club's mission: To promote the study, science and art of raising healthy and productive honey bee colonies. They also recognize the importance and value of native pollinators to our ecosystems, and the importance of large scale forage improvement, and they maintain a queen mating yard for use by members who are willing to participate in club activities.

When asked how he got interested in honey bees, Don tells me that for 3 years he worked with Dr. John Borden in the almond fields of southern California, researching and testing brood pheromones in thousands of honey bee colonies. They worked for Paramount Farms, now known



Oceanside member Dafina regularly hams it up!

as Wonderful Almonds. He says, “We were fortunate to get to know some of the beekeepers trucking bees to almonds from all over the continental US. It's big business, with over 2 million colonies pollinating almonds this spring. We saw it all. From the gentlest bees to Africanized bees that chased us down the road, sitting on the tailgate of a pickup truck speeding to the next bee drop hundreds of meters away. We saw every hive configuration and feeding system possible, and came across most of the diseases. SHB was common...we don't want them. We saw how some commercial beekeepers are meticulous in their beekeeping style, whereas others are somewhat lackadaisical.” He started beekeeping after his return from the almond fields: “I thought, it can't be hard, right? They all died the first winter. That really and truly piqued my interest. Vancouver Island is not southern California.”

Oceanside Hive (OH) began in 2017 and has quickly grown to around 70 paid members. Don says they try to keep it light: “We run the OH meetings as part bee revival meeting and part AA meeting: ‘Hi my name is * and I am a beekeeper. Welcome *!’” The humour must be helping as he says that they are a happy group. There is only one rule at OH says Don, “There are no bad questions.” New members are welcome, and Don says that every member should be prepared to contribute something, most often a little time. They meet in Coombs, at the Arrowsmith Hall, on the fourth Thursday of each month.

Don says that it was his friend Barb Gent who encouraged him to start a new club in the area. Barb, who owns a Buckerfield's store in Parksville with her husband Andrew, says that she found the level of interest in honey bees to be incredible. They started seriously selling beekeeping



Collectively raised queen cells, free to members.



Don Fowler.



Andrew Gent.

supplies in recent years, and says, “I felt as a retailer that we could create our own community club that would help our customers who did not want to drive to other towns to attend meetings.” She felt that Oceanside was big enough to be able to have their own local club: “I kept bugging Don to help me start a club and he eventually gave in to my pressure.”

OH Director at Large Megan Cowling first encountered



Megan Cowling.

bees with her Kindergarten class on a trip to an apiary at Malaspina University, and remembers the teacher telling her mom that she was the only one who would hold the bees: “Hearing the teacher talk about me with this excitement made me believe that I was capable of something that was scary to other people, and also bonded me to bees. They gave me that gift of not scaring me and making me feel special.”

Megan first got involved with OH through good friend Allison, and says, “The bee club is our time together; I drive down and we go for dinner together and catch up on our lives. Then we head to OH to talk bees.” Megan says she was thrilled to attend a talk given to OH in November 2017 by Andrew Abrahams, who keeps bees on Colonsay Isle in the Inner Hebrides of Scotland, home to one of Europe’s few populations of pure Black Bees (*Apis mellifera mellifera*), and one of the few places where varroa has not yet been introduced. She also says that, “Tasting

real heather honey was something I’ll never forget.” It was after that talk by Abrahams, which had a large turnout, that the OH was formed.



Megan Cowling, Allison Mylymok and Allison's daughter Lucy.

Megan’s first year beekeeping was on the Sunshine Coast, where she learned about bees with Kathleen Suddes: “Kathleen had colonies tucked up and down long driveways and in the Coast Mountains; this made me realize there is so much to learn in beekeeping from site conditions to forage availability and everything else.” Megan’s interest in bee friendly forage has grown; as part of her role on the exec of OH, she was encouraged to develop resources on native pollinators and forage plants for the group. Out of this came Bee Friendly Forage Vancouver Island, a Facebook page, the goal of which is to address the crossover between gardening and beekeeping. “The desire of gardeners to help the bees and pollinators is an untapped resource for beekeepers,” says Megan.

She’s been able to connect with other groups and resources online, and cites fellow beekeeper and gardener Marty van den Bosch who she found through the Facebook group Gardening In the Fraser Valley, as well as others: “I can access info from the Xerces Society, Honey Bee Suite, SFU’s Pollination Ecology Lab, and Island Pollinator Initiative. I love the stunning macro bee photography from Bee Safari’s Joe Dluho in Tenino WA because he identifies the pollinators and the plants they are visiting. The Fingal North Dublin Beekeepers’ Association’s Facebook page and the Texas A & M University Apiculture page have really great content are two of my favorite sources these days.”

She loves the In Defense of Plants Facebook page for interesting botany articles and the Spokane Master Gardener Foundation. “I would also recommend looking up the lectures from the National Honey Show UK on YouTube. Especially on a dreary winter day, it’s wonderful to sit down for an hour with a good cup of something and listen to Heather Mattila and Tom Seeley.”

Through the Bee Friendly Forage FB page, she is trying to build a pollinator info package for schools that would be free: “There is so much good info out there, but really bringing it into practice is the tough part. I’m hoping to work with the schools, as many kids have the best grasp (in my opinion) of what a healthy backyard garden and pollinator habitat look like.”

Another member of the OH executive, Heather Klassen, is a coast area research vegetation ecologist for the Ministry of Forests, Lands, Natural Resource Operations and Rural Development. She and her husband also run a hobby farm, growing food using low impact, sustainable methods, and they gradually became interested in honey bees: "Once we started keeping honey bees, I was hooked! I spend as much time as possible observing our bees and working with other beekeepers to learn together about keeping better bees."

Of her time with OH, she says, "It is wonderful to be a part of a group interested in learning more about the science and art of better beekeeping. There is so much going on in the environment now, human and natural disturbances impacting ecosystem function, including impacts on pollinators. The OH works together to keep up on the new science coming out about honey bee health, both by bringing in guest speakers and by gaining practical knowledge in the field."



Helmut Bose presenting to the club on his wasp deterrent device.

Heather says that OH has begun a "better bee project", which includes the queen mating yard where they raise drones with hygienic traits, so that members can bring their virgin queens to be mated. "We have a hygienic testing team that travels around to test members' colonies, to assess baseline measures and potential local breeding colonies, and we are working towards creating better forage for honey bees and native pollinators by working with farmers to grow pollinator forage crops," she says.

Last year they initiated the hygienic testing program



Collective members doing hygienic testing.

using Leonard Foster's protocols: "Leonard's crew was very generous in working through our questions on the established protocols. I was part of the testing team - we were out weekly, early in the season (before the honey flow), to test our colonies." The hygienic testing team completed the 24hr freeze brood hygienic test, varroa mite count tests, and discussed the temperament, age, and other characteristics of the colony with the beekeeper. Data was recorded in field data sheets and by photos, and the results were compiled and presented at one of their monthly meetings. Heather says, "This project is exciting to be a part of as it reinforces the importance of monitoring the behaviour of our bees, and I think that it also encourages us all to think at a community level, not just about what is happening on an individual farm."

Oceanside Hive has been able to secure funding through the Bee BC program to help with their hygienic testing project, as well as to put towards working with community groups to plant pollinator friendly forage. Don noted that one of their in-kind contributors is Air Liquide, who have donated liquid nitrogen for hygienic testing from the beginning.



Heather Klassen and Barb Gent upon the arrival of donated liquid nitrogen from Air Liquide.

Heather says, "Overall, it is great fun to work with this enthusiastic group towards understanding of improving the health and quality of honey bees on Vancouver Island. We may not change the world, but we are working to improve it for honey bees! I look forward to another season working on this project with members of the Oceanside Hive!" ❁



Oceanside members, hard at 'work'.

Hives for Haiti

The inspiration for the non-profit group Hives for Haiti began in late 2012, when friends and former firefighters Brian Coombs and David Macdonald traveled to Haiti to assist another firefighting colleague from Ontario, who had been going there to provide relief to starving people after the earthquake of 2010. David says he was happy to help, but that he didn't feel good about the temporary nature of the assistance. He and Brian wanted to do something long term that fostered independence.

Both Brian and David had kept bees here in BC, and their idea to help foster economic growth was to educate and mentor Haitians in apiculture. In order to begin, they wanted to find out if there were honey bees and beekeepers in Haiti already. They found ample feral colonies but hadn't found anyone keeping bees. David says, "We heard about this chap named Ojene, in Cerca Carvajal, who had a few colonies, so we went looking for him. He had about 20 ramshackle Langstroth-like hives, all different sizes and angles. He was housing his bees in them but didn't know the basics of beekeeping; he lost swarms constantly. He was able to identify the queen, but not much more." They learned that there had been more beekeepers in Haiti, but that many colonies were eradicated in 1995 by an outbreak of varroa.



Meeting with the elders in Cerca Carvajal.

David and Brian decided to meet with the elders in Cerca Carvajal to find out if they would be interested in developing beekeeping skills in their village. "We consulted with the elders prior to launching our idea, to be sure it would be a welcome contribution. We had not met these elders before," David says. "My friend Gerald (the fellow firefighter from Ontario) asked what we could do to help them. They said they needed work that was not so challenging for old people. They were mostly still working in the sugar cane fields in order to eat and find shelter. They were all 70, 80 and 90 years old. Poverty is not new to Haiti, and with the earthquake in 2010, things got even worse."

David and Brian felt that this was their chance to float the idea. They asked the elders if they could teach them beekeeping, and they loved it. The elders asked how much David and Brian would charge, and were surprised to hear

that the Canadians would be happy to share the knowledge freely.

"Apparently, it's very unusual for white people to visit Cerca Carvajal," says David. "I visited a community 5 km outside of Cerca Carvajal on our last trip, and the people there had never seen a white person. The first time we went, we were invited to meet with the Cerca Carvajal town elders. They welcomed us with song. Something so beautiful I could have wept, I just didn't let it out. The sound of their voices could not be described. Simply the most beautiful thing I've ever heard. Also, to welcome us, they'd decorated the hut with hanging candy wrappers. It was beautiful, and touching."

The initial phase of the program focused on identifying people that could be trained in basic beekeeping skills, including building equipment; then those individuals would be enabled to share those skills with others in Haiti. David tells about the progress that's been made: "A bunch of people are keeping bees, that I didn't teach! That's the dream come true. They have been sharing the knowledge. Last time I was there they took me into the mountains to an apiary of a chap who had been taught by someone that had been taught by one of our early students. Now, that beekeeper has been teaching people in his neighbourhood. It was very rewarding to see this."

That first beekeeper that they met in Cerca Carvajal, Ojene, now has over 100 colonies, in part since he now knows how to manage swarming. "When we met, he had 20 colonies but couldn't expand because they just kept swarming. He has a fair bit of African genetics in his apiary. Most unpleasant to work," says David.



Cerca Carvajal teaching apiary.

Their goal to become redundant is getting closer and closer, but David says he loves the people of Haiti, and wasn't ready to stop going. He thinks that he gets more from them than they get from him: "It's their enthusiasm and appreciation, also their acceptance and love for me. My heart gets really full, and a great depth of contentment and joy follows."

David realized that the scorched earth of Haiti needed to heal, and the idea of adding a permaculture aspect to their training would increase their chances of success: "Without permaculture, there soon won't be any healthy ecosystem

for bees to survive. I think permaculture is actually more important than the beekeeping.” Through a friend, David found Brandon Bauer of Permaculture BC, who went to Haiti to help begin this phase of the project. David says that Brandon is a perfect fit: “he is low maintenance. Sleep on the ground - no problem. No dinner - no problem. Have to walk a mile to a little dribble in the stream to wash - no problem. He’s fabulous!”



Brandon's Permaculture classroom, under the mango tree.

Brandon has visited Haiti with David once, in February 2018. Their goal was to teach the local people skills in organic agriculture, orchard and tree systems and water retention landscapes. “Haiti, like many tropical and subtropical climates has 2 rainy seasons and 2 dry seasons. The dry seasons are longer and consistently over 30°C. The rainy seasons are sometimes very wet, one coinciding with the hurricane season...so they get ample rainfall to meet their water needs, but it comes and goes quickly,” says Brandon. So, since water becomes a liability in the rainy seasons and a commodity in the dry seasons, Brandon says, “we worked on erosion prevention and water infiltration, and we taught them how to survey the land and the importance of swales (contour canals).”



Completed canal and garden beds, ready for planting.

Brandon goes on to describe some of the conditions they are dealing with: “In the last 40 years, Haiti went from 90% tree cover to just 2%. Some of this deforestation was due to hurricanes, but much of it was caused by humans. Both the government and the local people are responsible. Many of the trees were cut for charcoal, both for local cooking and for export.”

In order to begin to address this, their team has so far

planted 1500 trees on approximately 3 acres. They planted papaya, banana, mango, avocado, coconut and other fruit trees, as well as 200 moringa trees, which Brandon notes is a highly valuable and nutrient rich food source. They also planted 300 trees for timber and firewood: “The species selected for this function grow back after cutting (coppicing) so we weren’t killing the trees when the time comes for harvesting,” he says.

Another component of the permaculture project has been to plant 2 acres of vegetables, including food crops important to the local people such as peanuts, cassava, sweet potato and taro but also squash, carrots, beets and chard. “Many people still die of starvation in Haiti,” Brandon says. “Diversifying diets is key for livelihood but also for education. One can’t think on an empty stomach.” They also started a tree nursery so that other economic streams can be created.

Brandon found that many of the elders had some skills which overlap naturally with permaculture methods. Also, he says, “everyone there is a farmer to some degree, and many of the older men and women worked together to preserve song, laughter and other traditional skills.” He found, however, that the land preparation and maintenance practices were different. Most people in rural areas of Haiti know how to grow much of their own food, but their diets lack in diversity, and as Brandon says, “They seemed not to understand the importance of healthy soils.”



The rains finally arrived, and the gardens are producing.

As in the early days of teaching the Haitian community beekeeping, David is stepping back for a bit to see what takes root: “It took a while for the beekeeping to gather steam; we shall see if it’s the same with the permaculture. One thing I’ve learned, patience is the key! Sometimes, it takes a while for things to settle and catch on.”

One of the group’s biggest needs at the moment, says David, is to bring a couple of the Haitian beekeepers to Canada for further training: “here, it’s a stable platform for instruction, things are predictable. We have everything we need here to do excellent training, ie. electricity, internet, reliable transportation, access to diseased bees. In Haiti, it’s a crap shoot every day. One time we had to hide out for a week due to political demonstrations and riots.” They’ve been having trouble navigating the Canadian immigration system, to acquire two visitor’s visas, and in particular are looking for assistance with this.

To find out more about Hives for Haiti’s work in Haiti, and how to offer support, please visit www.hivesforhaiti.com. ☺

Bee Research Update from UBC

by Leonard Foster

It has been awhile since I last wrote for BeesCene. Ali McAfee is clearly very passionate about science communication so she took over the UBC segment for a couple years. As many of you know, Ali successfully defended her PhD last fall. I was proud of her before the defence but she really showed her true colours during the defence. It was absolutely outstanding and the defence examining committee stated that it was the best thesis defence any of them had seen. The only sad part of it is that her having successfully passed that hurdle meant that she would no longer be in my research group, but there is a silver lining! Ali has started a post-doctoral fellowship with Professor David Tarpy at North Carolina State University, together with Dr. Jeff Pettis. The silver lining is that Ali will be doing most of her work in BC and her physical base of operations will still be UBC. So we haven't totally lost her yet! I'm sure that you will run into her at bee meetings and read her writings, which she will continue to do. She has had to step back from writing this column, however, because of the demands of her new position. I expect that another student of mine will be taking over where Ali left off and you will continue to see updates on UBC activities here.

If anyone is interested in knowing what Ali will be working on for her post-doctoral, her focus is going to be on sperm viability in mated queens. You may recall that Marta Guarna and Jeff Pettis have shown that queens can get exposed to high temperatures during shipping, which can dramatically decrease their fertility. Heat shock, as it is called, is a very well-studied stressor of every form of life but it has some very immediate practical impacts for beekeeping. Ali is going to be looking at how both heat and cold can impact sperm viability in mated queens, hoping to understand what is happening to make the sperm less viable. This has some potential applications in mitigating queen losses, but it is also a very interesting biological phenomenon in its own right. The longevity of sperm in the queen's spermatheca is without parallel in biology (other than some of the other social animals). Sperm are notoriously short-lived cells but not in spermatheca. If we can understand how bee sperm can survive for so long in this environment, it could actually impact human fertility medicine. Beyond this, understanding how bee sperm reacts to heat will also be very relevant as the earth continues to warm.

We continue to be busy in other areas. Perhaps our newest endeavour is that we are starting to work on honey authentication. Some of you will have heard Peter Awram speak about nuclear magnetic resonance (NMR) testing of honey and he has recently purchased a very expensive instrument to start this testing himself. This is a state-of-the-art diagnostic tool that has not yet caught on in North America, but is certainly coming. NMR is the same principle as is used in Magnetic Resonance Imaging (MRI), a type of medical scan used for certain kinds of injuries. Interestingly, when MRI was first being developed as a medical tool, people decided to drop the "nuclear" part of NMR from the title because they were concerned that people would associate it



Leonard Foster

with nuclear weapons – this was at the height of the Cold War so it was probably a good decision. In reality, NMR has nothing to do with nuclear fission or fusion.

My lab specializes in another diagnostic tool, mass spectrometry (MS). MS complements NMR in many ways and so we are looking at using it for honey authentication as well. MS has the potential to be considerably cheaper than NMR (perhaps by 4 to 6-fold). MS can also detect things that NMR cannot, and vice versa. For example, NMR can distinguish the monosaccharides (e.g., glucose vs. fructose) and disaccharides (e.g., sucrose vs. maltose) in honey, while MS is more sensitive and can detect more trace compounds than NMR. There is still much work to do but our ultimate goal is to develop a test that can both detect adulteration and determine the floral/geographic sources of honey (e.g., for certifying origins in marketing). ☼

**DAN'S
WOODWORKING
INC.**

Beehive Woodenware

Abbotsford, BC, Canada
dan@danswoodworking.ca
www.danswoodworking.ca
fax 604-608-4906



ULTIMATE DEFENCE!

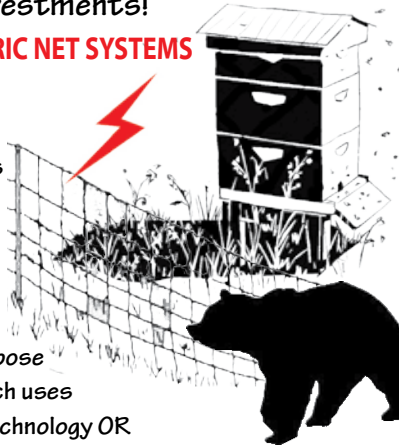


Protect Your Investments!

Complete **ELECTRIC NET SYSTEMS**

Electric Nets are
Highly Portable
Complete with posts
Available in
26" - 48" High x
164' or 82' Lengths

Pair up with the
DEFENDER Dual Purpose
Fence Controller which uses
the latest fencing technology OR
4 & 15 MILE SOLAR Controllers ... 3X more powerful
than comparable models!



FERRIS FENCING

Tel: 250-757-9677

1-800-665-3307

info@ferrisfencing.com www.ferrisfencing.com

PROUDLY OWNED BY CANADIAN BEEKEEPERS

BeeMaid



Canada's
beekeeping
source

We can handle your sugar
requirements. Dry or liquid
— small lots or trailer loads.

Bee Maid buys light
and dark beeswax
at competitive prices.

TOP QUALITY PRODUCTS FOR BEEKEEPERS

- Foundation
- Queen Rearing Supplies
- Beekeepers Apparel & Tools
- Hive Equipment
- Novelties
- Honey Containers
- Extracting Equipment
- Medications & Treatments
- Packaged Bees & Queens

Contact your nearest outlet:

Bee Outfitters

Alberta Honey
Producers Co-operative
70 Alberta Avenue, Box 3909
Spruce Grove, AB T7X 3B1
780.962.5573

Manitoba Cooperative
Honey Producers
625 Roseberry Street
Winnipeg, MB R3H 0T4
204.783.2240 ext. 228

Bee Maid
Honey
Highway #3
Tisdale, SK S0E 1T0
306.873.2521

Shop online at: www.beemaidbeestore.com

www.beemaid.com

Bee Friendly

BCHPA Annual Convention and AGM

October 4 - 6, 2019

Prince George, BC

Workshops

Trade Show ❁ Honey Contest

Banquet and Social

Coast Inn of the North

Business Meeting • Friday the October 4th

Education Days • October 5th and 6th

www.BeeFriendlyPrinceGeorge.ca



**Stan Reist,
Canadian
Honey Council Rep**

Canadian Honey Council

The AGM was a great success in Victoria, thanks to the work of the volunteers and Barry Denluck. We did approve in principal, a booth at Apimondia to represent the province of BC. Jeff Lee had a brief chat with the Minister of Agriculture Lana Popham, and she indicated that the provincial government wanted to help with this endeavor. Nothing was finalized at that time and Jeff planned to engage with

the Minister at a later date.

I went to the open house for Peter Awram's NMR machine in Rosedale, an excellent presentation for the opening of the facility, and the tour ahead of time by Peter's father was also a bonus. Congratulations to Peter and his family for starting us down this path.

After the ceremony I was able to have a chat with the Minister about the cost of our Apimondia booth. I indicated that the final budget was not completed. The BCHPA had already approved \$10,000 for the project, and Minister Popham indicated they would be on board to help with further funding and that she was planning on attending the event in Montréal.

In November, I had the opportunity to attend the Ontario Beekeepers Convention, a great line up of speakers including Marta Guarna who spoke on the blueberry study being done in the Fraser Valley, and Medhat Nasr received a Life Membership in the OBA.

At our meeting we were updated on the progress on getting fumigillin back on the market. Vita Europe is the company we are partnering with to do this. The relationship has proceeded to the point that agreements are being prepared for production. As it stands now the drug identification number for fumigillin is soon to be transferred to the CHC. Two companies have been identified in Canada that have the equipment to manufacture the product, and Vita is in the process of procuring the technical for production from the plant in India. We had originally planned for a spring release date but that's been pushed to the summer.

We also had a meeting with the PA's and we explained our position on harmonizing the interprovincial transport of bee stock and hive inspections. We are currently importing somewhere in the vicinity of 11 million dollars a year in stock from foreign sources. Any portion of that that we can put back

into Canadian beekeepers' pockets is what we're looking at doing.

The next trip was to the thriving Metropolis of Myrtle Beach, where we were promoting Apimondia at the ABF convention. The traffic to the booth was brisk and we had a lot of inquiries about registering and travel to Montréal along with accommodations.

On January 21st I went to Ottawa for the Bee Health Roundtable Meetings. The Roundtable is made up to receive updates on relevant regulatory activities that may impact industry sectors.

The Roundtable Delegates deal with four areas: Pollinator Strategy; Research, to review progress and to discuss future directions; Communications; and Bee Health Initiatives, including initiatives that may offer lessons or opportunities for partnerships.

There were updates on progress on partnership discussions and options/next steps on bee health research gaps and priorities. Dr. Stephen Page explained Dr. Marta Guarna's blueberry study, and Dr. Connie Hart gave an update of pesticides. Steve Javorek from AAFC Kentville gave a presentation on Sustainable Crop Pollination, Landscape Pattern and Native Bee Pollination services, and Stephen Page spoke about the Research Working group.

The Honey Bee Health Coalition presentation included resources on hive management, and on their website is a great deal of vetted, high quality resources. They also have a Best Management Practices for Bee Health Guide, this is a free download at honeybeehealthcoalition.org/hivhealthbmps. I would also like to remind people that The Planting Guide can be down loaded from the CHC website, under the Bee Health Roundtable tab. ☘



Wanted:

Honey in Barrels • Bee Pollen • Honey Comb

Dew Fresh Honey

Osoyoos, B.C.

Cell: 250-485-2924



**Beekeeping Equipment
Clothing and Glassware
Pick-Up in North Vancouver**

- ~ Canadian Made Wooden Ware
- ~ Clothing & Extraction Equipment
- ~ Country Rubes Screened Bottom Boards
- ~ Dominion & Grimm Glassware

Quality Supplies from Two Friendly Beekeepers

778-237-8711

www.twobeesapiary.com ~ twobeesapiary@gmail.com

**Honey
Equipment
Bees**

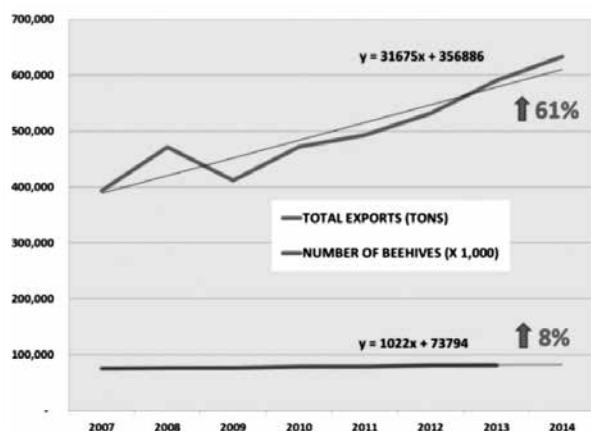
Herb Isaac Sales Ltd.

- ✧ New & Used beekeeping equipment
- ✧ Honey
- ✧ Ezyloaders
(Beekeeper Model 300 now available)

Ph: 204 662 4401 Fax: 204 662 4547
Come visit us on the web: www.herbee.com

Honey Authentication Project

Peter Awram, co-owner (with his parents) of Worker Bee Honey Company in Chilliwack, BC, first became concerned about adulterated honey in November of 2016, when he heard a talk by Professor Norberto Garcia, who teaches Apiculture at the Universidad Nacional Del Sur, in Bahía Blanca, Argentina. He is also Senior Consultant of Nexco S.A., the main Argentine honey exporter. Before hearing Garcia's talk, Peter says he'd heard about honey fraud but hadn't thought of it as very significant. He found that the information that Garcia presented was startling, and that the extent of the fraud (up to 40%) seemed undeniable: "The increase in exports without a corresponding increase in hive numbers indicated serious fraud. Professor Garcia made it clear that if fraud were eliminated, there would be a very large increase in demand for honey. Variability in the bulk price of honey has been a serious problem for beekeepers over the last decade. The increased availability of suspect honey has given unscrupulous packers the ability to set the price because they can always turn to these other sources."



Evolutions of world number of beehives and total honey exports. Source: FAO and ITC-UNCOMTRADE.

Peter became so concerned about this problem that he began to investigate the possibility of setting up a honey authentication facility in BC, with the idea to generate a database of BC honey samples that will allow identification and authentication of honey. He hopes to eventually expand the project across the country and into the US, to get samples from those areas as well. Peter says, "This really needs to be a worldwide project to work well. It is also necessary to generate a database that can hold up to scrutiny in court, so that prosecutions can occur to provide a significant deterrent."

Through his business, Peter has made a substantial investment in equipment to set up a Nuclear Magnetic Resonance testing facility at his business in Chilliwack, and has also taken on the regular costs of liquid nitrogen and liquid helium to keep the superconducting magnet cooled. The machine costs are being financed completely by his beekeeping business, and in 2018, they were able to secure funding through the Investment Agriculture Foundation of BC to cover the costs of collecting samples and processing them for the BC database.

"One of the major advantages of NMR over other testing methods is the ability to look at all of the molecules in honey; this allows the creation of a 'fingerprint'. With enough samples, it is possible to create a profile of honey, as the characteristics of honey vary for the floral source and the geographic location, reflecting soil and weather conditions," says Peter. With this tool, he is hopeful to be able to discover how much adulterated honey is around. He points out that there are indications that there is some fake honey on our supermarket shelves, although he thinks the biggest worry is that most of the fake honey is in the industrial ingredient market – for example, honey mustard sauce ingredients.

Peter plans to share his results with the Canadian Food Inspection Agency (CFIA), which is responsible for testing imported honey, but doesn't have a NMR machine. Currently the CFIA uses methods to test honey which look at isotope ratios, which aren't as sensitive as the tests that Peter is set up to do. Another limitation of these tests is that they look for the presence of only certain adulterants, such as corn syrup, while other (perhaps more commonly used) products which are being used to adulterate honey can't be detected, like rice syrup. The European Union's Joint Research Commissions (JRC) has shown that the standard method for determining the authenticity of honey is currently being beaten. He's hoping that this project will eventually lead to a certification scheme, whereby producers can submit their honey for testing, and then receive a label which certification.

Currently, a major concern is that Canada is importing a significant amount of honey from Thailand. Peter adds that, "This is one of the countries most implicated in fraud and there is no reason for the importation to go on. There is also considerable concern in the US that honey is getting transhipped through Canada to the US and this is hurting Canadian beekeepers substantially in the US market, our most significant export market."

Aside from the fact that adulterated honey is fraud to the customer, it may also pose a risk because it may contain unknown chemicals, heavy metals, and even medications, such as antibiotics, that have not been approved for human consumption.

When asked what he thought to what degree adulterated honey is affecting the livelihood of beekeepers, Peter says, "The trickle down effect of adulterated honey on the bulk price affects everyone. Even beekeepers that sell all their honey directly to consumers will be affected. The price on the supermarket shelves will give consumers an expectation of what the price for honey should be that doesn't reflect the true cost of production, and some beekeepers have been forced to accept a reduced price for honey for years."

So far Peter has been able to collect about 150 samples of honey from around BC, and about the same number of samples from other provinces.

This project will rely heavily on having a database of authentic honey samples, so beekeepers are encouraged to submit samples of their honey to be tested. For details about how to send honey in, please visit www.truehoney.buzz. ☼

Semi-Annual Speakers



**Paul Kelly, University of Guelph
Honey Bee Research Centre, Research and Apiary Manager**

I grew up in SW Ontario near the town of Lambeth. My Dad's friend 'Honey Boy McLaughlin', the local commercial beekeeper, introduced me to bees as a kid. Later, as a student at the University of Guelph, I took the Introductory Apiculture course; one week into the course and I was hooked for life! I couldn't stop talking about all the very cool things I was learning about honey bees. To see if beekeeping as a career was for me, I took off a spring semester in 1980 and worked from March through September for a beekeeper with 3,000 hives in the Alberta Peace River region. There's been no looking back.

The next summer I was fortunate to be hired by John Sladen, in Keremeos BC. He came recommended by the BC provincial apiarist Doug McCutcheon. John had just taken over a small commercial operation and needed someone to manage his hives. So with one year of experience, I was making all the decisions on managing his hives. I learned a lot, and hopefully not at John's expense! (He's likely forgotten that I burned a hole in his truck flatbed). John had a successful

honey packing and sales business going called Orchard Blossom Honey, and also an orchard business.

After graduating from the University of Guelph, I moved to the Annapolis Valley of Nova Scotia and worked two years for beekeepers Lynn and Eric Nickerson. While there, I saved up for a trip to New Zealand to bicycle around the country and work for queen breeders. This turned into a two year world tour, and then I came back to Ontario to settle down and start my own beekeeping business. Honey prices were 37 cents a pound at that time, and the cost of production was 65 cents, so many bee operations were for sale. The position of managing the University of Guelph's apiary and field laboratory came up, and that looked like a more secure option. I was hired in 1987, and still have the same job. I have 120 of my own hives and make tools for beekeepers, so that has satisfied my entrepreneurial inclinations.

The apiculture program in Guelph has existed since the formation of the Ontario Agriculture College in 1894. In 1919, the first apiculture research and education building in North America was built in the centre of the college campus. It had a 100 hive apiary surrounded by tall cedar hedges and contained a lecture hall, labs, offices and purpose built beekeeping and honey processing facilities. Unfortunately the apiculture building was, in a way, too centrally located. It was demolished in the late 1960's to make room for our main administrative building. Our beekeeping operations were moved into a 1950's raised bungalow house.

100 years from the building of our first apiculture building we've announced a new Honey Bee Research Centre building project. We currently teach classes in a living room, operate a lab in a bedroom, and extract and process honey in the recreation room. With 4,000 visitors a year and a busy research and education program, we've outgrown the bungalow. So far, we've raised \$5 million in donations towards our \$10 million goal. The new 16,000 square foot building will have a focus on public education, so just think how much more I'll be able to talk about bees!

Les Eccles, B.Sc. Ontario Technology Transfer Lead

My family has been farming for the 5 or more generations we've been in Canada, so it runs deep in my soul. Our farm was a typical mixed farm with pigs, chickens, cows for beef and also a holstein dairy, which eventually became our main business.

I would have been happy to stay on the farm, but my mother pushed all of us to go to university. I had traveled between high school and going to university doing development work, which made me wonder how I could apply my skills to this field. Having an education in farming seemed to make sense to either continue on our family farm or take my skills abroad, so I enrolled in the 2 year Diploma in Agriculture program at the University of Guelph. I was hooked.

After my diploma I hadn't had enough and continued into a Bachelor of Science in Agriculture degree, also at the University of Guelph. It was during this transition from a practical diploma in agriculture to a science degree that was the first real change in path for me. I was also heavily involved at the time with the organic agriculture movement that was very "taboo" to even mention, and this led me to meet Dr. Ann Clarke who took me on as a research assistant in Plant



Agriculture for 2 summers. I still remember her saying, “maybe you’ll be in research,” and I didn’t respond, but I thought that was crazy...I was just a farm kid.

Around that time I met Paul Kelly at the U of G Bee Lab, and the next summer he offered me a job. This was where I developed my interest in beekeeping and research with Paul and Ernesto Guzman.

I can’t overstate the impact that these two had on me. As a research assistant I was able to be involved with projects that were being worked on by post-grads, and learn best management practices from the best in the world. This is when I made the connection between what I considered farming and beekeeping; the concepts were the same, and this allowed me to adapt to a steep learning curve. Sometimes it’s important to remember these early days in beekeeping and how enthralling it was.

Another big impact is that during that time, Ernesto had summer students from Mexico working on their final project for their veterinarian degree (beekeeping is a part of vet school in Mexico). One of these students had a friend from Mexico working in the Ontario Vet College on a project with viruses and cattle. During one of our long days counting varroa mites on sticky boards, this friend joined us for a visit. Skip ahead...Raquel and I moved to Mexico and were married in 2009 while she was doing her Master’s degree, and we’re close to 10 years married. Ernesto still claims responsibility for this I believe.

While in Mexico, I worked with beekeepers and

development organizations to transfer beekeeping technology into the field, and to certify beekeeping operations for honey exportation to European markets. I knew almost no Spanish; it is probably the most challenging thing I have ever done. I learned about the importance of working with people, taking the time to listen to them before making assumptions on what they needed. I also realized that agriculture needs differ greatly between different cultures and environments. This is also true in Canada, from coast to coast and even within provinces; no one solution works in every situation, you need a large box of skills and tools, and they need to work. People’s livelihoods depend on it.

Raquel and I run about 270 colonies that are dedicated to breeding; I have a special interest in honey bee breeding and stock replacement, and over the years I have focused on the development of the Ontario Resistant Honey Bee Selections (ORHBS) program. We run an additional 4-500 mating nucs and sell over 1000 queen cells and 1000 mated queens per year.

I have also been the Ontario Tech-Transfer Program Lead since 2011. What I like about this job the most is being connected to the most recent issues, information and research, and having the ability to be involved in applying it in the field. I love working with farmers and farm families, and I have always seen this job as a privilege and a responsibility to this community.

Diane Dunaway Bee Happy Honey

Like so many of us, Diane fell into the gentle art of beekeeping fully, deeply and quite by accident. Born and raised in Vancouver, she spent summers on Vancouver Island’s farms and beaches where her tomboy ways found an outlet. Eventually Diane realized her childhood dream of living in the country. In 1991 she wed Dave, a rancher’s son. That same year they settled in Soda Creek.

Shortly after moving into their fixer-upper farmhouse in BC’s Central Interior, a swarm of bees flew past the living room window and proceeded to entrench themselves into the walls of a derelict chicken coop. An auspicious beginning, it took a few more years for Diane to fully grasp the wonders and rewards that these winged creatures had in store.

In the late 1990s Diane went from over-the-shoulder exclamations of “that’s so cool!” to keeping her own honey bees. Mike Ambach and neighbor Ian Fotheringham were early mentors. “Discovering bees means also discovering an at once quirky, studious, strongly opinionated family of fellow beekeepers. Call them colleagues, or simply our tribe. Life would be boring without the cast of characters who shorten our learning curves and enrich our lives with endless innovations, questions, answers, and laughter,” she says. She fondly recalls taking a few hives into a mountain fireweed bloom in the Likely area with Mike and some beekeepers from the Coast. This entailed a 4 am start, detours around huge bear scat piles, and a creekside breakfast finale of cold beer and a chocolate bar.

Retired bee inspector Ted Kay, provincial apiculturist Paul van Westendorp, retired provincial apiary specialist John Gates, and queen breeder Liz Huxter along with many beekeeping friends have mentored and influenced Diane’s management decisions, as have her greatest teachers, the bees themselves.

From its inception, her Bee Happy Honey brand has appreciated a faithful customer base. Raw honey sells out every year, as do other products from the hive. Diane has run up to 100 colonies from her farm. What started by chance has evolved into a way of life.



Through Simon Fraser University's short course, she became a Bee Master in 2001. She was second vice president of the BCHPA in 2003/04, and went on to engage her love of writing and communication as editor of the provincial quarterly journal *BeesCene* from 2006 to 2011. She received the BCHPA President's Award for Service in 2008, and in 2013 Diane became a beekeeping instructor through the BCHPA Certified Programme.

In 2015 Diane took on the responsibilities of provincial bee inspector for the Thompson – Cariboo – Central North region. She's honoured to be part of a 100+ year tradition and glad that the role is one geared to bee health and education through extension work. She's found that seeing so many bees and varying management approaches has allowed her to better recognize patterns of vibrancy and struggle. "Beekeeping is as much an art as a science," she says. "At best it's a dance. One needs to take the lead, while at the same time allow room for the bees to express themselves."

She continues to teach beekeeping and does extension work for the BC Apiculture Program - a natural transition

from hosting countless Field Days in Soda Creek and volunteering with her local bee club. For the past 10 years Diane has also maintained an observation hive for The Nature Trust's Scout Island Nature Centre in Williams Lake, which is popular with people of all ages.

Dedicated to a lifetime of learning, Diane has attended several educational conferences, including those of the Western Apiculture Society in New Mexico, and Colorado and a seminal joint meeting of the ABF and AHP in Sacramento back in 2006 when Colony Collapse Disorder was all of the buzz. Diane took Dr. Marla Spivak and Gary Reuter's Queen Rearing Short Course at University of Minnesota in 2014. More recently she repeated her Bee Master certification (2016, 2018) at UBC and participated in Bee Audacious, a collaborative working conference held at Marshall, California.

When not chasing swarms around the countryside, Diane can be found at home with husband Dave and their menagerie of dogs, cats, horses, chickens, ducks, and rescue donkey Fanny. As her honey jar label reads, Life is Sweet!



Dr. Leonard Foster

Dr. Leonard Foster is a Professor in the Department of Biochemistry and Molecular Biology at the University of British Columbia (UBC). Dr. Foster comes from a family of beekeepers and got his introduction to academic bee research at Simon Fraser University while doing his Bachelor's degree in biochemistry – at SFU he worked with Drs. Winston and Slessor on honey bee pheromones, particularly the components of queen mandibular pheromone. He then did a Ph.D in Toronto a post-doctoral studies in Denmark before starting his current position in 2005.

The first independent operating grant that Dr. Foster secured was to study how bee pathogens were able to manipulate the protein machinery within bee cells. Since that time he has led two very large-scale projects that have investigated some of the molecular mechanisms behind disease resistance in bees. This effort has recently moved into trying to apply this knowledge by using the information they have learned to guide selective breeding for hygienic behavior in honey bees. He is very active in extension and frequently engages the public on various aspects of honey bee biology.



Caroline Chiu

Caroline Chiu graduated from the Masters of Food and Resource Economics program at UBC, and currently she works for the Institute for Sustainable Food Systems (ISFS) at Kwantlen Polytechnic University (KPU). Before joining ISFS, she worked in the Statistics Unit with the BC Ministry of Agriculture. She has been a research associate since 2013 has been involved in economic analyses for all ISFS projects. Her work includes data research, farm survey facilitation, report writing and business plan development.

Since 2015, her role at ISFS has changed and she is now managing the outreach programs, specifically the Farm School programs. She manages administration, business and student coordination of the programs while also assisting the Director in planning future farm school development. She also graduated from KPU's Richmond Farm School Program in 2015 and is now an owner-operator of Riverside Farm in Richmond. She will be speaking on Enterprise Budgets for Small Scale Beekeepers.



Mike Campbell

Mike Campbell was a high school teacher for more than 35 years, and took up hobby beekeeping about 25 years ago. As retirement approached and in consultation with wife Judy, the decision was made to combine Mike's beekeeping and honey wine hobby activities with Judy's love of the outdoors, gardening and the arts, to develop what is today a thriving agri-tourism business, Campbell's Gold Honey Farm and Meadery. Mike has been active in both the Surrey and Langley Bee Clubs and served a term as second vice-president of the BC Honey Producers Association.

Over the last several years, Mike has participated in research to enhance honey bee health, and results have been submitted for review and publication. Some of his past research includes work on wasp control, which resulted in a very effective pheromone-based trap; testing the predatory mite *Stratiolaelaps scimitus* for varroa control, which showed that they had no effect on varroa; the use of enzymes to control bee disease, which also did not have promising results; and the use of drone brood pheromones to enhance hive growth and viability. This last study, Mike says, "was very effective, but due to

regulatory hurdles it was not commercially viable." He also participated in a study on using drone phenomenon to trap varroa, but the funding ran out after some initial promise was shown. He notes that he and Judy "have worked with a number of different companies and scientists over the last 15 years on bee related research, and while not all of it has led to successful conclusions, each project has led to increased knowledge and curiosity on my part."

Most recently, in work funded by the Bee BC program, he was working in collaboration with Dr. Cameron Lait of Kwantlen Polytechnic University to identify solutions for a new variant of a devastating pathogen that causes problems for overwintering bees. They have been testing various treatments, including augmented diets, to see if there are any natural solutions to the disease, and will be reporting on their findings.🐝



**WEST COAST
BEE SUPPLY**



**QUALITY
PRODUCTS
AT
UNBEATABLE
PRICES**

For all of your Beekeeping needs:

- Bee Packages
- Nuc Hives
- Queens
- Mann Lake Products
- Wooden Wear
- Protective Clothing
- Tools & Equipment
- Bee Health & Food
- Medication
- Classes & Education
- Books & Learning Tools
- Specialty Items

**11950 Old Dewdney Trunk Rd
Pitt Meadows BC
604-272-1921
www.westcoastbeesupply.ca**



Interview with Zac Lamas

Zachary Lamas was one of the speakers at our AGM in Victoria last fall, and we recently got in touch to find out more about him. Many that attended the meeting were impressed with his energy and enthusiasm for bees. He is working on a PhD at the University of Maryland, works part time as a technician at the USDA Beltsville lab, and runs several hundred colonies of his own. His presentations from the AGM are available on the BCPA website.

How did your interest in bees begin?

My grandfather always had a hive or two, but it was never a real component of me growing up. I had always wanted to be a farmer, and his cows and handful of pigs were far more interesting to me. My recollection of bees as a child was that occasionally my grandfather would suit up, and I would be standing out there in shorts and he'd be like, 'hold this.' Even as a kid I remember thinking - 'where's my suit?'

It wasn't until I decided to plant a pumpkin patch after college that I got my first hive. I ploughed up an acre, and thought, maybe I need a hive for pollination. I bought a nuc and put it into some old equipment my grandfather had hanging around. It rained all that summer. I mean, it just RAINED. The pumpkin patch became weedy and failed, and this neglected hive did fine. It survived the winter, and was bustling by the



I was still waiting tables in my home state of New Hampshire, and growing out my beekeeping business. I had picked up extra shifts to buy this beat up Ford. It was a nightmare of a truck, but a large part of me didn't care. I was headed to North Carolina, happy to be on adventure.



Zac and his grandpa.

spring. A beekeeper that was buying raw milk from me at the time helped me split the colony. Both died by that fall, and like most new beekeepers, I bought packages the next spring.

I didn't get serious into keeping bees until, unfortunately, I was going through a divorce. I couldn't emotionally keep milking the cows and feeding the hens. So I sold off everything, but I wanted something to keep my hands in agriculture. So I bought 3 packages and grew them up to nice colonies that year. That same friend who helped split my first colony gave me a couple DVDs of Michael Palmer's talks. Then I went out to my grandfather's workshop and started making 4 frame nuc boxes. That next spring I began splitting colonies. I was working as a waiter at the time. I would pick up extra shifts, and my tips would pay for queens. By the next year I was making my own queens.

Becoming a researcher has just recently happened. I had been wanting to go back to school for years, but I was in major debt from the divorce. I was building a house we had started together, and I didn't want to give up my bees to go to school. So in 2016 I was searching on the east coast for grad school possibilities. I had a lot of no's or no replies. After these failed attempts, I reached out to some old classmates from college on Facebook. They filled me in on how to reach out to a potential lab.

Can you tell a bit about the field trial you were working on this past summer?

I did the field work for a National Institute of Food and Agriculture (NIFA) funded project in 2018. It was designed by a post doc in the lab. I was excited about doing the work, but it was so tedious. I was hoping to do this project and have enough time to tinker on my own work. I was able to work on my own project, but that happened at night in the lab. The NIFA funded project involved feeding field relevant doses of 2 insecticides, fungicides or a combination of both, and looking at brood development rates and overall whole colony

health. That project is wrapped up; we got cool results on brood development and queens, but surprisingly not much on survivability. Going forward I am continuing my own work on varroa behaviour. I study varroa feeding behaviours both when they are on adult bees, and invading brood cells.

Are there people that influenced your beekeeping?

Definitely Kirk Webster. Kirk was an early inspiration. I got the small farmer's journal, and would occasionally see his articles in there. So the first year I started making nucs I called him, and we were able to arrange a day where I would come and shadow him. I got so many stings in the back of my head that day. I was beekeeping barefoot at my farm with these cute little nucs, and then I was in a real bee yard and Kirk is breaking hives apart to nuc them out. It was awesome.

I ended up hefting a bunch of hives and nucs for Kirk. He took me out for a lunch break. We had fish and chips at a small Vermont restaurant in Middlebury, VT, and Kirk listened to my plans on how I wanted to move bees from New England to North Carolina to split them twice a year and to double up my learning. He just said it sounded like a good idea and I should do it. Kirk really has a way of listening to you and giving advice.



Kirk Webster has an open field day every year in Middlebury, Vermont. He talks about his operation and opens up colonies to the public. This was a pretty cool day to see Mike and Kirk together. For me, this picture is extra great because Troy Hall is present in it. Troy also worked for both Kirk and Mike, and has been an exceptional mentor and leader in the New Hampshire beekeeping community. He has been an inspiration to me. Troy and I mentioned in passing the lineage of beekeepers that have left Kirk or Mike to successfully begin their own operations.

And then of course Michael. I was able to work for Mike for a couple weeks at the tail end of a summer. I had already taken a construction job in NC so I didn't have much time. But I worked for Mike for 3 seasons after that. Mike saw I was making boxes off the back of my tailgate with a portable table saw before work one morning. He just opened his garage door and said, use the shop. Mike let me use the shop for three years so that I could grow my business.



We get all sorts of visitors at Mike's, and some of them become dear friends. Richard, the tall guy on the far right, has been making yearly trips up to French Hill. He is a southern beekeeper who makes queens and nucs. And Kate, a long time employee of Mike's, most superb friend I could ask for.

And my family. My grandfather thought all my little nucs were gonna die. Full size colonies were dying, so why would these little splits do better in the winter? Still, he loved and supported me the best he knew how, and he was letting me use his shop, and would be out there at 11pm holding a flashlight as I loaded nucs. That's love.

It wasn't until I came back that next spring from NC that he knew I could make it. I made two trips up from NC that spring to sell nucs. I have this 1500 silverado, and a 21 foot trailer that is heavier than the truck when loaded. I pulled into the yard with the trailer full of nucs for sale. I unloaded and slept and then drove back to NC for the next load. Over those two weekends I had 30k in nucs I sold. His yard filled up with my bees and customers coming to pick up their nucs.

Some people never had bees before and they wanted a tutorial. I was shot. I normally weigh around 190-200lbs. I'm 6'1", kind of fit. I was 159 lbs then, and wearing suspenders to keep my pants from falling off. I had worked so much that spring and was running out of cash before I sold the nucs, so I wasn't eating much. I had just made two trips back and forth from NC to NH, loading bees by hand. I got to his house just after my first customer arrived. It was 6am, and it was a whirlwind after that. And my mom was bustling around



Zac's sleeping arrangements on the road - a hammock strung between his truck and a nearby lamppost.

helping people, she was inserting foundation into frames I had sold, cause I really thought I would have time to do that. My grandfather carried nucs to people's cars, and I think he was really impressed with how people listened to me on transferring the nucs and everything. That's when he knew I could make it. That, and there was a pile of cash and checks, my phone being a paper weight on the end of my tailgate that morning. I slept the next day and then drove up to Saint Albans to start working for Mike.

There is always a mix of learning and experiences as influences. I saw Kirsten Traynor present on drone comb removal for varroa control, and I thought, that is cool, but it wasn't until I went to Cuba and found and hung out with some beeks there (literally we went down, bought rum, and then vagabonded to Santa Clara to find Ale, a beekeeper someone from Columbia had told me about) that it stuck. It was just at the end of their winter, bees were bringing in nectar, you could lightly knock a brood frame and nectar would pour out. 8+ frames of brood in single or double deeps, with Parasitic Mite Syndrome. There was a flower in bloom that kills adult bees, and some bees were wriggling in the front of each hive.



An apiary in Cuba. With honey supers off, the hive orientation is usually double deeps (sometimes one and a halves). There are usually 24 colonies in an apiary. This picture was taken in December, after the honey harvest. Still full of brood, the colonies looked great. Cuban beekeepers intensively remove drone combs from their colonies to manage their varroa.

I asked how many hives die in the winter; I exasperated my Spanish asking in different ways their colony loss. Ale finally got what I was asking and said, 'no no, they will start making drones soon. We will remove the drones (full frames) and we remove the varroa, the brood improves and the hives get very strong.' Then the kicker was, he said everyone does this. That was a very influential experience. So just before starting grad school I stopped in after their honey harvest. That was around Christmas. I brought gifts for Ale and his wife, and they showed me the same apiaries. They looked amazing.

I think Kirk Webster and Mike Palmer are both correct. It is just that neither of them are the final product in beekeeping, they are spots on the continuum of beekeeping history. The problem is, we think they are the end result and we need to choose one of their philosophies over the other. Why? Why not just improve on what they have put up. Mike openly states



Two Cuban friends. Yenny is a doctor, Ale is a beekeeper and a veterinarian.

he treats and needs to, and he talks about years where varroa got out of control and he took huge losses. Kirk has published about his philosophy of being treatment free. Now, what if instead of adopting one of them, we just improve on it all.

For me, Cuba was part of that, as are Kirk and Mike, and my own experiences in NC. I wondered to myself, what if I remove varroa via drone comb from my production colonies. It is labor intensive, but I could do 200-300 colonies if I wasn't working for Mike or going to school. Then the colonies that don't get strong enough to draw drone frames, could be used for nuc production. I think that is really cool: 1. I have increased my numbers. 2. I systematically reduce varroa in my apiaries. 3. I remove poor stock. 4. I still have low contact levels of varroa as a selection pressure. 5. I don't have runaway varroa bombs that affect my neighbors. 6. I greatly reduce my NEED for a varroacide, without creating a philosophy that bans it if for some reason conditions change (like, I break my leg and that is just the year I couldn't do the drone comb removal).

So, I am working on that in my honey yards. It was so simple this year. I put in drone frames, set an event on my google calendar, and showed back up to remove the frames. I do varroa research and it was two birds with one stone for me, clean hives, varroa in hand for projects. The colonies that couldn't make the snuff got nuc'd out. Guess what, the three colonies I gave a pass because I was a little lazy, that should have been culled, failed early winter. This is too anecdotal to make a statement. Anyways, a mix of influences, that is where I am. Social immunity by the condition of the community.

Do you bring outside stock into your breeding program?

Up until now my northern breeding yards were outside of Palmer's production yards, so I got all the good boys. In the south, I am around my own yards, but there are a lot of bees, so I assume I'm getting a lot of outbreeding there as well. I didn't buy in stock. Sometimes Mike would toss us queens, which was cool, always appreciated. I actually had a line I really liked, and would grab a daughter each spring to graft from.

I sell most of my bees once a year, in the spring, in one location. Normally it is New Hampshire. This last year it was Maryland, cause, well. I moved. So the only spreading out

I do is catching the early flows on the coast of NC, then my bees get rebooted north. It is a great way to make nucs, flip the crop for profit, and then rebuild and play on the northern flows for the rest of the year. It's kickin', but its also a REALLY long season for varroa. If you want to see varroa trash your colonies, move them without treating and give them a year long flow.

I think what is lost in a lot of the dialogue is people who do this treatment free, lose a lot of bees. It's just that you can produce so many hives on two spring flows that you kind of win by numbers. I don't like that though. I want to sell the best nucs possible, and to me, that means healthy bees, with a quality queen, and low varroa. I diverged there.

As a new beekeeper there was a lot of allure to the idea of being treatment free, but after two years of giving my bees a continual summer, I had systematic EFB and EFB-like varroosis. A treatment free beekeeper who had dealt with apiary-wide EFB told me how he used OTC, treated, and then got rid of colonies that didn't clear up. That was an eye opener. So I approached my bees differently, really questioning what it means to be a good steward. We get into these identities and feel the need to protect them, which is silly. People, communities, conditions; they all change over time. Give yourself some flexibility. I didn't mind telling people that I treated twice a year. I said I like the idea of being chemical free, and I am processing what is the best path to breed and keep healthy bees. Until I get there, I will treat. Some respected that, some didn't. Some people that were treatment free still bought my bees, and I sold out and had an unfillable waitlist every year.

How did you begin to focus on early season requeening?

Well, I have a couple thoughts on that. One, time is a resource and your queens need time to lay and rear winter bees. If I have a non-productive colony or a colony limping along all season, then the fall is way too late to deal with it - is she even going to lay up one brood cycle? And yet, that is what so many beekeepers do not do midsummer (when beekeeping is a little less fun). They let weak colonies limp along all summer and then suddenly in the fall realize they need to requeen. By the fall it is too late for a new queen to build a population before winter. I also think proactive requeening of failing queens helps prevent the spread of varroa. No proof, but still good practice.

At Palmer's we requeen with nucs early in the season. The idea is, if I have a weak colony and I do nothing, no honey crop from that colony. If I put just a queen in (early spring) then she takes forever to build a population, and a small honey crop. But if I requeen with a nuc - bam, I requeened and get a honey crop. Again, it is good economics. By midsummer, we are requeening for winter survivability, not for a honey crop.

It became apparent to me that by proper requeening you could essentially stack the gambling odds in your favor - both for profit and winter survivability. So this is what I've done in my business. I am getting \$200 for nucs; they are always going to be profitable. Making nucs and overwintering them is a good idea. I pinch non-productive queens from mediocre and weak colonies, and break them right down to nucs and give a new queen cell. In this way, I get rid of colonies that probably would not make the winter, and make more colonies that will survive the winter. It is how we can make increase ain acolonies and take super low winter losses (single digits).



Midnight nuc delivery.

*How you are able to manage your school work and your bees?
Do you have someone helping you with your bees at key times?*

Yea, it was a bit crazy last year. I do a lot of the work myself. I mean, it has always been crazy. I was running my operation while working for Palmer for years. That was nuts. Michael isn't great at scheduling, so you're trying to balance your bees with a full time obligation to someone else, and the weather...

So last year I was used to it, but it wasn't what I wanted. I just wanted bees on the side and to focus on research. I ended up merging my business with someone else, and there are always hiccups with figuring out how to partner. The fall was the toughest. Managing the mites, feeding and doing unites - my partner had work overseas so I was doing the bee work while finishing out a large field trial. The balance doesn't exist and I wouldn't suggest it. This year I am really hoping to be more balanced.

I had a beekeeper call me one summer. At the time I didn't know him, I only knew of him. He had heard about me from the state inspector in NC, and how I was splitting a few hundred nucs off in the spring, selling them, then going to work for Palmer and still made more splits in the summer. He and his wife had just doubled their operation that year to 500 stationary colonies in NC, the increased volume was wearing down on them and the conditions of their bees reflected. He asked how I was able to do what I did, and I told him that I make a lot of mistakes and am always tired, that the hustle isn't sustainable. And I said what I meant to him - if you and your wife doubled your operation, sold nucs and pulled a honey crop, and you still have most of your original bees after uniting this summer, then go celebrate. And he needed to hear that. We look at the accomplishments of others and think they just got there. Or that they supercede all the faults that we ourselves have. That is not true. We all make incremental changes, and we all make mistakes that wear at us along the way. ☘



FORMICPRO

FOR TREATMENT OF VARROOSIS
CAUSED BY VARROA DESTRUCTOR IN HONEY BEES (APIS MELLIFERA)

FROM THE MAKERS OF MITE AWAY QUICK STRIPS®

NOW REGISTERED FOR USE IN CANADA!

- 2 YEAR EXTENDED SHELF LIFE •
- CAN BE STORED WITHOUT TEMPERATURE CONTROL •

TO LEARN MORE VISIT OUR WEBSITE
NODGLOBAL.COM/FORMIC-PRO



From Nature, to Nurture.

Available through beekeeping supply stores.
866-483-2929 | www.nodglobal.com | info@nodglobal.com

    @NODAPIARY

Harvey and John Boone

For many years there was no organized system in place to preserve the history of beekeeping in British Columbia. Fortunately, W. H. Turnbull (B.C. Inspector of Apiaries, 1918-1950) recorded our early history in, "One Hundred Years of Beekeeping in British Columbia 1858-1958".

Upon his retirement, John Corner (Provincial Apiculturist 1950-1983) began work on a second book about the history of beekeeping in BC. John was forced to abandon this project due to poor health.

Doug McCutcheon (Provincial Apiculturist 1983-1990) then completed the book, with the title, "A History of Beekeeping in British Columbia from 1950-2000". Long time BCHPA member and former editor of BeesCene, Diane Dunaway, volunteered to arrange editing and publication of Doug's book in 2013, with funding from the BCHPA.

During these years, the BC Archives in Victoria occasionally received donations of material related to beekeeping and gradually established a beekeeping collection. Former BCHPA secretary-treasurers Robbie Robertson and Allan King each donated a quantity of BCHPA records to the archives during their tenures.

In his book, Doug McCutcheon explains, "... I received a call from Dr. Mark Winston of the Department of Biological Sciences at Simon Fraser University (SFU) who informed me the SFU Archives was storing his documents and he arranged with them to store Apimondia '99 records, and those of the Canadian Honey Council and the Canadian Association of Professional Apiculturists. He suggested to me that the BCHPA records be stored at the SFU Archives as well."

The BCHPA agreed to this plan and it was arranged to have the beekeeping-related material from the BC Archives shipped to SFU in 2003 (although the BC Archives still contains some photos and film clips of beekeeping). Doug McCutcheon spent many hours helping former SFU Archivist Francis Fournier organize the new collection. Once this reorganization was completed, Dr. John Boone agreed to act as the BCHPA Archivist.

Dr. Boone is the third generation in his family to practice beekeeping. His father Harvey helped to establish the Boone, Hodgson, Wilkinson Trust Fund in 1965 which has grown to become an important source of research funding for the beekeeping industry. Both Harvey and John spent many years supporting the BCHPA, which enabled John to secure a wealth of archival material that might otherwise have been lost. With his recent retirement from his position as BCHPA Archivist, Dr. Boone has agreed to share some of his own history, beginning with his father, Harvey Boone.

My father was born near the little town of Hartline, in central Washington, in 1892. His father was a builder and millwright and the family came up to the Okanagan in two covered wagons with all their goods and chattels, crossing the border at Osoyoos and heading for the "Boundary Country" in 1896. Their entry into Canada was recorded simply: "F.B. Boone, settler".

They lived in Midway where Harvey started school. By

1902, gold mining there was on the wane, and they moved to Fairview (above the current Oliver) where his father built a stamp mill for one of the mines. Gold also became scarce there, and the family took up a 320 acre preemption, built a house and barn, and farmed in the area for about 15 years. So it was there that he entered manhood, and when he was 18 he took a summer job of spotting for forest fires - he was sent to Mount Kobau where he camped out for the summer and was instructed to scan the horizon for smoke; if spotted he was to ride his saddle horse down to Fairview to report it.

Over the years all of his family gradually returned to the US, except Harvey, who had learned the building trade from his father and took on the construction of buildings in the newly established town of Oliver - including a hotel, several businesses and several homes throughout the 1920s and early 30s. He met Elsie King of Kaleden (whose family had emigrated from England) at a dance in Okanagan Falls, and they were married in 1922. During their courtship, Harvey recalled that it was a long carriage ride from Fairview to Kaleden, and often the horse returned home with Harvey asleep in the buggy!

Eventually, a newly built irrigation system led to the sale of parcels of land for orchards, and they bought and planted a 10 acre lot. Harvey continued in the building trade until the orchard came into production. He registered his first apiary in 1929 and continuously kept bees for about 35 years. He was a sideline beekeeper and a full-time orchardist. I understand that his father had kept bees at some time.

I believe that my dad initially got started with bees for pollination as much as to produce some honey, because the orchard was just coming into bearing in the late 1920's. It was a mixed orchard, about half of which was "soft fruit" - cherries, apricots, peaches, prunes, and the other half pears and apples. Many of the original orchards were planted that way as they were family operated, and the harvest was spread out from cherries in late June to apples in late October.

He became very involved in the fledgling BCHPA and I recall that when I was a boy, the first president, J.W. Winson, and its first secretary, W.H. Turnbull, visited our home on several occasions. He had heard about the association from Turnbull, who was also an Apiary Inspector at the time.



Harvey Boone in a bee yard near Osoyoos Lake.

Harvey and others formed the South Okanagan Division of the BCHPA; this was done to share a common interest and to increase their knowledge about beekeeping. He was the secretary/treasurer of their division for many years, and as a group they ordered packages and queens from California. It wasn't until the late 1960s that annual BCHPA meetings included the general membership - only the executive of branches attended and the meetings always seemed to occur in Kamloops as it was a central location.

In the 1940s Harvey passed a written exam for a Bee Masters certificate and that permitted him to be hired as a part-time Bee Inspector by Mr. Turnbull. When American Foul Brood was discovered the bees were killed with cyanide and the hives burned. This did not always go over well with the beekeeper. Bill Turnbull reckoned that he could detect AFB by its odour and if a hive passed a "smell test" after lifting the cover it could be passed as clean.

In 1958 he updated his knowledge by enrolling in the recently established Bee Master course at UBC. He held the position of Bee Inspector for about 25 years, working with John Corner, who replaced Mr. Turnbull in 1950 as Provincial Apiculturist. He and "Johnnie" became the best of friends and enjoyed many trips together (my mother always knew something with Johnnie was in the offing when my father had tidied up all of his chores and seemed to shed his daily concerns).

I tagged along with my dad as he did his inspection work and dug a good many holes to burn AFB infected colonies. Supers, hive bottoms and covers could be saved if they were scorched but when it seemed evident that the owner was not committed to do so, everything went up in smoke.

I often helped my dad move bees for pollination and as this was always done in haste because of other work to do, we often failed to avoid bees escaping, and thus suffered a number of stings. Once I recall that we failed to tuck our trousers into our socks with the inevitable happening. I asked my dad if he was stung and he answered by pointing to the end of his finger and gesturing to his groin!

Harvey was recognized for having introduced mead to the BCHPA in the 1950s. It was in the late 1940s



Harvey and John Boone at the PNE in 1965, after Harvey had been judging honey.

that he had been persuaded to try his hand at making mead according to a Polish recipe. It was a sweet mead that took nine months of fermentation and several years of aging in an oak barrel. It caused a bit of a stir when the product was shared with BCHPA members because consuming alcohol was considered slightly sinful (remember, most members were born during the reign of Queen Victoria). Nonetheless, a resolution was passed at the AGM of 1959 to look into the feasibility of producing it commercially and Harvey, along with Lew Truscott, were tasked with investigating the feasibility of such an enterprise. Their report was anything but encouraging, and it was nearly half a century before Bob Liptrot opened BC's first meadery in Sooke.

He owned a 1928 Chrysler for his building trade and when the orchard came into production he took a hack-saw to it, cut off the upper portion of the body and used it as an orchard vehicle. He built a wooden platform behind the front seats and used it also to transport bees for pollination, but he didn't bother licensing it for the short trips to other orchards and the packing house!

As a boy I helped him with extracting and when I became a teenager I had a few hives of my own. He didn't like

moving bees for pollination, and after I had gone off to university he told some of the orchardists they should get their own bees. When they protested that they wouldn't know how to care for them he reassured them that "John would look after them" - so it was with some surprise that I had about 50 colonies scattered around to care for when I got home for the summer break. We had a four frame reversible extractor, and with my dad uncapping, we cranked out 15,000 lbs one year!

Most of our honey was sold at the back door - my mother was in charge of that and she was a good salesperson. If my father was asked the source of the honey, he would curtly say it was "a mixture", but my mother's response was that it was "a happy blend". Honey fetched 20 - 25 cents per pound. Queens were bought for \$1.50 and one could set up a full hive for about \$25.00. Beekeeping equipment was always purchased from Hodgson Bee Supplies of New Westminster.

Harvey Boone suffered a stroke in 1968, had a partial recovery, and then died in his sleep in 1969, in his 77th year.

I was born in the old Penticton Hospital in 1935. There is an anecdote around my sister who was born in the same hospital 4 years earlier: when the time came, my father took my mother to the hospital and left her there as would be customary at the time, and returned home to work and await word of the birth. Now it must be explained that although my parents had a telephone, it was on a party line with service during daytime only, and all calls were put through an operator. When the call came about the birth of a baby girl my father was working and a message was left with the operator. But as she knew nothing about the Boones expecting she decided it was a mistake so the message was not passed on. One can imagine the concern this caused at both ends until it was resolved the following day!

In my teens I started keeping a few hives of my own and was keen about a two queen system that my father tolerated but wasn't impressed that it was any great advantage. As an active Boy Scout I earned the Beekeeper Badge when I was 13 - the only one in the Troop. I did have all of my Scouting



Elsie and Harvey Boone in 1968.

stuff until recently, but about a year ago I gave everything to the Oliver museum and Archives.

The material for the Archives included material about the first Canadian Jamboree that was held in Ottawa in 1949 which I attended - a big adventure for a not quite 14 year old. We traveled to Ottawa by train, pulled by a steam locomotive. The cars were resurrected from a supply of "colony cars" that had been used in settling the west; the seats collapsed into bunks and an overhead bunk was lowered at night. Many of the windows didn't shut properly, permitting soot from the engine to seep in constantly. It covered everything! I recall this was particularly evident at mealtime so that one had to clear one's plate quickly to avoid too much of a dusting! Particularly evident on a glass of milk. The main train from BC left Vancouver and travelled the main line eastward.

The car or cars (I don't remember if there were one or two) to accommodate the Okanagan boys loaded in Penticton and went by the Kettle Valley route, joining the main train in Lethbridge. I don't remember how long it took, but as you might imagine we were not a priority train and the trip seemed to take forever! We were pretty grimy when we got there, and more so when we got home (but that concerned only a few of the fastidious ones on the trip and our mothers when we got home). We occupied ourselves with various games and some crafts - I still have some lanyards that I wove on that trip. In Ottawa we stayed in ex-WW II army tents occupying Connaught Field nearby.

Regarding my career in medicine, I should start off by acknowledging that as a teenager I was quite happy with the prospect of working with my dad, and it was my mother who made sure that I took the necessary high school courses to enter university. I went to UBC and took an honours degree in zoology, and then entered medicine, graduating with an M.D. in 1962.

Throughout the 1960s I specialized in Internal Medicine, and then Cardiology in the McGill programme. At that time it was possible to take a year out of speciality training and I obtained the position of ship's surgeon on the Canadian Icebreaker the "Sir John A MacDonald" for a summer season in the Arctic. That was in 1964 and as I had read extensively on Arctic history, the captain encouraged me to visit (by helicopter while the ship continued its progress) various sites of historic interest, including Beechey Island



Canadian Coast Guard Icebreaker "Sir John A MacDonald" in Canadian Arctic 1964 - photo J.Boone

where the fated Franklin Expedition spent its first winter - also several sites of importance for those in search of Franklin and his men over several years in the late 1840s and early 1850s. Fortunately, there were only a few occasions that my medical services were required. I recall that there was a bit of a conflict when we stopped at remote places that had perhaps one or two ships visit each year. The captain was keen to have the few southerners at these isolated places come aboard for a visit and a meal, and I was expected to take part. But I was also keen to go ashore to explore so it took a bit of a balancing act to accomplish both!

After my term on the icebreaker, followed by working as a G.P. for the Irving Clinic in Kamloops, I returned to Montreal and resumed my speciality training. It was there that I met my wife, Ifôn at the former Royal Victoria Hospital - she was in training in Anesthesia. For me it really was love at first sight and our partnership of over 50 years has permitted an interesting and satisfying life. We have three children and four grandchildren.

Following my time at McGill I was fortunate enough to obtain a position as cardiologist at St. Paul's Hospital in Vancouver. This also involved a Clinical Instructor position in the UBC Faculty of Medicine and later I became a Clinical Professor. I taught physical examination to medical students - that now is a bit passé with the development of such sophisticated means of imaging to achieve a correct diagnosis.



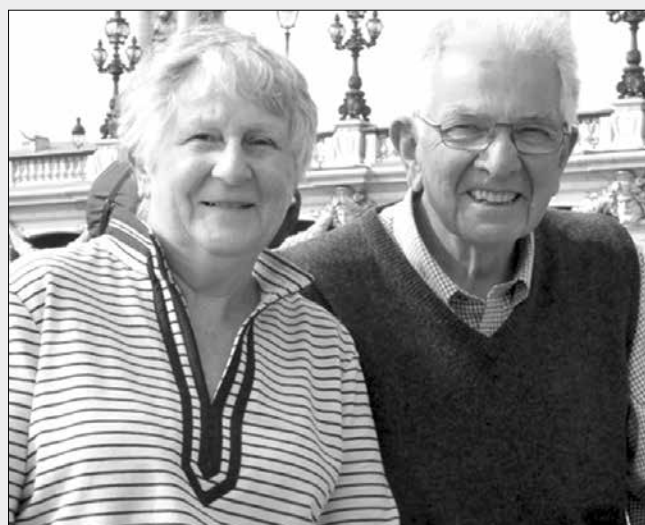
Elsie, Harvey, Ifôn and John Boone in 1968.

In the 1990s I was head of Cardiology at St. Paul's during which we became the "Heart Centre" within the UBC teaching hospitals (I do not wish to imply that I played a big role in that decision, only to mention that it was a busy time). With so many referrals from throughout BC, I joined others in establishing an outreach programme as a consulting service to communities in the northern part of the Province and visited various sites including Williams Lake, Fraser Lake, Hazelton, Prince Rupert, and Whitehorse in the Yukon. For 30 years I visited Haida Gwaii as a cardiologist 3 or 4 times a year. When I started this service there was no special funding but they gave me a room in the nurses' residence and fed me at the hospital in Queen Charlotte City. My last visit was in 2003.



John examining a frame of brood.

But back to bees: In 1955, during my first year at UBC, I took time out from my regular classes to attend the first Bee Masters course through the UBC Extension Department, organized by John Corner. My regular studies suffered a bit but I have no regrets about having done so. For a couple of years after that, I looked after the UBC bee yard that had been cared for by Sam Hart, a WW 1 veteran who had suffered what was termed "shell shock". Whoever established the UBC bee yard saw fit to use jumbo supers for the brood boxes - they were 1 1/2 times the size of a standard super and were very heavy! During the summer of 1959, after my first year in Medicine, John Corner hired me as Bee Inspector for the Fraser Valley and Coastal Region to temporarily replace Vic Thorgierson, a full time Inspector who was ill. So again, I burned some hives with AFB. I recall inspecting an apiary of about 20 hives in Delta and found AFB in about half of them. The "beekeeper" was a fisherman who was not expected



Ifon and John Boone

home for another month or so, and when I informed his wife of the situation she wasn't very sympathetic, and said, "burn them all". I burned the ones I found to be diseased and again, there was no one to take the responsibility of saving any of the equipment. I was responsible for something that I have not previously confessed - coming from the arid Okanagan, I was not familiar with peat. I dug through peat for the burning hole, and the result was that the fire department was required to extinguish the smouldering peat!

After settling back in Vancouver I began to keep 2 or 3 hives at our home in the city. It wasn't yet legal to do so but the authorities did nothing unless there was a complaint. After having the bees for awhile, I thought it would be a good idea to send our daughter with a jar of honey to the elderly widow next door. Although the bees were only a few yards from where she often sat in her garden, they were separated by a hedge, and she in fact was surprised that I had bees. Perhaps my decision to "let the cat out of the bag" was a mistake because from that time on she would call up whenever she saw a wasp in her garden to inform me that "my bees" were on her side of the hedge!

I think that the growing popularity of beekeeping - or at least the increased awareness of bees is a good thing. Regarding "saving the bees", we do a pretty good job of husbanding honey bees, but the real worry is regarding native bees with loss of habitat, replacing diverse vegetation with monoculture, use of insecticides, and other factors.

For the past 20 years I have had my bees on a blueberry farm in Richmond, and I still give some honey to our neighbours. It's great currency!! I've been told giving honey away undervalues it, but I don't believe that and in fact I've seen it lead to people buying more honey than they would have otherwise. ☘

Editor's note: during our interviews with John in putting together this article, he expressed some hesitation about including so many of his stories, not wanting to take too much space. We thought that all that is here was worthy of inclusion, and thank John for his time and effort to share his memories.

SUBSCRIBE NOW!

BEEKeeping Magazine – Your First Three Years



Hand Delivered by
Trusted Federal Agents

**RIGHT TO YOUR
MAILBOX!**

GET FOUR
ISSUES FOR
ONLY \$20

(That's 30% off the Newsstand Price!)

CALL NOW: 1.800.289.7668, ext. 3220

ORDER ONLINE AT:
www.BEEKeeping3.com

SEND A CHECK TO:
Beekeeping3
623 W. Liberty St.
Medina, OH 44256

Visit: Store.BeeCulture.com/Magazine

BC Honey Producers' Association

NUTRITIONAL FACT LABELS

*only
2¢
each*

*Rolls of
2000
only \$40.00*

Nutrition Facts Valeur nutritive

Per 1 tablespoon (20g)

Pour 1 cuillère à table (20g)

Amount Teneur	% Daily Value % valeur quotidienne
Calories / Calories 60	
Fat / Lipides 0 g	0 %
Carbohydrates / Glucides 17 g	6 %
Sugars / Sucres 16 g	
Protein / Protéines 0 g	

Not a significant source of saturated fat, trans fat, cholesterol, sodium, fibre, vitamin A, vitamin C, calcium or iron.

Source négligeable de lipides saturés, lipides trans, cholestérol, sodium, fibres, vitamine A, vitamine C, calcium et fer.

To order and for details contact:

Irene Tiampo

250-216-7601

treasurer@bcbeekeepers.com

Saskatraz breeding stock available in 2019

Queen cells from tested Saskatraz breeders (\$20).

Closed population mated breeder queens (\$300).

Out-crossed breeder queens (\$100).

Saskatraz stock carrying VSH trait added in 2012, also available as queen cells and mated queens in May 2019. Inquire.

US-raised Saskatraz hybrid production queens are available April 15th to August 15th (\$30 US). These hybrids will produce pure Canadian Saskatraz drones for stud use.

All breeding stock tested and certified.

See www.saskatraz.com for breeding information and updates. Saskatraz stock bred in Saskatchewan for honey production, wintering ability and resistance to mites and brood diseases.



Email a.j.robertson@sasktel.net

or phone (306)-373-9140

cell 306 270 6627 for prices and availability.

D&G
DOMINION & GRIMM INC.

NOW IN STOCK!

PLASTIC HONEYCOMB JARS
500g = 524035 1kg = 524042
BLACK CAPS = 524103 YELLOW CAPS = 524097

**PRESSURE SENSITIVE CAPS IN STOCK!
ASK US ABOUT HEAT INDUCTION CAPS**

↓ NOW IN STOCK! ↓

NEW DEEP SKIRT JAR SIZES

70-XD10-18 LIDS.
ALSO AVAILABLE IN 250G & 750G



NEW JARS WITH 70-450 FINISH

THESE JARS CAN USE EITHER
PLASTIC LIDS WITH PRESSURE
SENSITIVE LINERS
OR
MASON LIDS



Stay **UP-TO-DATE** with our new products by downloading
our **HONEY CATALOGUE** at www.dominiongrimm.ca
New products **ALWAYS** being added!!

jenny@dominiongrimm.ca

1 877 676 1914



BC Bee

BEEKEEPING SUPPLIES

**Quality Beekeeping Products
at Affordable Prices!**

- Local Nucs
- Imported Packages
- Hive Equipment
- Woodenware
- Jars and Pails
- Extractors

... and much more!

www.BCBeeSupply.ca
online orders and
delivery throughout BC

4759 Hastings Street, North Burnaby, rear door
236-888-1484 (Metro Vancouver number)
Sales@BCBeeSupply.ca

Learning How to Make Mead with the Pros

by Jeff Lee

BC beekeepers made up a strong contingent at this year's basic mead-making course at the University of California at Davis. Four members of the BCHPA - Kathleen Suddes and Lorraine Rollerson of Gibsons, and Jeff and Amanda Lee of Creston left behind BC's wintry rain and snowstorms for the three-day event that took place at the end of January.

The beginning course included a hands-on "Mead-Making Bootcamp" in the state-of-the-art Robert Mondavi Institute teaching winery, and a weekend of lectures about the basics and intricacies of making mead. It is the only academic program in North America for making honey-based wines. Students were also encouraged to bring any meads they had already made, which were shared at a social event on the Friday night. Also attending was a Kirkland, Washington resident, Noelle Thiessen, who just graduated from Kwantlen Polytechnic University's commercial beekeeping course, taught by John Gibeau.

The mead course at UC Davis, which is put on annually by the university's Honey and Pollination Center, is one of the very few in the world delving into the resurgent interest of the world's oldest alcoholic drink. In addition to the basic course, there are also intermediate and advanced courses aimed at those who want to start a commercial meadery. These more advanced courses have assisted other BC beekeepers, including Mike and Judy Campbell of Campbell's Gold Honey Farm & Meadery in Abbotsford, to establish a foothold in the province's nascent mead business.

Although there are less than a dozen commercial meaderies in BC, hundreds are popping up around the United States. Canada's more stringent liquor laws may account for the lower rate of growth here; in BC, for example, a commercial meadery must own or control at least 50 hives



Jeff Lee and Lorraine Rollerson participating in the mead-making bootcamp at UC Davis.



The state-of-the-art Robert Mondavi Institute teaching winery at UC Davis was used to teach a hands-on basic mead-making course. Veteran enology instructor Chik Brenneman, left, chats with BC beekeeper Amanda Goodman Lee, centre, and Noelle Thiessen.

and produce a starting minimum of 4,500 liters, or roughly 600 cases of product.

That can be a tough hurdle to overcome without significant planning, commitment and marketing.

For this year's course, however, the focus simply on learning how to make a basic - and successful - mead, and the underpinning of that success, it seems, has far more to do with sanitation and cleanliness than which honey makes a better product. Chik Brenneman, one of the course instructors, pointed out that a single contaminated spoon can introduce bacteria that will destroy a promising mead. Students spent more time cleaning and sanitizing than they did actually mixing honey and yeast.

This year's students came from as far away as Tahiti, Winnipeg, British Columbia and Texas; in past years students have also come from Europe and Mexico. The course was put together by Amina Harris, the executive director of the Honey and Pollination Center, to fill what she saw as a gap in education around honey-based drinks. With fermentation techniques in wine-making and mead-making sharing some common ground, it was not hard to convince the university's viticulture and enology department to offer some basic courses in mead making, she said.

Harris recruited several successful commercial mead-makers to explain not just the basics of their craft, but also teach how to identify and appreciate various types of mead. With his infectious laugh, Frank Golbeck of Golden Coast Mead told the history of how mankind everywhere in the world except North America figured out how to make alcohol from honey. "Honey bees aren't native to North America, but we're catching up in the alcohol department", he said.

Lilly Weichberger of Oran Mor Meadery in Oregon

unravelling the mystery of which yeasts and nutrient supplements are best for honey wines (a hint: many are not). With his engineering background, Dan Slort of Strad Mead got into the basics of mead types, from a “straight” mead, to fruit-based melomels to spiced meads called metheglins. Fun fact from Golbeck: the word “medicine” may be a corruption of “metheglin”, which was the foundation that many healers used for potions and tonics.

Harris also put on a special class in sensory education, designed to help students identify the various smells and tastes of honey. She has produced a proprietary wheel to identify aromas attached to various varietals of honey.



Students had a chance to share and sample meads that were made by the students at a Friday night social. Lorraine Rollerson, left, and Amanda Goodman Lee, right, examine some of the samples.

Although US laws do not require mead-makers to also own hives, this year more than half of the nearly 40 students were beekeepers, which Harris said is a record. Some of the students were interested only in learning how to make meads for private consumption, but many also expressed interest in starting a commercial meadery. One of those certainly on that track is Suddes, who has made a number of successful meads in her small honey house just outside of Gibsons, BC. Suddes is also President of the Sunshine Coast Beekeepers' Association and is a regular attendee of BCHPA events. Suddes said the course reinforced some of the practices she already has in place, and she's interested in taking her hobby to a commercial level.

Suddes and Rollerson traveled by car to California and back, making dozens of stops along the way at some of the flourishing meaderies in California, Oregon and Washington.

For Amanda and I, who operate a commercial honey business in the Kootenays, our goal was more to learn about how to make a good mead. Our first effort two years ago, a decent raspberry melomel, came more as a result of blind luck than a solid foundation in how to make a good fermented honey wine. We haven't decided on whether we want to start a commercial meadery, but Amanda said she expects to take the intermediate and advanced courses in future years. ☼

BJ SHERRIFF
EST. 1968

Makers of fine beekeeping apparel for 50 years
Unique ClearView™ Veil Design

+44 (0)1872 863304 | www.bjsherriff.com | orders@bjsherriff.com

**Maximize Spring Build-up
and Colony Health**

Feed ready-made patties from

 **GLOBAL PATTIES**

Bees need both protein and carbohydrate
for good build-up and large honey crops.
Feed patties to ensure colony health,
fast build-up and maximum production.

Learn more at www.globalpatties.com
and call 1-866-948-6084 toll free
or email mike@globalpatties.com

Pollen in our formula is irradiated by Iotron for prevention of bee disease

CLIPS FROM THE PAST

In this article from the June 2006 BeesCene, a decade of research is summarized that claims to shed light on the process employed by a swarm in choosing a nesting cavity. To quote: "This work has revealed a set of behavioural mechanisms in a swarm that consistently yields excellent collective decisions." It states that "the group intelligence is a product of disagreement and contest, not consensus and compromise." Scout bees were identified on the surface of the swarm who used the communication language discovered by famous Karl von Frisch. The authors conclude that the essence of the decision making is a quorum reached by the population as a whole rather than a consensus among the scouts.

The authors also suggest that our highly evolved social structure might take something from group decision making among honey bees. It is noted that bees have been around for about 30 million years so their behavioural mechanisms have served them well. Humans have been around for just a fraction of that time and can we look forward to millions more years? Or even a thousand? One might wonder if the honey bees' group decision making might have some relevance in issues such as Brexit, or a wall surrounding a country, any number of conflicts that are with us daily. ☼

~ John Boone

Group Decision Making in Honey Bee Swarms

Reprinted with permission from *American Scientist* 2006 May-June Volume 94
© 2006 Sigma Xi, The Scientific Research Society.

When 10,000 bees go house hunting, how do they cooperatively choose their new nesting site?

Thomas D. Seeley, P. Kirk Visscher and Kevin M. Passino : Thomas D. Seeley is a professor of neurobiology and behavior at Cornell University. He received his Ph.D. in biology from Harvard University in 1978. His research focuses on the functional organization of honey bee colonies. P. Kirk Visscher earned his Ph.D. in entomology from Cornell in 1985 and is currently an associate professor of entomology at the University of California, Riverside. He specializes in the study of honey bee social behavior and communication. Kevin M. Passino is a professor of electrical and computer engineering at The Ohio State University. He received his Ph.D. in electrical engineering (systems and applied mathematics) from the University of Notre Dame in 1989. His research focuses on systems biology and design of bio-inspired technologies.



A honey bee swarm of some 10,000 workers and one queen delegates the job of finding and choosing a new nesting site to just a few hundred scout bees. The other bees remain quiescent during the process, conserving energy. How the scout bees select candidate sites, deliberate among choices and reach a verdict is a process complicated enough to rival the dealings of any corporate committee. Once the scout bees have selected a new home, they stimulate the swarm to launch into flight and then steer it to its new domicile.

The problem of social choice has challenged social philosophers and political scientists for centuries. The fundamental decision-making dilemma for groups is how to turn individual preferences for different outcomes into a single choice for the group as a whole. This

problem has been studied mainly with respect to human groups, which have developed a variety of voting procedures to single out one option from a list of possible choices: majority rule, plurality wins, various weighted-voting systems and others. Social choice in animal groups is less well studied, although examples are abundant: A baboon troop must decide where to go following a rest period; an ant colony decides whether or not to attack a neighboring colony.

A striking example of decision making by an animal group is the choice of a nesting site by a swarm of up to 10,000 honey bees. This process involves several hundred bees from the swarm working together to find a dozen or more candidate nesting cavities in trees and then selecting the best one of these options for their new home. We've been investigating this process for the past decade using a variety of observational, experimental and mathematical-modeling studies. This work has revealed a set of behavioral mechanisms in a swarm that consistently yields excellent collective decisions. It has become clear that this group intelligence is a product of disagreement and contest, not consensus or compromise, among different groups of bees representing different alternatives in the decision-making task. We have found that evolution has supplied an intriguing answer to the question of how to make a group function as an effective decision-making unit.

Pioneering Work

For centuries beekeepers have known that in late spring or early summer a strong colony of honey bees will divide itself by swarming, a process in which the queen and approximately half the worker bees leave their hive to

The full article can
be found online at:
<https://www.jstor.org/stable/i27858757>



Alaska Beekeeping Symposium

by Etienne Tardif

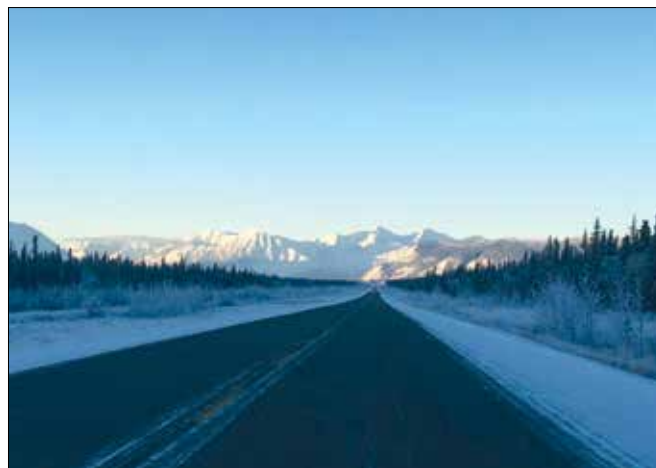
On Tuesday Jan 8th, on a -39°C morning, we drove 1,300km (one way) to Palmer, Alaska, from our home near Whitehorse, along the northern section of the ALCAN through some really beautiful wintery landscapes, to attend an annual treatment free beekeeping symposium held at Matsu University of Alaska. This was my third time attending the conference and my second time as a presenter. I technically don't qualify as treatment free, but I try to limit my treatment to oxalic acid vaporization and essential oils. Most of our beekeeping methods are very similar, and there are not too many bee geeks in the Yukon for me to have deep dives with; this conference is a great place to network. Fortunately, the organizer understands the challenge of going treatment free when you first start and not having the basics in place. Especially if you are regularly bringing in new bees (nucs/packages) into your apiary.

The conference was attended by 40-50 people from beginners to some serious hobbyists, and a few commercial operators. It was organized by a local long-time treatment free beekeeper Keith Malone who has mentored and helped many new beekeepers.

The bee talks were focused on a mix of topics relating to sustainable northern beekeeping practices, the USDA Pollinator Habitat program, the US national bee health survey results and overwintering techniques. These were presented by a mix of local and invited speakers from as far away as New England (Troy Hall – Hall Apiaries), and myself from the Yukon.

Before I get going on the symposium, here is some background on the beekeeping industry in Alaska. The climate in Alaska can be divided into 2 main zones. The Coastal Alaska area has similar temperatures to Northern British Columbia – Prince George, BC but with significantly more precipitation, and Interior Alaska (e.g. Fairbanks), where summers are warm, even hot at times, and winters are very cold. Interior Alaska weather is similar to our Yukon weather.

Every year 1000s of bee packages are shipped from the lower 48 to supply the demand in Alaska. Common practice there by many beekeepers is to pinch their queens in early August (mid-July to mid-August is the main nectar flow) and kill off their bees in late August. They harvest most of the honey and clean up and store their equipment until the following spring. Therefore, little time or effort is spent on disease/pest mitigation practices. There was and still is a belief across Alaska that it is impossible to



Approaching Mountains on the Alaska Highway

overwinter bees successfully in their climate. However, a small percentage of beekeepers there are now attempting to overwinter their bees, mainly due to higher bee package prices and the poorer quality of packages they have been receiving from the south.

This required a fundamental change in how hives are managed - a shift from a focus on maximizing honey yields, to finding a balance between managing hives from spring to fall, with the purpose of improving winter survival and limiting the harvest to surplus honey only. They have also shifted their focus from Italian stock (great for honey but poor overwintering in cold climates) to bees bred for overwintering. There is also

a small group of beekeepers working on breeding queens from successfully overwintered colonies, but this has been a slow and difficult process. Alaskan beekeepers are limited to bee packages due to a prohibition on bringing any used beekeeping equipment into the state (i.e. nucs).

The Presentations

Foolproof Spring Feeding and Hive Management Basics

- Nathan Bromley

The symposium started off with a local 10 year beekeeper who reviewed equipment basics (wood vs poly hive bodies), spring feeding basics and hive management basics. He switched completely to polystyrene hives about 7 years ago. He currently gets 70% of his hives through winter and runs about 30-40 hives. Prior to switching to polystyrene hives he was getting a 40% overwintering success rate. He recommends that you find a system



Nathan's Winter Setup – Single poly hive, double brood chamber, wooden inner cover, notched upper entrance with a polystyrene hive cover.

that works and then sticking to it, versus continuously looking for the next new thing.

A key thing he learned over the years in his climate is to ensure that the spring feeder is directly above and in contact with the wintered cluster or new clustered hived package. He calls this contact feeding. New bee packages are particularly at risk due to the location of the caged queen with its clustered bees and the location of the feeder. Many newbies with new equipment have lost their newly installed packages due to the use of entrance feeders or larger laddered top feeders where during a long cold spell (a few days in early spring), the clustered bees will not be able to reach the feed, causing them to starve or fail to keep the new queen protected from the cold. It is not uncommon there to have evening temperatures below -10°C to -20°C in April.

Improving Pollinator Habitat

- *Craig Smith*

The next speaker was an agronomist from the USDA NRCS (United States Department of Agriculture Natural Resources Conservation Service). He discussed the Environmental Quality Incentives Program (EQIP) that assists landowners with improving their land, in this case increasing pollinator friendly habitat. Part of the program focuses on 7 areas (Conservation Cover, Cover Crops, Field Border, Herbaceous Weed Control, Critical Area Planting, Hedgerow Planting and Prescribed Grazing). The process is initiated by the landowner requesting assistance from the Alaska Agricultural Department in developing a "Grow Plan". This grow plan includes a list of plants, soil preparation steps and other needs required to implement the plan in the target location. The NRCS field offices also provide technical support.

In Canada, we have some programs that one could use to do similar. For example, the CAP (Canadian Agricultural Partnership) which offers a variety of funding opportunities for people or businesses involved in agriculture. The main difference here is you would need to come up with your own growing plan and convince the government why it benefits the economy and the food industry.

I haven't seen any programs designed around pollinator habitat improvements in our area, only on eradicating or stopping all invasive plants from entering the territory. Due to our poor soils and cooler dry climate, most native plants in the ditches are easily destroyed by gravel road dust abatement work (calcium chloride) and roadside brushing work. Most bee forage here is in our road ditches, abandoned lands (disturbed soils) and in our residential areas. Therefore, a program that focuses on effectively managing these spaces (increasing pollinator habitat) would benefit both the bees and native pollinators. I intend to share some of the material that was presented with both our YT Ag branch and the local invasive species council. I lose large sections of my forage every 5 years when my local roads get brushed (both native and non-native plants are destroyed, and most willows are cut down).

The Blind Man's Graft – Hobbyist Queen Rearing

- *Michael Mott*

The next presentation was for the serious hobbyist looking to rear their own queens in smaller numbers (5-10) without needing to graft. Mott is an engineer in Anchorage, and has been keeping bees for 8 years. Over the years he has struggled

to overwinter his bees and has experienced severe losses compounded by varroa. To improve his bees' survival rate, he makes his own nucleus colonies and populates them with overwintered queens brought in from northern suppliers like Kirk Webster, Michael Palmer, and Troy Hall. For the past four years, he has also been using his own survival stock to raise queens and make nucleus hives for sale and personal use.

He has been working to simplify and streamline queen rearing techniques to make them more practical for the hobbyist beekeeper so that anyone can easily produce their own hardy survivor stock. Here is a brief explanation of how he goes about it. He has taken ideas from the Fat Bee Man, Michael Palmer and Jay Smith.

First he identifies his best performing overwintered hives (no disease, good temperament, large spring bee population). Next he waits for the climate to warm up (up here we can start this process in June). He also wants to make sure the hive has good stores (fresh nectar and pollen). He will pick a hive that has lots of young bees, capped brood, and with plenty of eggs or a queen cells. He also puts several foundationless frames in the brood nest to get fresh eggs laid in newly constructed comb. The next step is to organize a queenless nuc in the place where he will manage it. He uses a 5 or 6 frame polystyrene nuc - this ensures that the nuc can keep warm at night.

He will place 1 frame of pollen and 2 frames of nectar with bees, and one frame of capped brood into the nucs. He will usually make his own pollen frames by pouring pollen that he has collected into an empty drawn frame and working the pollen into the cells with his fingers. He will then shake more

Capped Brood
Honey/Nectar
Queen Frame
Pollen
Honey/Nectar

Frame type layout of Michael Mott's queenless nuc.



Example of queen frame with strips of cells tacked on.

bees into the box to make it look overcrowded. It is critical to make sure the nuc is queenless, or else she will kill off the queen cells or swarm with most of the bees.

Next is the Blind Man's Graft, where he takes one of the foundationless frames of eggs from a donor hive, brushes off the bees and cuts out a one-inch strip of wax comb (with eggs). He then thumbtacks the strip onto a queen frame with the cell openings pointing downwards.

Next, he places this frame in between the nectar and pollen frames in his queenless nuc. He will close it up and come back in ten days to see how many queen cells have been developed. He now has to prepare the number of nucs required to accept the new queen cells, making sure there are bees, pollen and nectar in each nuc. He makes as many nucs as his resources allow (no eggs or larvae should be placed in the nucs but capped brood is ok). He then cuts one or two queen cells out of his cell building frame and places them in the prepared nucs. After about one month, he inspects the nucs for eggs and larvae, checking again in one week if none are found. If the queen wasn't successful, he combines the nuc with another hive using the newspaper method.

Queen Rearing and Honey Production in New England – Troy Hall

Troy Hall's primary focus in his apiary is in breeding queen bees, along with honey production and overwintered nucleus colonies. He manages 200 colonies for honey production and 250 nucs. He has grown his apiary from the ground up based on a paradigm that does not require the use of chemical inputs of any kind. In the beginning, with a tight budget, he was hard pressed to source good queens that winter well and have a high tolerance to varroa. Learning how to raise his own queens and growing the apiary all from within its own means has been his primary teacher. He shared with us his experience in raising good queens and his seasonal management to produce a honey crop, and making up next season's replacement bees and nucleus colonies to sell.

Troy still has mite issues but they are now more manageable since he no longer brings in outside bees. He will also be initiating a monitoring program (alcohol wash) to determine mite levels across his apiaries. He assesses his hives in early spring for possible breeding stock (queens, brood making and drones) and honey production hives. He runs his business with no extra help, so he has had to develop a full calendar-based schedule to map out his activities: spring prep, running several queen rearing cycles, nuc building, hive inspections, honey harvesting and winter preparations. Troy was very clear in explaining that beekeeping is very local and that every concept or beekeeping practice needs to be adapted to your area. It was clear from his message that his beekeeping became easier/manageable (mites, disease and overwintering) once he started breeding his own queens and overwintering replacement nucleus hives. Even though his climate is very

different from ours, his passion for bees and his hunger to continuously learn and improve his methods was very inspiring.

Yukon Beekeeping Basics – Etienne Tardif

After losing 3 strong hives to Nosema last winter, my discussion was presented from a "what if" perspective: if I could go back in time, what would I have done differently. These were my first winter losses in 4 years. I used my failure/events flowchart (critical thinking) as a way of highlighting the importance of sticking to the basics and having a system (see figure on next page). It also shows how failures are the best way to learn and improve one's beekeeping approaches. 2018 was my first great honey year relative to my area (production hive – 75 lbs from a medium super). I live in a very particular climate (cool dry summers) and I am surrounded by boreal forest with very few non-native plant species.

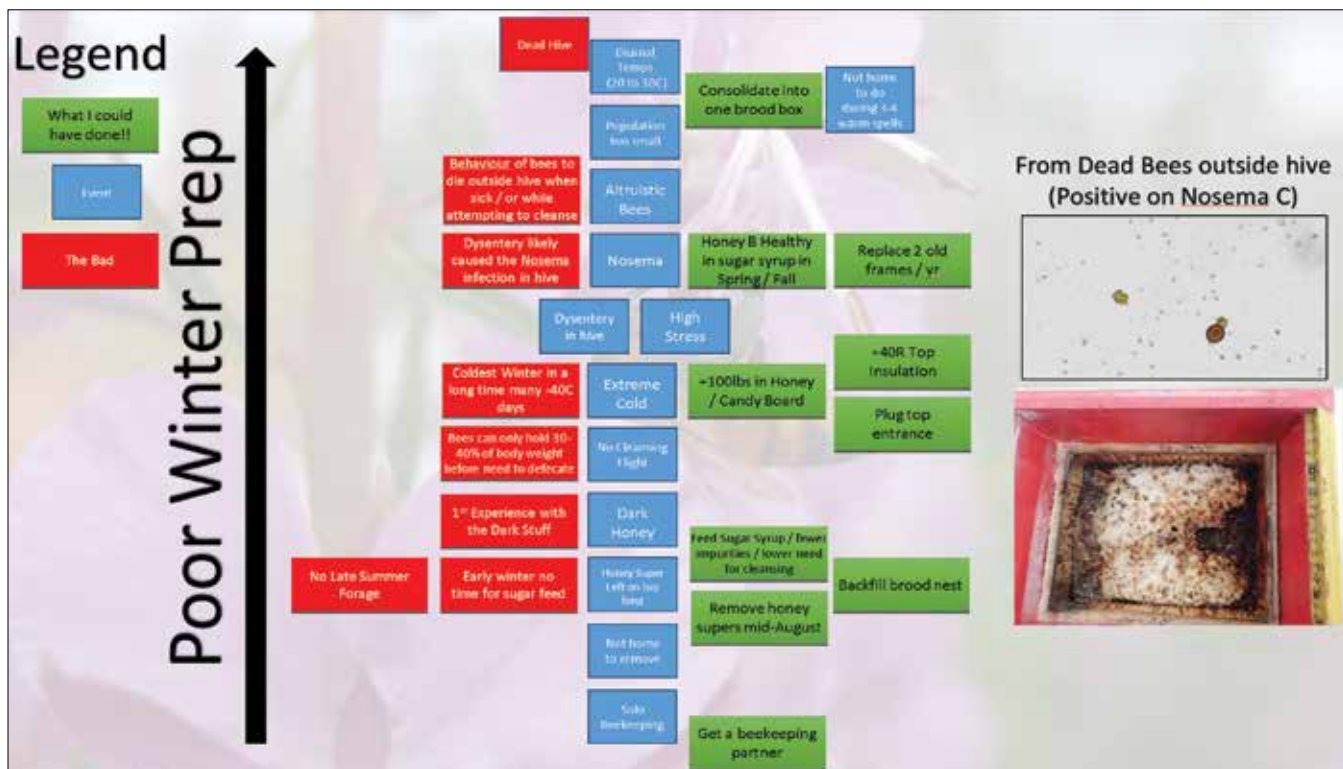
One thing that caused some trouble was that we took a month-long road trip from early August to early September 2017, and I didn't pull my honey supers until the second week of September. I did attempt to feed some 2:1 syrup, but the weather turned and I decided to pull the feeders and add a sugar cake to each hive. All hives were heavy (>100lbs) from a good August flow, so I wasn't too worried about a lack in winter stores. Unbeknownst to me was that my honey had a very high percentage of honeydew; it was very dark and viscous. This honey has yet crystallize almost 2 years later.

As luck would have it, we also had the coldest winter in many years (-48°C coldest temp) with a few weeks of <-25°C and 9 days with temps below -40°C. After the first few -40 events I would get thousands of dead bees on the snow. A week later the hive was dead; the cluster was just not able to stay warm enough and froze. I suspected a Nosema problem, so I invested in my own microscope and I am now able to diagnose it. I use the Randy Oliver method of crushing 10 bees with 10ml of water on a slide to get a negative/positive.



Jan 7th, 2019 dead bees at entrance (-30C), Feb 3rd 2018 (-40°C); 25 dead bees test shows Nosema spores present. Other 3 hives were negative for Nosema.





This flow chart shows the actual sequence of events (in blue) that led to my hive's demise after I had a chance of performing a post mortem (hive inspection and doing some basic microscopy of dead bees and feces on the frames) and reviewing the hive data in the spring. The red boxes describe "the Bad" or negative consequences of the events and the green boxes highlight potential actions that could have been taken to mitigate/reduce or eliminate those negative impacts. This type of basic root cause analysis is important for every beekeeper to develop to try and understand what we could have done better. They are not always 100% accurate but they will help you develop good critical thinking skills (asking why and what if).

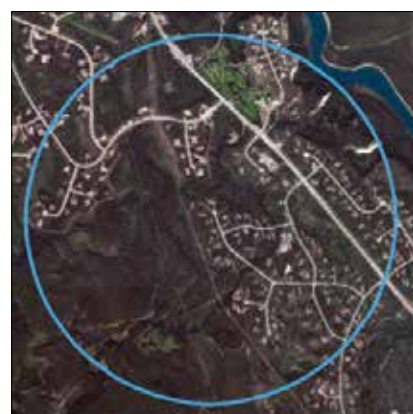
If I get a positive I now crush 10 bees one at a time to get an infection rate. This fall I started trialing Nozevit+ and come spring I will be doing some reading on Vitamin C and Catalese (stay tuned).

The message in my presentation was to show how understanding your local environment (climate, forage availability and timing, bee yard location), the importance of practicing some hive management basics, effectively managing bee diseases/pests and doing some northern overwintering basics (preparation start time, feeding requirement, hive setups) could all help prevent a similar "Nosema" experience.

Over the last 5 years of keeping bees in the Yukon, I have collected bloom dates for my local forage, weather and internal hive temperature and continuous hive weight data. You can find some of this information here: <https://www.northof60beekeeping.com/education/spring-2019-beescene>. I have been able to use this information to better understand some beekeeping success factors. We have 2 nectar flows (minor flow - native forage - mid June; major flow - mix of native and non-native forage). I covered 3 keys areas that every serious beekeeper should understand

about their local areas: the impact of climate (temperature, moisture, wind); the importance of soil disturbance (natural or human), and its relation to the availability of forage (native and non-native).

In the north, the most successful beekeepers have their hives in urban areas, near abandoned agricultural land, roadsides, disturbed meadows or in old forest fire burn areas. Native forested areas with little disturbances (few non-natives) are



Satellite imagery to estimate forage (soil disturbance levels) in a 2 km radius: Both of these areas had hives with weight scales. Both areas had nectar flows during the same period but those in the second picture had much higher yields.

very difficult areas to keep bees successfully. Using one of the BC Bulletins on bee foraging behaviour I developed a visual representation of the area climate foraging potential or possible challenges.

One challenge in the north is that most of our advice comes from southern areas where the climate (summer and winter) may differ but also the available forage is completely different. One aspect of my beekeeping is actively working on propagating the native plants in my area (willows, crocus, beardtongue, fireweed and others), early season hardy berry shrubs (Saskatoons, and haskaps) and planting late summer frost tolerant non-native forage (clovers, phacelia and mustards) on my property to give the bees some pollen and nectar sources after most of the native plants have stopped growing. My goal is to reduce my feeding requirements and diversify bee forage to provide better nutrition.

I used simple online satellite mapping tools to show they can be used to evaluate bee yard location for forage potential.

I had a 2 hour time slot so I was able to cover both my typical 5 minute and full hive inspections methods that I use to ensure the bee hives are healthy and issues are identified early, swarming is mitigated and doing queen health assessments using brood growth rate and bee numbers from mid April to early June.

My next topic of discussion was on common diseases encountered in the north and the challenge of identifying what is going on due to the small number of experienced beekeepers to get advice from. I discussed the importance of keeping bee stress under control from poor nutrition, too much moisture in winter, mites, too many inspections and poor queen performance, by following the basics covered earlier in my presentation.

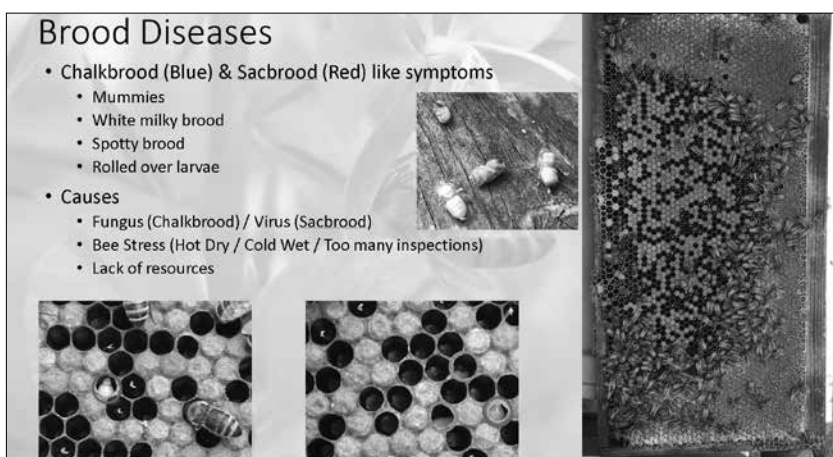
Next I used my first encounter with a brood disease to cover a few more key points. It had symptoms of both chalkbrood and sacbrood. It was EFB-like. I did the match test to rule out AFB, I posted some pictures on FB of the symptoms (white liquid larvae, larvae with tail sticking up, mummies on the landing board and spotty brood). Weather-wise it quickly became apparent that the hive was very low on pollen (we were in the middle of a dry heat wave ~30°C), and the mummies had symptoms of DWV. My first action was to feed 1:1 syrup and pollen supplements which the bees quickly devoured. After about a week the symptoms went away and the queen resumed laying normally; my thinking was that it was likely PMS (Parasitic Mite Syndrome). The mite count after an OAV treatment was low so in my interpretation this was likely caused by residual “viruses” in the bee population triggered by environmental stressors – dry heat wave, no pollen. I also committed to replacing all frames from original purchased nucs after one year, and replacing 1-2 frames per box per year to control brood diseases and Nosema spores.

I briefly discussed the importance of regularly monitoring mite levels (alcohol wash or sugar shake) and to isolate/treat any hive showing very high levels of mite infestations to protect the other hives.

I am currently monitoring 2 of my 4 hives' internal temperatures. So far we have had a warm winter (only one -40°C

event). I used dead bees from the front of the hives to monitor for Nosema. I have 1/4 hives showing signs of Nosema in the dead bees...better outside then inside. I recently sent a sample to the National Bee Diagnostic Centre to determine if it is Nosema apis or ceranae. After last year's Nosema infection I had to completely sterilize my hive equipment using vinegar on my poly hive bodies, torched my wooden frames and a peroxide solution on my wax frames. I then sun baked each frame and box in the sun over a two-week period.

One reason I spend so much time collecting data, reading studies, openly sharing my successes and failures and providing a beginner beekeeping course in the Yukon is to educate new and current beekeepers. My goal is to improve wintering success and bring awareness on the dangers of not effectively managing pests and diseases in our hives. A mismanaged hive is a risk to all beekeepers in the area. Both Alaska and the Yukon have the opportunity of controlling/managing our pests/diseases loads if we continue to focus on our bees' health and



Slide from my presentation showing the various symptoms. The likely cause was pollen deficiency, high heat, and mite DWV. Likely PMS (Parasitic Mite Syndrome) and not a brood disease.

nutrition, improving our overwintering successes and internally increasing our hive numbers through effective splitting and small-scale queen/nuc production, which should reduce our dependence on bees from outside the territory. We've had incidences of wax moth, severe mite infestations (hives not treated/managed) and brood diseases in nucs coming from other areas. We have no territorial inspector or regulation on beekeeping, so we must do it ourselves and be very vigilant.

Overall it was a very enjoyable trip to Alaska, it is always great to talk bees with other northern beekeepers who keep bees under similar conditions. This year's plan is to test one more possible yard location with 2 more hives. I have just purchased 2 more Broodminder monitoring kits to compare my 3 yard locations at the same time. My new yard has me very excited about its potential based on my observations over the last few years. It has a very high water table, great soil, multiple fields with nice margins with a good variety of forage, tons of fireweed, many acres of mature poplar and willows, and a 2 km long south facing grassy slope packed with native early summer wildflowers. I will attempt to raise my own queens to create some of my own nucs (overwintering in double 5 frame poly nucs), and run 2 single brood hives to try a get myself some June Yukon wildflower bush honey! ☘

Club Contacts

BCHPA BRANCHES

BC Bee Breeders Branch

4880 Wells Road, Grand Forks, BC V0H 1H5
Elizabeth Huxter president@bcbeebreeders.ca 250-442-5204

Central Cariboo Branch

Box 825, 150 Mile House BC, V0K 2G0
John Hoyrup hilltop4@telus.net

Kamloops Branch

1062 Fleetwood Court, Kamloops, BC, V2B 8J4
Ed Zurawell ezclocks@gmail.com

Langley Branch

34701 Mila St., Abbotsford, BC, V2S 4Z7
Elaine Garry langleybeeclub@gmail.com 604-852-2272

North Okanagan Branch

3910 25th Avenue, Vernon, BC, V1T 1P4
Keith Rae K_S_Rae@hotmail.com 250-540-0227

Prince George Branch

77633 Toombs Drive, Prince George, BC V2K 4Z5
Sandy Ramsay sramsay@netbistro.com 250-562-1653

West Kootenay Branch

431 Rosedale Road, Castlegar, BC, V1N 4L3
Axel Krause a.krause@telus.net 250-608-7397

BCHPA AFFILIATED SOCIETIES

Capital Region Beekeepers Association

Box 43033, Victoria, BC V8X 3G2
Bill Fosdick
president@capitalregionbeekeepers.ca 250-216-7761

Comox Valley Beekeepers Association

5411 Wildwood Road, Courtenay, BC V9J 1P5
Jennifer Dilfer jenn.dilfer@hotmail.com 250-703-2669

Richmond Beekeepers Association

c/o Richmond Nature Park, 11851 Westminster Hwy,
Richmond BC V6X 1B4
Fiona Gold president@richmondbeekeepers.ca

OTHER BEE- RELATED ORGANIZATIONS

BC Peace Beekeepers

P.O. Box 2090, Dawson Creek, BC V1G 4K8
Kerry Clark kccsclark@gmail.com 250-782-6646

Burnaby Beekeepers Association

990 Cliff Avenue, Burnaby, BC V5A 2J5
Janice Bobic burnabybeekeepers@telus.net 604-298-6164

Cowichan Beekeepers Society

PO Box 413, Duncan, BC V9L 1P0
John Magdanz cowichanbeekeepers@gmail.com

East Kootenay Beekeepers

4300 Wilks Road, Cranbrook, BC V1C 6S9
Lance Cuthill lcuthill@gmail.com 250-426-6049

Nanaimo Division Beekeepers Club

925 St. David Street, Nanaimo, BC V9S 2H8
Peter Lange
nanaimobeekeepers@gmail.com 250-753-0554

North Fraser (Maple Ridge) Beekeepers Association

24565 Dewdney Trunk Road, Maple Ridge, BC V4R 1W9
Renata Triveri rtriveri@telus.net 604-466-3254

Oceanside Hive: A Beekeepers Collective

Don Fowler
pinebug@gmail.com 250-710-9517
Oceanside Hive on Facebook

Quesnel Beekeepers Association

Patti Lalonde
pdlalonde@shaw.ca 250-747-2557

Salt Spring Island Honey Beekeepers

Kelly Johnson owlchemist@telus.net
Salt Spring Island Honey Bee Keepers on Facebook

Shuswap Beekeepers Club

1040 8th Ave. NE, Salmon Arm, BC V1E 4A4
Bill Lynch wjlynch@telus.net 250-832-2732

Smithers Beekeepers Association

Tom Smith
smithersbeekeepers@gmail.com

South Okanagan Beekeepers Association

Margret Purcell
margiep221@gmail.com 250-488-2410

Sea to Sky Beekeepers

Michalina Hunter michalinahunter@gmail.com
www.seatoskybeekeepers.ca

Strathcona Beekeepers

Vancouver
Bruce Little strathconabee@gmail.com

Sunshine Coast Beekeepers Association

2137 Lower Road, Roberts Creek, BC V0N 2W4
Sally Burke sally.burke8@gmail.com 604-886-4863

Skeena Beekeepers Club

Patsy Drummond
patsy.drummond@gmail.com 250-975-0286

Chilliwack Beekeeping Community

Laura Cameron - Delisle
chilliwackbeekeepers@gmail.com 604-703-0341

Stuart Nechako Bee Club

Box 595, Vanderhoof, BC V0J 3A0
Jon Aebischer sweet02@telus.net 250-567-5037

Surrey Beekeepers Association

2071 174th Street, Surrey, BC, V3S 9Z8
Thomas Schmitz
bees@surreybeeclub.ca 604-785-3403

Please contact the Editor with any changes.

Mother, Beekeeper, Life Member of the BCHPA

Ilya was born January 21, 1922 in Colorado Springs, to Osia Evelyn and Conrad Gephardt. She graduated from high school in 1940 in Denver, Colorado. There with her first husband John Wright, she had three daughters: Connie, Shirley and Donna. Also in Colorado, Ilya and her second husband Karl (Bub) Jung had a son: Lyle, and 2 more daughters: Judy and Karla. The whole family came north to Arras, near Dawson Creek in 1957, and purchased three quarter sections of land (for \$4500). They had another daughter Deanna, a son Lyle, and fostered a son Johnny, as they farmed up to 40 beef cows, 250 ewes, 5 milk cows, and for a time, up to 80 pigs. With just a wood stove in the one-room house without power or running water, Ilya made homemade butter and cottage cheese and grew several large gardens every year to help feed the family.

After 10 years in Arras, Ilya's husband returned permanently to Denver, leaving Ilya to care for the family. Ilya worked as the Airport Meteorologist in Dawson Creek in the late 1960's, and ran the cafe at the airport terminal. She worked a couple of years trimming and wrapping meat, and doing paperwork in the afternoons for Lawrence Meats in Dawson Creek. She cut hair in the coffee room on her noon hour break. She also offered boarding for up to six children at a time when the Upper Cutbank School was closed and students were redirected to her community school. Ilya got her first hive of bees in 1958, and took a short course in beekeeping. Back then she sold a four pound tin of honey for a dollar. During her beekeeping career, she kept up to 25 hives of bees and enjoyed some nice crops of honey, up to 400 pounds per colony.

In 1972 Ilya answered an ad and was pleased to actually be paid to work with her greatest love, bees (a honey of a job, she called it). From 1974 to 1987 she worked for the BC government doing apiary inspections, disease control, giving courses in beekeeping, and "other related duties as required". In the History of Beekeeping in BC: 1950 – 2000, she is referred to as being the first full-time woman apiary inspector in North America. Eventually she became known to beekeepers across northern BC, where she was good-naturedly given the nickname "Ilya the Torch" related to the need for her to burn bee equipment infected with American Foulbrood disease.

Once she had to explain an expense account item, when she claimed two hotel room charges for the same date. She had to do a mid-summer inspection near Terrace, so she drove from Arras, but was so tired by Smithers that she stopped, got a room and fell asleep still in her traveling clothes. She awoke to a bright and sunny



Ilya Jung (1922 - 2018). After retirement, Ilya continued to visit the Agriculture office in Dawson Creek, especially for the Harvest Breakfast potluck. Here she strikes a pose with a photo in the office scrap book, of herself doing some bee teaching 20 years earlier. - Photo Kerry Clark

10 o'clock, figured she'd slept in, jumped into the truck and continued into Terrace. When she found the lunch cafe closed, she realized that it was midnight, not noon, so she got another room.



Ilya (left) and helper ready to begin inspecting brood chambers for sale.

Ilya was Secretary Treasurer for the Peace River South Beekeeping Association for 25 years, when the region supported about 20,000 honey producing hives. She was involved with 4-H clubs and participated in local Fall Fairs for 10 years judging honey, garden produce, jams, jellies, and horses. Ilya regularly attended Beaverlodge Field Days, was honoured with a Lifetime Membership in the BC Honey Producers' Association, and traveled to BCHPA meetings throughout BC. She joined beekeeping tours to New Zealand in 1972 and to China in 1980.

I got to know her quite well when we were part of the group touring New Zealand. I had just graduated from UBC and took the opportunity to join the tour. It was a great three-week visit to dozens of bee operations



Ilya pulling a small homemade sled for doing her farm chores in the winter.

with Ilya and about 20 beekeeping enthusiasts with so many years of field experience. Then and in many years after, I was impressed by Ilya's consistently positive attitude. Not apparently a result of an easy life history, but she seemed to do well with it, and maybe it contributed to her 96 years.

After retirement, she continued to visit staff at the Dawson Creek Agriculture office, including each year's potluck "Harvest Breakfast". The photo on the previous page, taken in 2008, shows her holding an album with an earlier photo of her doing beekeeping extension, from 1974. She kept her hand in beekeeping for most of her life, whether on her own or helping and mentoring others.

When dementia started encroaching on her life, her family moved her into town but she never settled. She lived for almost 3 years in Lac La Hache and Williams Lake with daughter Judy, but in 2018 when she was diagnosed with cancer, her family moved her back home to Dawson Creek. The Peace River area is what she always called home and that's where she wanted to be. She died on December 1, 2018, at age 96, after a series of strokes. Many of her family, some of numerous great-grandchildren, 3 great-great grandchildren and many, many good friends attended her Celebration of Life on December 15, 2018 at the log community church in Progress. A remarkable life, indeed. ☘

Submitted by Kerry Clark, her friend, with fond memories of Ilya's constant positive good nature.

SIMILKAMEEN APIARIES

2098 Ritchie Drive, Cawston, BC V0X 1C2

Blair & Cheryl Tarves

**BC BRED QUEENS • NUCS
BREEDING STOCK**

April 15 - Sept. 15

Phone 250-499-2555

GOOD THINGS COME IN SMALL PACKAGES

**Glass Jars
in a variety
of Sizes and Shapes**



**Richards
packaging Inc.**

(604) 270-0111

140 – 9200 Van Horne Way, Richmond B.C. V6X 1W3

www.richardspackaging.com

A BEE'S BEST DEFENSE AGAINST THE VARROA MITE

Apistan® anti-varroa mite strips are an essential part of any varroa mite control program.

- The convenience of no-mess strips.
- Easy-to-follow application.
- Fluvalinate, the active ingredient in Apistan® is released at a constant, controlled rate, targeting varroa as they emerge from brood cells.
- Tough on mites. Gentle on bees.
- Won't leave a residue in honey.
- Economical, Health Canada approved varroa miticide.



For additional information, contact your favourite bee supplies company or call 1-800-688-7378.

Always read and follow label directions.

Apistan and Apistan with design are registered trademarks of Wellmark International.

©2002, 2009, 2012 Wellmark International.

10242012

The Year of the Wasp

by Kathleen Suddes

For those of us beekeepers on the lower Sunshine Coast, the summer of 2018 will be remembered as the “year of the wasp”. When it was all over, anecdotal reports from local beekeepers indicated high losses, in some cases staggeringly high. And true to form, all great disasters are a series of accumulated small accidents, and this past year’s extreme wasp predation was no exception.

Here on the lower Sunshine Coast we compete with the Gulf Islands and parts of southern Vancouver Island for the mildest climate in British Columbia. We have very mild winters and very early springs. Pollen is available as early as January (bees are already on the Sweetbox hedges, and Hellebores, catkins and pussy willows are imminent). At the other end of summer, fall (now more commonly than ever) lingers well into November and frost and snow on the lower levels can be measured in days rather than weeks or months. Lately with climate change, as in many other parts of British Columbia, we find ourselves in drought/dearth conditions beginning at the end of July and sometimes not ending until mid-September.

Why the weather report? Because this can set the stage in a worst-case scenario for potentially stressed, nutritionally compromised, mite-bombed, population declined bees by mid-August. If you keep bees in an environment like this, you cannot be complacent on the nectar and pollen availability in your area, staying ahead of the mite loads in your colonies and feeding when necessary. Keep your girls strong!

Meanwhile, that OTHER social insect, the Yellow Jacket, has been building their nest population over the summer as well. I won’t go into wasp biology here, there is a ton of information out there on wasps and I encourage everyone to get familiar with wasps and wasp behaviour. Know your enemy. I know wasps are important members of the ecological system and they consume garden pest bugs, but when those Viking berserkers are on the medieval village that are my hives - my goodwill tends to disappear.

Knowing that every single yellow jacket wasp you see in early spring is a queen and a potential future nest, I would respectfully suggest that for every queen you can dispatch early represents 2,000 to 10,000 wasps that won’t be visiting your hives in later in the summer. Population estimates seem to vary from the relatively small to the infamous photos of wasp nests the size of a small car. But do know that they are foraging within approximately 300 meters of the nest site and ground nests can be very hard to locate, or unfortunately can be located the hard way. Again, there is a



Very annoyed wasps locked out from an upper entrance.



Beautiful to look at but yikes!

ton of information out there; pheromone traps for spring, and other methods as summer progresses, such as soapy water traps or even spraying them directly with soapy water (they suffocate). Also know that the first of your hives to be targeted will be the weak ones (see the weather report at the beginning).

So, assuming you’ve done everything you can to keep your bees fit and healthy, what else can you do to protect your colonies during the height of wasp savaging? Some of the tricks I use are certainly better managed by sideliners (last summer I was managing 92 hives), or hobbyist beekeepers. If you’re running 500 or 5,000 colonies some of what I do would be a bit more challenging.

Things that I have learned and how to keep those little savages out of my hives:

- Before wasp season hits, I start early and identify the weaker colonies, and if

nectar and pollen are in short supply due to a dearth, I feed sugar syrup and pollen patties. I want my queens to continue brood production to keep the population strong to go into winter. In August, I typically move many of my hives up into our logging cuts for fireweed where there is nectar and pollen. Bees don't go in (some robbers do) because they have been conditioned away from the upper entrance.

- I treat for mites at the end of July (and treat again, later in the fall, and again as necessary).

- I reduce entrances early and screen off cracks and holes.

- I place empty screened insulation/quilt boxes inverted over the top of the inner cover and below the telescoping lid as safe wasp-proof vent boxes. This provides "attic" space for heat to escape, allows the bees to be on the top of the inner cover to fan or beard, and wasps can't get in. I also find using these when I move my bees seems to allow them to settle quite quickly once the truck ride is over, maybe because a lot of the alarm pheromone is outside the hive?

- I use screened wasp traps on at least 1 out of every 5 hives in every

apiary, ensuring the hives on the "ends" have them. Some apiary locations are particularly bad for wasp attacks and in those yards, each hive has a wasp trap. The wasp traps replace the screened insulation/quilt boxes. The bees can't beard on top of the inner cover, but the perfume of the hive escapes up and through the wasp trap and pools under the lid; I catch wasps by the pound.

My new addition to the arsenal is what we call "snorkels". I have round hole entrances under the grip of the front handle on most supers. I would normally just screen these off but this summer as I was closing everything up, I was frustrated by the sheer number of wasps that could still shoulder their way past the guard bees even at a reduced entrance; and once they got past those bees, they were in the hive and could savage with relative impunity.

The snorkel consists of a pad of wood that covers the handle space entirely; 2 screws fasten the pad in place. In the centre of the pad, there is a hole, into which I insert a 1/2" PVC threaded one side adapter (plumbing supplies). Then I have a 3" long, 1/2" wide section of PVC pipe that inserts into the adapter.



Purple trim are the screened quilt boxes above the inner cover but below the telescoping lids. 2" deep with 4 x 1" holes on the long sides screened, one side of the "box" is screened. These can be filled with wood chips in winter for quilts; flipped over empty in summer for safe air space/cooling. Super handy!

ACORN™

BEEKEEPING EQUIPMENT

"THE NEW STANDARD OF EXCELLENCE AND QUALITY"

Acorn One Piece Plastic Frames

- Flatter, Stiffer, Sturdier
- Redesigned Mega Strong Ears Last Forever
- 9-1/8" 6-1/4" Sizes

Plastic Snap-in Foundations

- Plastic Snap-in Foundations fit well in 9-1/8" and 6-1/4" Wood Frames
- Optional Breakaway Communication Hole

Drone Combs

- Integrated Pest Management (IPM)
- Varroa mite control
- Queen Breeding
- 9-1/8" 6-1/4" Sizes

Features

- Well Defined Precision Molded Cell Base
- High Quality Beeswax Used
- Rigorously Field Tested
- Excellent Bee Acceptance
- **Superbly Waxed - Standard, Extra Heavy Available!**

Bees in Action on Acorn Foundation
Photo: Rollin Hannan

Nick Lissaman
20 years experience
info@acornbee.com
www.acornbee.com
 13818 Oaks Ave. Chino, Ca 91710

Call Acorn Bee Today!
877-255-6078

The hole is lined up to the round entrance hole under the hive grip. I can remove the pipe and plug the adapter if I need to (scotch bottle corks work beautifully) which is useful when moving bees.

The thinking behind this is that the wasps now have to run a 'gauntlet' (which is the pipe), and which can be defended by the bees. Then the wasps hit the pocket (which is the hive handle groove), which can be defended by bees, and thus the wasps do not have direct entry to the hive. The bees figure out the snorkels very quickly, but the wasps seem to be repelled, and I have found dead wasps in the pocket, but usually they don't get past the snorkel entrance. I want to give a nod to a fellow Sunshine Coast beekeeper who keeps his bees in a bee house - Bruce reported that he had very little trouble with wasps. However, Bruce's bees must get in and out via a long length of tube - Eureka!

When I am using these pipe entrances, I close up any other direct access for the wasps. To close the bottom entrances but preserve ventilation, I have been using mouse guards flipped over, or various screens.

Despite my efforts, I still lost some hives - of my 92 in August, I am down to 73 in January. The ones that I lost were all small hives, and one medium hive. We "beta" tested 30 of the snorkels during wasp attacks and based on what we saw, snorkels have been in full production over the winter. In 2019 all the hives will have them.

The silver lining to wasp predation is that if you can stop the action in time, the bees can recover - it's not like a pathogen. Once you get the Vikings out of the village, the queens can get back to brood production. Timing and remaining population is everything however, and you will need to support these recovering hives with syrup and pollen. Good luck! ☘



Dead wasps in a wasp trap from a "not bad" yard. These traps have cones on the sides and back for the wasps to enter, and screens top and bottom; they die from dehydration. You can see how active they are by looking through the screen. Screws hold the "lid" in place. Make sure all the wasps are dead before opening otherwise you're going to get zapped.



Adapter entrance only.



Hive in foreground has snorkel with only the adapter, hive in back has a pipe in the bottom super and adapter only in the top super.



November 3rd - after most of the wasps have gone. Happy bees and the winter candy board ready to get placed on top of the frames.

An Old Beekeeper Goes Back to School, Part 2: What Are the Options?

by Ron Miksha

I like the old adage about beekeeping killing your brain cells. We always talk about how great beekeeping is for our health, our mood, our social life. And for some beekeeper, somewhere, it probably is all that and more. But beekeeping made me dumber. When I was 18, I had bees all figured out. I knew when to super, when to requeen, when to wrap for winter. I could even predict how much honey (and money!) I would make the next year. But the bees kept making mistakes. They weren't as smart as me. I was confused. Years later, I heard the old adage, "By the second year, new beekeepers know everything about beekeeping. And they're happy to tell you. But with each passing year, they realize that they know less and less – eventually, keeping bees long enough, persistent beekeepers admit that they don't really know anything at all."

Well, I reached the know-nothing stage long ago. I considered giving up bees altogether, just for a year. Then I could start up again, as a new beekeeper, knowing everything. But that sounds like cheating – and skipping a year of beekeeping wouldn't be much fun.

Of course, most beekeepers do learn a lot as the years go by. But bees poke holes in our ego, sometimes popping our self-confidence like a birthday balloon. That old adage is telling us that beekeeping is a lesson in humility. I certainly know more than when I was a confident kid-beekeeper. But a few years ago, I realized that I knew beekeeping better than I knew bees. And without really knowing bees, do I know beekeeping? I decided to make an effort to understand more about bee biology and ecology.

Surfing the net, attending local meetings, and chatting with beekeepers is probably enough to stay current with the new things we need to know to help bees survive – or to hasten their death, depending on which YouTube videos you watch. You certainly know these resources and you've been separating the wax from the slumgum for years.

There are a lot of great sites on the internet – look up Rusty Burlew or Randy Oliver for two of the good ones.

For a good practical beekeeping education, you can sign up for a bee course. These programs convey a huge amount of good information. If you are a new beekeeper and commit to a two-day weekend course, your head will break sometime on the afternoon of the last day. If you are an old beekeeper, you could sign up and see if you missed things over the years – or at least you can find yourself a cozy spot near the back where you can heckle and debate with the presenters, disrupting the other students' experience with your obnoxious behaviour. For some old-time beekeepers, this seems to be worth the entry fee for the weekend.

There are online courses, but some are not so good. Udemy, a course brokerage of sorts, has collected over 50,000 courses (from vedic astrology through marine zoology) that have been created by ordinary Joes and Janes. You can sign up at Udemy.com, and for \$14.99, you can access one of the cheaper programs. I did not pay the fee, as some courses have a free preview. From a marketing perspective, this is something of a mistake – customers can see how bad the course is before buying. The one that I previewed had a reasonably good script and structure, but the photos and video clips were wrong. You shouldn't show a close-up of pollen while describing royal jelly. Maybe I should have checked Udemy's holistic "Organic, Natural, Traditional" beekeeping course, but it was \$54.99, so why bother?

There are some good online bee courses. A beginner might try the Ontario Beekeepers' Association course, Apiology 101. I've never heard of apiology before, but there are a lot of things that I've never heard of. Look into it before sending your \$85 to be sure that Apiology is not a course about apes. Not long ago, I watched parts of BC provincial apiculturist Paul van Westendorp's Webinar. He covered a

lot of material and was entertaining and informative. But I couldn't sit still. He's talking, and I'm fumbling through email and restacking books in my library. Good information, but I lacked focus without an attendance sheet and final exam – maybe there was one, but I missed it?

So, this leads me to the real reason I ended up at university. I wanted to learn more about bees (and not just beekeeping) but I wasn't getting there by attending Webinars, taking online courses, casually reading a few papers from journals and watching the Crazy Russian Hacker's video on why his bees died (he claimed moisture, but I think it was mites). I lacked focus and direction. I'd dabble on this and dabble on that – I wasn't really learning about bees. In the fall of 2017, I registered for some undergrad classes at the University of Calgary and my life flipped upside-down. That's where we start next time – the 63-year-old kid shows up at Biology 425. What could possibly go wrong? ☘



Ron Miksha is an MSc student researching bee ecology at the University of Calgary. He has been a commercial beekeeper but now keeps two hives behind his house in Calgary. He can be contacted through his blog, badbeekeepingblog.com.

BC Bee Breeders

Darwyn Moffatt-Mallett & Michalina Hunter Green Bee Honey

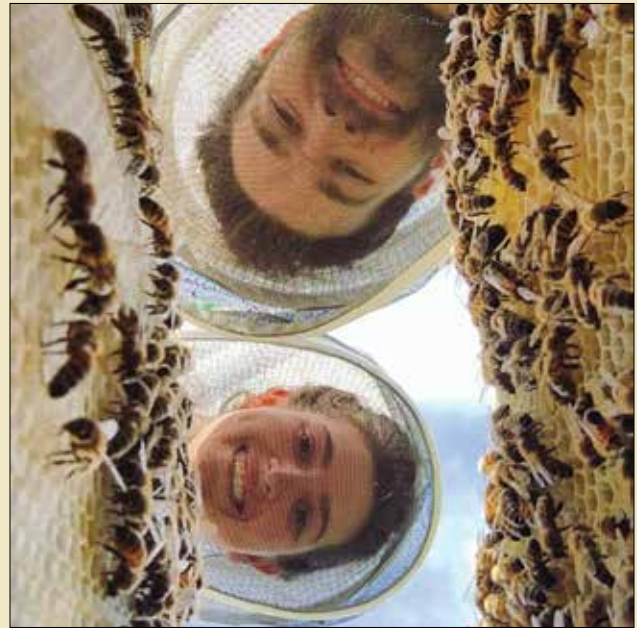
We run a small beekeeping operation in Squamish with about 50 hives, and our path to beekeeping together is a bit of a love story. Michalina (Michi) started a bee club, which included an on-campus apiary, at the university we attended, and Darwyn quickly became her most devoted volunteer beekeeper (in order to attract her attention). It worked, and we have been keeping bees together for 5 seasons.

Michi was quite allergic to bee stings when she was younger, but was still curious about bees, and she is also still allergic to honey; luckily her reactions to stings have subsided and she seems to improve each year. One summer she worked at the Sunshine Coast Botanical Garden, where the Sunshine Coast Beekeeping Association has an apiary. She was invited to a hive inspection one day, and one of the hives had swarmed. Upon opening a hive, one of the beekeepers “just knew” that it had swarmed, and he located the bees on a nearby tree. Michi was struck by the beekeeper’s intuition and the gentleness of the bees. She later worked for a summer at the SFU Native Bee Lab with Elizabeth Elle. She assisted with pollination experiments in blueberry fields in the Lower Mainland, which entailed isolating and artificially pollinating blueberry flowers, surveying pollinator activity on the wing, and netting pollinators and identifying them in the lab.

Darwyn was studying marine conservation and science communication until the end of his degree when Michi derailed all of that by inviting him to come try beekeeping. He responded to a swarm call on his own in Squamish that first year, collecting it in a cardboard box, and quickly built a top bar hive to house them in since he didn’t have any equipment. He began reading everything about beekeeping he could find, and raised his first queens by cutting strips of foundationless cells with new larvae and used melted wax to ‘glue’ them to a new bar where the workers created a few new queens. He was able to get one of those first queens mated in a split he made from the swarm, and both colonies wintered well. An obsession with beekeeping was cemented!

Michalina took an intro to beekeeping course in her first year of beekeeping offered by Brian Campbell and loved it, and both are graduates of the Bee Master course offered in partnership with the provincial government and UBC.

Getting a larger apiary started a few years later, we bought 20 nucs from James Macdonald in Armstrong, and those colonies served as our production colonies and drone mothers. Since we started beekeeping we have collaborated



Darwyn and Michalina

to improve our local stock with other local beekeepers and friends Nic and Elyse (Good Time Bee Farm). We always aim to do a round of isolated matings when our bees are in the fireweed together, and between us we now have genetics from local swarms, James MacDonald, University of Guelph, 6 Legs Good Apiaries, Kirk Webster, Liz Huxter, and VP Queens. In 2018 we began collaborating with the UBC proteomics project, which has allowed us to share genetics with the other participating breeders.

We select our top hives in the categories of winter performance, low mite counts before and after winter, honey production, hygienic behaviour, and strong spring build-up. We have a very low tolerance for aggressive colonies.

The Squamish Valley is wonderful in the summer months, but a terrible place to winter bees. The surrounding mountains ensure there is very little solar gain for months in our main apiary, where the bulk of our bees spend the winter. We get a lot of rain and wind, and later wet snow and fog for most of the season. This is the biggest selection hurdle nearly all of our colonies have to pass (we do have a couple backyard hives at our rental property in town, where the boxes actually see a bit of sun in the winter).

Our goal has never been to focus on one or two breeds of bees - we have brought in genetics we think will help our stock perform well in our area. Our queens are open-mated in areas with reasonable to excellent isolation in the Squamish Valley, on Bowen Island, or in our fireweed yards in the subalpine. We chose to bring in some Buckfast queens from the U of G breeding program to graft from when we read about Buckfast hybrids wintering best in Canada, we’ve grafted from VSH and treatment-free queens to incorporate more hygienic behaviour into our apiary, and we’ve done our best to incorporate gentleness and productivity with others. Raising queens is the most fascinating and rewarding part of beekeeping for both of

us, and while honey production helps support the overhead of the apiary, we have always focused on improving our stock.

We have been experimenting with different mating boxes and have used Mann Lake minis, homemade 2, 3, 4 and 5 frame boxes or divided boxes and snelgrove boards above production colonies. Last season we had the best return in our 3-way deeps, which also withstood the wasps better into the late summer.

We prefer to use a queenright starter-finisher, and for the past 3 years we have used a two-queen system called the 'John Harding'. Our trial of this queen rearing arrangement was featured in a past BeesCene issue, and a couple years of our documented experiences with it are also available on our website (greenbeehoney.ca). We like that with regular inspections, this system is always ready to accept a frame of grafts, so we don't need to impact our production colonies or move graft frames from starters to finishers.

As part of the UBC proteomics project, we used liquid nitrogen freeze-kill assays to determine hygienic behaviour. Some of our colonies performed very well on this test, so samples were sent to the proteomics lab to look for certain proteins that are associated with hygienic behaviour. From there some colonies scored well enough to be considered for drone mothers/breeding stock for the program. The hygienic testing was surprising - some that we expected to do well did only alright, and others we supposed would just do alright scored perfect or nearly perfect. We have learned a lot from the beekeepers and volunteers involved with this project and we are looking forward to participating again this year.



Results of a hygienic test.

We sell some overwintered queens, some from our mating colonies and occasionally we have sold virgin queens. We sold our first nucs last season with overwintered queens; ours are 4 frame nucs comprised of a good food frame and 3 frames brood/emerging bees. We have only ever sold locally and in small numbers, and our stock is generally available in late spring. We aim to sell 10-20 nucs per season and produce several hundred queens; some to sell, some that we use, some for use in queen banks (something we are trying this winter for the first time), and some are raised in collaboration with the UBC proteomics project.



One of Darwyn and Michi's queens.

There are a number of Canadian beekeepers jumping into the queen banking trials several years after Margriet Dogterom's (formerly Wyborn) initial testing. Her research from the 90's seems to be the best available resource on the technique and many are basing their trials on her thesis project (which is available online, search: Mass Storage of Honey Bee Queens During the Winter). We are riffing on it a little, but the basics of the technique involve running a two queen colony (or combining two strong colonies in the fall), removing the queens and then introducing a 'bank' frame containing a series of mated queens in individual cages to overwinter. The colonies should be very well fed, contain as many young winter bees as possible, and may benefit from additional insulation. The winter bees should cluster around the caged queens and care for them as they would in a normal queen bank, and in the early spring the queens can be placed into splits to recover numbers or make increase. Margriet's research followed the productive lives of queens she overwintered successfully using this technique, and the queens showed little to no difference in productivity the following season. We're hoping that banking queens over the winter may enable us to make early splits with mated queens from our own apiary, or populate mating nucs in preparation for our breeding season.



Block of caged queens ready to go into a winter bank.

Jon Aebischer Sweet Nechako Honey

I grew up on a farm between Fort Fraser and Vanderhoof. My father was a beekeeper and the bees were a part of my life growing up; he had up to 40 hives and his business was known as Willowvale Apiary. He was a computer programmer and jack of all trades who left the U.S., hoping to live off the land in Canada. I was his assistant with the bees, having my own first hive at ten yrs old, in 1976.

He worked hard to establish a ranch from bushland, and felt that the region was not reliable for bees; often haying and cattle caused conflict with best bee management times. I remember visiting a bee yard in some remote area in Washington state to see his and a friend's bees, and tasting the fruity honey there. His cousins, commercial beekeepers in Logan, Utah, kept him supplied with packages and cases of frames. We always wintered the hives, and dad had journals from the Vanderhoof bee club in the '70's, and from the apiculture extension services with "how to" info. Tar paper over pink insulation is what we did.

Dad got cranky when stung, so all I can say is that I got familiar with bees and opening hives, with not a lot of detailed training, and in the early days I only had a winter jacket and veil to protect myself. Often dad's dream was just that, "his". I realize now he was often tired and against a lot of odds to achieve his hopes, things I know very well in my '50's, having worked for sawmills for over 27 years. Farming itself can be a work of faith.

In 1993 I was recruited by foreman Bob Cary in Hawaii to work for the Kona Queen Company while attending the University of the Nations studying counselling and Christian ministries. I had never worked bees without gloves, and the boss was worried I was too afraid, but the first week was all it took. The first thousand nuc bee yard I experienced impressed all my being, overlooking the ocean, buzzing pleasantly and rimmed with papaya. Beethoven's prelude to "Ode to Joy" bubbled around inside me - easy to recall today!

While not grafting, I got an overview of the steps for running a queen rearing business for a season with a great



Jon's main mating yard.



Jon with a frame of queen cells.

bunch of guys. I remember a new pair of boots lasted only 5 weeks on the lava rocks some of the mating yards were built on. That year I courted Susan, my classmate, who didn't mind if I took her to a fancy restaurant while smelling of bee smokers. I liked her adventurous attitude (and Gus Rouse told me I had to marry her if she came to the end of season banquet at Kona Queen!) Working at Kona Queen was serendipitous to open my own passion and view of beekeeping. We began our first years of marriage in the Philippines, and then my dad passed away, so with our baby Kassia, we returned to the Nechako.

In the spring of 1996 Sol Nowitz sent me 6 packages from the Island, and from then on I began trying different strategies for splits and queen rearing. I have room for 300 queens in mating nucs, usually selling those from July on, and selling overwintered nucs. I had a very successful winter queen bank that gave me early splits in 2016, but am not ready to give up my Olivarez Carniolan or Saskatraz queen spring infusions. The last few years saw low survival in the queen banks, in part perhaps because the initial success came so easy. Was it a fluke gentle winter the first year? Are the fluctuations to -30°C too much? Did we cut too many corners setting up?

Making winter queen banks can start in July with setting up two queen colonies. For us, the best producing single hives, made queenless, and combined with an eye for stores and capped brood before winter are key. We wintered two banks in the Cache Creek area and two here, and the only failure in the first year was one southern bank. We incorporate a mid-winter zero degree check to move stores around; having extra capped honey to give the bank

is planned, for (warmed up) food donations seem necessary. That first year we got about 70% surviving eager queens, with highest acceptance, unlike ordering queens which can be in adverse contexts. This year we took a break and split hives in fall for increases instead. I needed more help to set up banks.

Basically we must create the most stunning and condensed unit, with a young population and well insulated (if in the north) queenless unit, with space to accommodate mated queens centrally. This may not make sense to some, but if we have no customers and have a bonus round of queens at season's end, it is a good option. A remembrance of my original project hope: banking ourselves off spring imported queens, or, self sufficiency for the future. I hope to have some banks set up for the Bee Breeders at the AGM in Prince George.



Caged queens ready to go into a winter bank.

A fascination with hybridizing led to following Rod and Jo Moody, and as Bob Cary advised me, to cross Italian and Carniolan races for our area. Kona Queen carries Italian and Carni, importing semen from top outfits on the mainland. I have had few issues with Kona or Olivarez stock per se. I have really enjoyed the Saskatraz project, using their stock both for breeders and drone moms, and the detailed genetics on their website. In 2008, Ontario Buckfast queens were crossed with Liz Huxter's VSH queens that were all amazing for the next season. We look for gentle, productive and good wintering bees, which are preferably easy to manage for varroa, etc. We use drone flooding to focus the gene pool as it is open population mating.

Along with John Gates teaching a queen rearing course, books by Harry Laidlaw and Roger Morse as well as videos and BCPHA speakers have all influenced me, and the BCPHA uncles Joe Lomond and Bob Meredith have both encouraged me with sage bee wisdom and friendship throughout the years.

I am currently a Canfor millwright, and always relied on others to help achieve goals by hiring helpers for the bees. Learning how to juggle all this forced me to rely on grace,



The students from Jon's beginning beekeeping course; David Kelly is 4th from the left.

seek coaching, and keep aware of what refreshes me about these pursuits.

Now a young fellow named David Kelly who completed the Certified Introductory bee course with me has agreed to his first full season helping us. Retiring to focus on bees and refocus on volunteering as Susan and I did in early married days is hopefully not far in the future. Currently my schedule allows me to focus at least 2 or 3 days a week on bee stuff. All the family helps in harvesting and marketing when needed, but only Samira (our middle child) loves creatures intensely enough to carry on with beekeeping one day.

We currently have 330 hives, produce up to 800 queens per season, and sell nucs which are usually 4 frames - 1 frame food and bees, 2 1/2 frames brood and bees. We try to have them ready for mid-May to the first week of June. ❀



One of Jon's queens.

LYSON

EXCLUSIVE DISTRIBUTOR

APIMAX
INDUSTRIAL BEESKEEPING EQUIPMENT

ApiHex

ApiHex.ca 1(855) 666 32 33

Alberta
415 60th Avenue SE
Unit 4
Calgary AB T2H 2J5

Ontario
230 Hanton Creek Blvd.
Unit 105
Guelph ON N1C 0A1

Quebec
500 Rue Leger
Riviere-Desaudette QC
J0P 1R0

@Apitex @ApitexSupplies @ApitexBee

 **bpgrower.com**
BEAVER PLASTICS

Langstroth Honeybee Brood Box





- Excellent insulation properties.
- No expansion or shrinkage due to moisture, unlike conventional wooden boxes.
- Light weight.
- No assembly; no nails to spring loose.
- Unique construction discourages mold growth.
- Readily accepted by honeybees.
- Years of service with proper care.

Contact us today

Toll Free: 1-888-453-5961 Email: growerinfo@beaverplastics.com




Something Old & SOMETHING NEW





SEMI-ANNUAL BUSINESS MEETING & SPRING EDUCATIONAL DAY

March 22-23, 2019
Coast Kamloops Hotel & Conference Centre

Featured Speakers:

- Paul Kelly - University of Guelph
- Les Eccles - Ontario Tech Transfer Program
- Diane Dunaway - Bee Happy Honey

Register at bchoneyproducers.ca

British Columbia Bee Breeders Association

ARMSTRONG APIARIES

James Macdonald
Armstrong
250-308-8219
jamesmacdonald@telus.net
Q N

ASHCROFT HONEY

Joe & Marguerite Lomond
Savona
250-373-2540 250-457-7193
marglomond@gmail.com
Q N, bee supplies

BBBEES

Barry Beadman
Oliver
250-498-3153
barryanddiane@telus.net
Q N

BEAR CREEK HONEY

Mart & Rita van Herk
Chilliwack
604-845-1807
vanherk@telus.net
N

BEAUTY QUEEN BEES

Sarah D'Andrea
Chilliwack
587-281-3555
sarahmdandrea@gmail.com
Q N

BLACK HORSE APIARY

Wendi Gilson
Saltspring Island
wendigilson@yahoo.ca
250-882-2852
Q N

BRAD COOK

Victoria
250-818-8763
b.cook@pureagriculture.ca
Q N P

BRENDA'S BEES

Brenda Jager
Gabriola Island
250-755-5834
bzbees@telus.net
Q N P

CAMPBELL'S GOLD

Mike and Judy Campbell
Abbotsford
jwcampbell@campbellsgold.com
604-856-2125
Q N

EMILY HUXTER

Armstrong
emilyhuxter@gmail.com
250-309-5408
Q N

FLYING DUTCHMAN

Stan and Cheryl Reist
Nanaimo
flydutch@telus.net
250-390-2313
Q N P

GREEN BEE HONEY

Michalina Hunter
& Darwyn Moffatt-Mallett
Garibaldi Highlands
250-616-3070
greenbeehoney.bc@gmail.com
Q N C

HEATHER HIGO

Langley
heather.higo@gmail.com
604-532-6904
Q

HEATHER MEADOWS HONEY FARM

Ian Bissonnette
Telkwa
250-877-3495
hometownhifi@yahoo.com
C

HONEY BEE ZEN APIARIES

Jeff Lee
Creston
250-866-6861
info@honeybeezen.com
Q N

HOWE SOUND HONEY AND BEES

Ian Kennard
Bowen Island
604-947-9518
icken@shaw.ca
Q N

JINGLEPOT APIARIES

Sol Nowitz
Nanaimo
250-753-9619
jinglepotapiaries@telus.net
Q N P

KETTLE VALLEY QUEENS

Elizabeth and Terry Huxter
Grand Forks
lizandterry@gmail.com
250-442-5204
Q N

MARK MCPHAIL

Kelowna
250-764-2877
emmcpmail2@gmail.com
Q N C

ROD JO MOODY APIARIES

Rodney & Jo Moody
Cowichan Bay
rodjo@telus.net
250-743-1939
Q

SILVER STAR APIARIES

Richard Springborn
Vernon
rlspringborn@gmail.com
250-379-2567
N

SIMILKAMEEN APIARIES

Blair and Cheryl Tarves
Cawston
250-499-2555
blairtarves@gmail.com
Q N

SIX LEGS GOOD APIARIES

Deborah Tin Tun & Liam Brownrigg
Vancouver
604-817-2349
6legsgood@gmail.com
Q N

SUNNYSIDE APIARY

Nancy Leonard
Bowen Island
nancyhasbees@gmail.com
604-947-2240
Q N

SWEET NECHAKO HONEY

Jon & Susan Aebischer
Vanderhoof
250-567-5037
sweet02@telus.net
Q N

WILD ISLAND HONEY BEES

David Macdonald
Salt Spring Island
250-653-9999
dmacdonad@telus.net
Q N Colonies

WILDWOOD QUEENS

Donna Moseanko
Powell River
604-344-0622
donna@wildwoodqueens.com
Q N

WRIGHT'S APIARY LTD.

Daria and Roland Wright
Terrace
250-800-1445
wrightsapiary@gmail.com
Q N Hives

• B = Bulk Bees
• Q = Queens

• P = Packages
• C = Queen Cells

• N = Nucs
• S = Shook Swarm

Regional Reports



East Kootenays *~ Lance Cuthill*

So far, winter here in the East Kootenays has been very mild with temperatures ranging from +7°C to -8°C. This seems to have created a new problem for our strongest hives: we have found that an abnormally low weight has led to some hives dying from starvation. Without looking to make sure, our guess is that they had

started brood rearing, and consumed stores that should have lasted to the end of a normal winter. We are now crossing fingers, checking hive weights and feeding fondant.

We have several exciting events happening this spring: 1. An Iotron project organized by Jeff Lee in Creston will see Kootenay beekeepers having an opportunity to have boxes of frames sterilized by Iotron, with assisted funding through the Bee BC grant program for transportation. 2. A "Better Your Beekeeping" one day workshop with funding assistance from the KBFA (Kootenay Boundary Farm Advisors) is taking place March 2nd, and, 3. We now have 5 BCHPA Certified Instructors here in the Kootenays, so 2019 will have Introductory Beekeeping courses taught throughout the area.

On a final note, Bobby is really pleased with our latest project of a 16 litre stock pot, a bun warmer and gate valve being converted into an easier filling device for plastic bears than the large 400 lb heated honey tank. I am pleased to announce the 2019 Certified Instructor course will again be offered this year, the day before our semi-annual meeting in Kamloops.



West Kootenays *~ Gavin Firkser*

While just about anywhere East of BC has been seeing their winter temperatures dropping to well below -20°C, our area has experienced a very mild winter so far. With the mild temperatures, we have been given the prime opportunity to sneak a peak

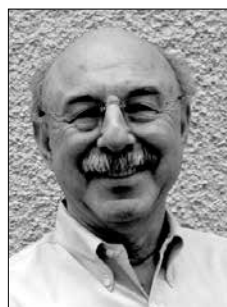
inside our hives and give the ladies a bit of a push with extra fondant a few times already. Members have reported to have even administered a sugar water feed on the occasionally warm as well as sunny days, an anomaly I think very few of us were expecting.

With all the advantageous feeding opportunities, hives have been doing well and staying strong. Concerns with internal mold buildup have been raised, although again, the weather has given opportunities to assess hive conditions and make appropriate modifications.

As for previous club events, The West Kootenay Beekeepers held its annual winter candle making party in early December, which went off like the Jackson 5. The majority of our members showed up and we were able to offer hand-dipped candles (all of us surrounded the melting/dipping

pot and cracked jokes), mold-poured candles, rolled wax sheet candles, as well as tea-light candles. Wax was supplied by our local beekeepers at a price that could not have been beat! Our candle mold selection has grown so much that we are now able to offer a mold library for members to use at their leisure, a great reusable item every club should have to offer. Although the wax sheet candles were very quick and easy to make, the smiles I received after giving them away were absolutely worth it. As I learned, nothing says "Hey, I think you're pretty neat", more than giving that special someone a hand-made set of candles.

We're looking forward to a continued mild winter, and taking bets on when the first blossoms will show their kind faces.



Metro Vancouver *~ Allen Garr*

While the rest of the country is being whacked by a "polar vortex", a weather phenomenon that is bringing the coldest temperatures in a generation to places like Toronto (the centre of the Canadian universe), in our cozy corner of the country we are coming through a quite mild winter.

By the third week of January, much was in bloom beyond the usual witch hazel and winter heather. Filbert catkins have been sighted and crocuses, light purple ones, are in full flower. This has led to bees, in the warmth of the mid-day sun, hauling in pollen, and of course some beekeepers fretting that we may be setting ourselves up for trouble if we get a cold snap.

Few if any have cracked open hives yet. Overwintered nucs are still wrapped. And, in case you were wondering if the season has indeed started, I see the Langley Club is planning a first group drop off of equipment at Iotron for mid-February.

When it comes to serious fretting nothing has occupied the beekeeper internet traffic as much as concerns about wasps. Last fall was not pleasant for many and downright brutal for some thanks to the impact of these carnivorous predators. There were cautions that their numbers were on an upswing, and that increasingly there have been signs that they were surviving overwinter. Indeed, earlier this year Fraser Valley beekeeper Heather Higo, when sneaking a peek inside one hive, actually found a live wasp.

So the conversation now centres on what pre-emptive measures we can take, bearing in mind that traditionally, most of us wait until late summer, when hives are under siege, to set up wasp traps...? Some are planning to set up traps in the spring baited with meat – cat food is a popular choice – to try to trap wasp queens recently emerged from hibernation and yet to be raising brood. One outlier in this debate continues to be Terrace beekeeper Rudi Peters who is recommending lacing that cat food with a chemical called fipronil. It cut his losses from wasps to zero last year. That said, it has apparently never been registered for use in Canada because of its persistence and high toxicity.

And finally, on a lighter note: after much hand wringing, the

Richmond Club, arguably the biggest on the mainland, has come up with a new President, with Alan Wong agreeing to bite the bullet. He is the number crunching guy that compiles useful data for club members on, among other things, causes for winter losses. We wish him luck, mindful of the fact that he will be the fourth club President in the past four years.

So while we may fret from time to time, hope springs eternal. New Zealand packages with 2 pounds of bees and a laying queen are being sold this year for \$255 and I'm betting they will all be gone like a shot.



Sunshine Coast
~ Allan Cobbin

Weather wise, we've had milder than usual conditions with temperatures mostly above zero, so hopefully spring may be coming early this year. We will be watching for early brood rearing and doing a 24 hour check of mite drops, treating with oxalic acid if necessary.

One of our newer members, Adam D'Arcy, has graciously agreed to set up a website for our club. We will get the site published with an Instagram account, mission statement and aims and objectives, and this process is now underway.

At our January meeting we discussed colony losses throughout the fall, and unfortunately learned that there was about a 50% loss throughout our area; all beekeepers

experienced some loss of colonies. This was primarily due to a huge proliferation of wasps which seemed to attack all apiary sites, but annual attrition was also an issue. In my 50 plus years of beekeeping both here on the Sunshine Coast and in Vancouver, I have never experienced such a profusion of wasps.

This wasp problem, with some explanations and prevention methods, will be addressed at a future meeting. We lost 6 of our 9 colonies at the Botanical Gardens site and there will be a discussion at our next meeting regarding whether we should continue beekeeping there. Harry Meier has been the club's most regular and loyal attendee in servicing this site but unfortunately is not available to continue his service. Rob Haines has agreed to continue on as supervisor but will need more assistance from some of our new members.

We also had a discussion regarding the purchase of packages as we have done in the past, but increased costs may make this too prohibitive. Some members may decide to make their own arrangements but the club will not be taking any group action on early packages. It was noted that our own queens and nucs will be available here in May.

Members were reminded of the necessity of completing and submitting Apiary Registrations and BCHPA membership and their value was noted for newer members. There was also a brief discussion about collectively arranging a shipment of some of our equipment to Iotron Industries for irradiation.

Our Sunshine Coast Beekeepers Association will be presenting our first annual lecture series on Feb. 10th at the Roberts Creek Community Hall. Seating will be limited and tickets sold for \$15.00. We have arranged for three excellent

Dadant
Beekeeping & Honey Bees
Our Business Since 1863

M00927 **DADANT: QUALITY EQUIPMENT FOR ALL YOUR BEEKEEPING NEEDS**

Smokers

AP23[®]
PATTIES WITH
HONEY-B-HEALTHY

9 5/8" Painted Hive Body

6 5/8" Painted Hive Super

Woodenware

www.dadant.com
51 S. 2nd Street Hamilton, IL 62341 PH: 217-847-3324 Toll Free: 888-922-1293

speakers: Paul van Westendorp, Dr. Elizabeth Elle, who will be discussing wild pollinators for crop production and Dr. Mark Winston will discuss his latest book and other current issues. We expect a great turnout.

A quote related to our travels this summer, which is attributed to media executive Jon Sinclair: "Failure is a bruise, not a tattoo." I am hopeful that those in the province who suffered colony losses from WASPS will identify with this comment. That's it from the Sunshine Coast...let's all hope for an early spring and the appropriate weather.



Fraser Valley
~ Courtney White

Early reports suggest that we will see high winter mortality this year, with the majority of losses occurring in late fall. The general consensus is to blame the wasps. I was quite leery to blame them for my own overwintering woes (sounds like poor beekeeping) but after talking to folks that's exactly what I'm going to do. Mild weather allowed the wasps to persist right up to December and some hobbyists lost entire yards.

On a much more positive note the new NMR machine is up and running in Rosedale. I won't go into much detail about it here, but the open house at Worker Bee Honey Farm's testing facility was well attended by local beekeepers and the media. I'm excited to see what this new technology will do for BC beekeepers and the honey industry in Canada!



Cariboo
~ Ann Carter

I am pleased to consider the joys of spring as I write this report on a sunny -29°C day with the wind howling. One always worries about their bees on these cold, windy days; are they adequately protected and maintaining cluster warmth?

Until the past few days, it has been a very mild and dry winter. Lakes froze late, snow is minimal and the bees have had some flying time. A survey of Cariboo beekeepers suggests very good colony survival to this point.

Quesnel beekeepers have a new President, and are active with monthly meetings as their numbers grow.

Williams Lake's Central Cariboo Beekeepers Branch has been quite active, largely due to Diane Dunaway's endless energy, leadership and enthusiasm for all aspects of beekeeping. A "Bee Curious" session was held in January for locals considering beekeeping. Our third year offering this talk, we aim to minimize the number of beekeeping dropouts due to unanticipated work load, cost and stock loss.

The club applied for two grants and was successful in an application for an IAF grant, through the Bee BC program, to fund a local queen rearing course. Twenty participants will benefit from this opportunity in June. Liability insurance, now requested by several local venues, will be covered for the queen rearing course by the IAF grant, but is becoming a concern for other club events.

Two local beekeepers will offer the BCHPA Beginner

Beekeeping course in Williams Lake in April. Happily, new faces continue to appear and drive this need. It is nice to see beekeepers with a few years experience now stepping into leadership and club executive positions. Many thanks to them all.

Agriculture Minister Lana Popham will be visiting Williams Lake on February 7th and has asked to meet with local beekeepers. Definitely a positive direction and nice to be recognized.

The Prince George AGM is receiving much discussion and anticipation in the Cariboo and there will likely be a good representation there by our beekeepers.



North Okanagan
~ Richard Plantinga

The Okanagan enjoyed fairly mild weather in December and January and only light snowfall. Now that it is groundhog day, the ice wine people are nervous as they are waiting for the overnight temperature to get below minus 8 so they can harvest the ice wine grapes. The forecast is for cold next

week so they may be in luck.

We also have not had any significantly warm days, so not much opportunity for cleansing flights. We have to trust the winter stores are adequate and expect there is some brood rearing starting, but we have to be patient as time will tell. We have never yet had or lost an excellent honey crop in February. Of course, we have to make it to some warm days in March to

**FAST, EFFICIENT SHIPPING
TO BRITISH COLUMBIA
FROM OUR WOODLAND, CA LOCATION**



MANN LAKE
WE KNOW BEES

An Employee Owned Company

800-880-7694

WWW.MANNLAKELTD.COM

give us a better idea of what lies ahead.

Our club had an enjoyable potluck meeting in January and interest in our club continues.

We look forward to the Semi Annual meeting in Kamloops, as well as updates on various ongoing issues.



Prince George
~ Barry Clark

We are in the final week of January as I write this report. So far the winter has been mild and not a lot of snow, a true El Niño effect. This should predict an early and warmer spring, but I've given up on trying to guess what spring will be like. The past few have been cold and wet, it would be nice to

have a different experience in 2019. Better not worse, please!

The Prince George branch of the BCHPA held its AGM on January 14. Both co-chairs (Presidents) agreed to remain in office for another year, and were acclaimed, Sandra Ramsay and David DeLeenheer. Randy Chencharik has one more year left in his term as Treasurer. Wally Steidle, Chris Morris, Linda DeLeenheer, and Barry Clark will serve as Directors in 2019. No one stepped up to take on the duties of our Secretary, however our part time back-up secretary, Gwynneth Purnell, has agreed to fill in when she can, for the remainder of 2019. We are looking for a Secretary if anyone is interested? Our club relies entirely on volunteer power, and thank you to everyone who has given their time and resources to make our group a success.

Planning is well underway for the Prince George Branch to host the 2019 BCHPA Annual General Meeting and Education Days this fall. This year the AGM will be held at the Coast Inn of The North on October 4, and the Education Days are on the following two days. The theme is "Bee Friendly". Expect to see details on the BCHPA website soon.

Projects and Events planned for 2019 include Seedy Saturday on March 2 at Knox United Church, Club Field Days in June and September, Day of The Honey Bee near the end of May at the PG Farmers' Market, and the BC Northern Exhibition in mid-August.

Beekeeping news from around our area: The Robson Valley (Valemount and McBride) Beekeepers are thinking of formalizing their group and becoming a Branch of the BCHPA. A group of beekeepers from Fraser Lake, Vanderhoof, and Fort St. James areas may be meeting this spring to discuss the benefits of joining the BCHPA as a club with branch status as well. A few folks have been checking their colonies on mild days (mild = above 0) and replenishing food supplies as required. With the sunny days, new beekeepers have expressed concerns about the number of bees that are flying and dying. This is a natural phenomenon we see every winter as the bees take cleansing flights. The sheer number of dead bees in the snow is amazing.

Our club meets on the 2nd Monday of each month at the College of New Caledonia, right here in Prince George. The meeting starts at 7 pm (current room number is 1-311). If you're in town, drop on by and meet the local beekeepers. You won't be disappointed.

Best beekeeping wishes in 2019 from central BC.

UPDATE on Feb. 4: well – you can throw out my first



**Early
New Zealand
packages
Vancouver Island
and the Gulf Islands
Sunshine Coast.**



FLYING DUTCHMAN

**BEE SUPPLIES • PACKAGES • NUCS AND QUEENS
Vancouver Island Pollination Services**

6124 Metral Dr., Nanaimo BC V9T 2L6 1-877-390-6890 Phone 250-390-2313
Fax 250-390-5180 E-mail: flydutch@telus.net Stan & Cheryl Reist

paragraph! It was -33°C at our place last night, with a strong north wind (-49°C wind chill). Winter is here now, and to boot we have another 60 cm of snow with more on the way! This sudden arctic cold snap could cause problems for those colonies that decided to start raising brood because of the warm days and longer daylight hours in January. Sheesh!



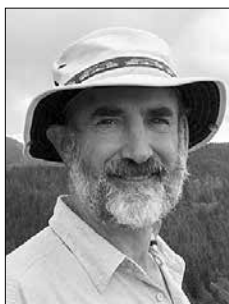
Terrace

~ Rudi Peters

With the abnormally hot temperatures we had this past summer, I was expecting the extreme in weather to continue this winter. The only extreme we have had this winter is on the warm side. The Terrace area has not even seen any temperatures below -5°C with most of them being on the plus side. The entire northwest has

seen above average temperatures this winter. The downside is that the snowpack in the mountains is way below normal and if we do not get an inordinate amount of rain then this summer could be a burner.

With most people starting to take serious the need to monitor and treat for mites, it would seem that most people's hives are doing fine so far. With another month of winter left, people are starting to feel optimistic about them surviving the winter and are looking forward to working with them again come spring.



Peace Region

~ Kerry Clark

I just realized that it has been 30 years ago almost to the day, when my family and I moved (Volkswagen van, U-Haul truck and trailer) from Burnaby to the Peace region so that I could take a job as a Bee Research Technician, working for Don Nelson at the Ag Canada Research Station at

Beaverlodge, beginning on February 1. Regional record low temperatures for the last week of January are all around -40, but mid-January 1989 had a mild spell and we had heard that folks were chipping ice from their driveways in preparation for warmer weather to come. We were dressed in shirts as we loaded the truck in Burnaby, we got to Kamloops OK, and then we were hit by what we later heard was the worst blizzard in 25 years going through Jasper and the North: -40's (°C OR °F) and highways closed by snowdrifts.

All of the above is just to explain that I'm not considering winter over yet, when at the end of January 2019 we had +6 C, some bees flying, and even some willow catkins showing. We still have 2 months or more when we could get bitter cold. We've had a few days below -25°C and there will be more before spring. It's intriguing to imagine what outdoor bee colonies do in those conditions: even more so to consider that colony survival here (knock on wood) is as good or better than places way south (yes, Vancouver Island, I'm thinking of you).

It's still too soon to know how colony winter survival has been, and a swoop of arctic temperatures has passed east of

us and is hitting Toronto! We'll hope for the best, take what we get and do what we can to have a successful year. I'm encouraged by the useful dialogue happening online within the renewing Peace beekeepers group: a communication model that wasn't an option 30 years ago. I look forward to our BCHPA March meeting in Kamloops. Best Wishes to all and I hope to see many of you then. (Oh-oh, an update from a week later: Feb 4, as the Dawson Creek temperature hits -40. I'm up on a hill, so it's only -35 here. Maybe this is the coldest of the year). Keep warm.



North Island

~ Gerry Rozema

It's winter. Beekeeping on the north island in the winter involves a lot of sitting around. The local club hasn't met since my last report, and I missed the January meetings farther down island due to scheduling conflicts. The only contact we get with the rest of the beekeepers in the district is via phone,

email and/or online sources. I guess that's part of the deal as we move toward a world that is more and more connected online.

As we talk to various folks, one trend has started to show up this winter in our area. I will mention that we had wasp issues in both of our yards last year. Out in the fireweed patch during late August the ground wasps were thick, and weak hives did not fare well. When we had them home, during the latter part of September we saw the same issue show up, a wasp population larger than we've ever seen before here, just south of Campbell River. Any time I mention that in conversation, the response is along the lines of, 'Now that you mention it, yes, we had a lot more wasps than we are used to seeing'. This trend is fairly consistent talking to folks in Campbell River, Courtenay, and farther down island towards Nanaimo. Wasps were a real issue this last fall, folks were not talking about it much at the time; in retrospect it was quite predominant throughout the northern part of our island.

One common trend we have noticed during the spring meetings in Kamloops is that those of us in the warmer parts of the province are often a bit smug when discussing wintering issues with those in the colder parts of the province. At times we like to point out how our bees get regular opportunities for relief flights over the winter, and we sometimes think that the warmer climate should allow for better winter survival. However, I really wonder if this is the case. It's Feb. 8 as I write this. Two weeks ago we had a warm sunny Sunday afternoon and bees were bringing in pollen, probably from the hazelnuts. Then we had a week of temps in the -8°C range, and today it's snowing. Did that warm patch in late January with pollen available trick our bees into starting the spring brood too early? Are they now struggling to tend brood in conditions that are far from ideal? I don't know...ask me in April. ☼



Classifieds

BEAUTIFUL HOME AND TURN-KEY HONEY BUSINESS FOR SALE near Cache Creek, BC: custom built energy efficient 3 bedroom home and operational honey business, separate 3000 sq. ft honey house with all equipment, 100 active bee hives. Contact Todd Matthews, Century 21 Desert Hills Realty, (250) 571-5480.

LOCAL BEES FOR SALE! Terrace BC. We sell nucleus colonies and established hives. Mated Queens are available as well. Nucs: 250\$; you'll get a mated queen + 4 frames full of bees, brood and honey. No less then 4-5 lbs of bees. Ready to be installed in a 10 frame box. Queens 50\$, locally bred and mated. Suitable for our northern climate. **wrightsapary@gmail.com tel: (250) 800-1445, fireweedhoney.net**

100 SINGLE BEE HIVES on bottom boards or good 4-way pallets (MDF plywood and MDF plywood lid) for \$300.00 each. Please contact Bob Meredith c/o Cariboo Apiaries, "Golden Cariboo" honey, **Box 287, Lillooet, BC, V0K 1V0;** phone (250) 256 7231.

DEALERS WANTED: Interested in being a local equipment dealer for Dadant? Inquire at **dadant@dadant.com**.

NUCS FOR SALE: Strong 4-frame nucs, full depth or Dadant. These are B.C. raised bees and queens. Nucs and queens available May thru September. Contact Blair and Cheryl Tarves, Similkameen Apiaries. (250) 499-2555.

NUCS FOR SALE: Strong 5-frame nucs. Available May to end of August. Contact Marty Van Herk, Bear Creek Honey. **604-845-1807** or email **vanherk@telus.net**.

FOR SALE: 80 baby nucs with frames, inner feeders, 7" X 5.5" X 8.5", \$25 each. Misc. honey pallets, frame parts, hive cracker, 2 & 3 way nuc boxes, inner feeders, all kinds of odds and ends. Call Dianne and Reg, (250) 56-6149, Armstrong, BC.

WILDWOOD QUEENS AND NUCS: West Coast raised Queens available March-Sept. Queens can be mailed through the postal service when needed. Great for the backyard beekeeper! Overwintered Nucs available starting mid May. Limited supply, order early. Pollination services available for local farms. Contact Donna Moseanko, Powell River: donna.moseanko@gmail.com or call **604-344-0622**.

BUSINESS FOR SALE: Western Canada's leading bee supply company, Urban Bee Supplies, is for sale. Turn key operation, excellent management team, loyal customers, strong online presence, profitable and growing for 10 years. An amazing opportunity for a first time business owner, or as a business investment. 2018 annual sales revenue of \$800k. Serious inquires to lindsay@urbanbeehoney.ca or call **250-580-2337**.

Advertiser Index

Acorn.....49	Dew Fresh Honey20	NOD.....30
ApiHex.....56	Dominion & Grimm36	Northern Acreage.....12
Beauty Queen Bees9	Fence n More7	Nutritional Facts Labels36
Beaver Plastics.....56	Ferris Fencing19	Okanagan Beekeeping Supplies5
Bee Culture35	Flying Dutchman61	Propolis...etc.....64
BeeMaid Honey.....19	Global Patties.....39	Richard's Packaging47
BHW Fund.....6	Herb Isaac Sales.....20	Saskatraz36
BCHPA AGM.....19	History Book12	Sherriff International39
BC Bee Breeders57	Lamb Acres6	Similkameen47
BC Bee Supply36	Mann Lake.....60	Two Bees Apiary20
BCHPA Semi Annual.....56	Membership Application12	Urban Bee Supplies2
Dadant59	Mitegone6	Wellmark International47
Dan's Woodworking.....18	Nine Hives Bee Supplies.....9	West Coast Bee Supply25

« Get ready for next season with our
never-seen-before bulk prices. »

Propolis-etc...



MATÉRIEL APICOLE • BEEKEEPING SUPPLIES

Supers & Frames

UNASSEMBLED
SUPERS

\$12.⁵⁰*

*Minimum order of 125. Shipping not included.

UNASSEMBLED
FRAMES

\$0.⁸⁵*

*Minimum order of 2,000. Shipping not included.

At Propolis-etc... We're **beekeepers first !**

CONTACT US



1-888-660-6665



info@propolis-etc.ca



www.propolis-etc.ca