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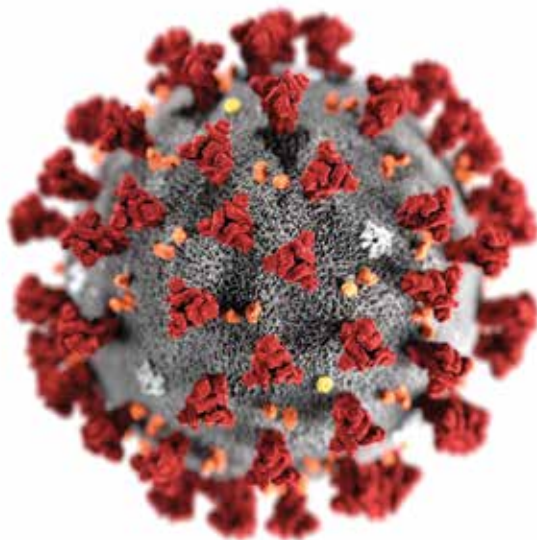
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**MADE IN
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Canadian Honey Council Report



Rod Scarlett, Executive Director, CHC

As I write this, we are in the fourth week of dealing with Covid-19. Last week the Public Health Officials announced quarantine protocols. BeeMaid was expecting its first queen deliveries from Hawaii, but they have been delayed twice already because of flight restrictions. Access to packaged bees, queens and temporary foreign labour have worked in conjunction to put vast components of the industry in significant peril. It may be the perfect storm. Governments are pledging support but at this time I really don't know if it will come quick enough to address the immediate needs or will programs only address the fallout of the long-term implications. Maybe by the time you read this, we will have a clearer picture.

I do want to say the CHC's labour committee has been doing its utmost to bring the right information back to the provincial organizations. I am not sure where it is headed but plans to charter in workers are currently underway. Chaired by Curtis Miedema, the members of the committee, Jake Berg, David Tharle, Bryan Ash, Derek Moyon, Kevin Nixon and Simon Lalonde have been meeting almost daily and their work on behalf of all those who have foreign labour should be

recognized. Nationally, access to packages and queens will be of equal if not greater concern. Again, we have members from across Canada who have, and will be putting in considerable time and effort to ensure beekeepers have the availability of stock. I also need to thank those industry representatives who import stock. They have provided information, sometime very private corporate information, that I have used to try to influence government officials on the importance of timely access.

As of today, it seems we are able to take one step forward, but then go back two. Suffice it to say, right now it is hard to imagine that anyone will get out of this unscathed. The degree of hurt for some will be far greater than others, but my hope is that as an industry we can band together and find solutions that can help those who are less fortunate. It may be hard to measure success in all this, perhaps its just businesses surviving and placing hope that the future brings exceptionally strong honey prices and overwintering losses in the single digits.

I wish I was the bearer of better news and could paint a rosy picture, but looking out of my self isolated office, it seems impossible to do. Wishing everyone health and better days ahead. ■



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Guidance for Employers of Temporary Foreign Workers Regarding COVID-19

Submitted by Rod Scarlett, Canadian Honey Council, March 27th 2020

- Further to recent announcements by the Government of Canada to facilitate the entry of foreign workers while taking steps to minimize the spread of the coronavirus (COVID-19), this document outlines the expectations for employers of temporary foreign workers.

- Like all Canadians, most temporary foreign workers entering Canada are required to follow certain obligations, including self-isolation (visit the Resources section of www.canada.ca/coronavirus to learn more). Employers must not prevent workers from meeting those requirements in any way.

- In addition, employers have an important role to play in helping to prevent the introduction and spread of COVID-19. This document is intended to assist employers in understanding how to fulfill that role, with a view to helping to protect the health and safety of Canadians and workers.

- As the situation regarding COVID-19 continues to evolve, it is recommended that the following website be consulted regularly for the latest public health information: www.canada.ca/coronavirus.

Criteria for all Employers:

1. The worker's period of employment is intended to begin upon their arrival to Canada, and include the self-isolation period. This means that the employer must comply with all laws and policies regarding the employer-employee relationship during that period.

2. The employer must pay the worker regular pay and benefits for the self-isolation period. Specifically, for workers in the Seasonal Agricultural Worker Program, the provisions of the applicable contract must be followed. For other workers, the employer must pay the worker for a minimum of 30 hours per week, and at the rate of pay specified on the Labour Market Impact Assessment. The employer can withhold standard contract deductions (e.g. Employment Insurance, housing, transportation, etc.) as per applicable Program stream requirements. The employer is not allowed to deduct any additional amounts due to the self-isolation period. Proof of wages paid should be kept.

3. The employer cannot authorize the worker to work during the self-isolation period, even if requested by the worker, with the exception of those deemed as providing an essential service by the Chief Public Health Officer. In addition, the employer cannot ask the worker to perform other duties during that period, such as building repairs or administrative tasks.

4. The employer is responsible for regularly monitoring the health of workers who are self-isolating, as well as any employee who becomes sick after the self isolation period. In practice, it is suggested that the employer communicate with the worker on a daily basis (e.g. call, text, email, or in-person two metres away if no other option is available) during the self-isolation period and ask if he/she is experiencing any symptoms (see www.canada.ca/coronavirus for a list), and maintain a record of responses received.

5. If a worker becomes symptomatic at any time, the employer must immediately arrange for the worker to be fully isolated from others, and contact local public health officials. It is also suggested that the employer contact the appropriate consulate.

6. The employer must ensure that all workers have the tools needed to practice good hygiene. This includes access to facilities that enable them to wash their hands often with soap and warm water, providing soap, and providing an alcohol based sanitizer if soap and water are not available and hands are not visibly soiled.

7. The employer is asked to provide information to the worker on COVID-19 (see www.canada.ca/coronavirus for resources) either on or before their first day of self-isolation. With a view to promoting understanding by all

workers, it is suggested that information be provided in a language the worker understands, and that consideration be given to providing this information in writing and/or orally (e.g. by phone, etc.), as appropriate. Several resources are available online. In addition, the Public Health Agency of Canada has some materials available in several languages for use, which can be accessed by calling 1-833-784-4397 or emailing phac.covid19.aspc@canada.ca.

8. Like all Canadians, the employer is asked to report a violation to the Quarantine Act on the part of a self-isolating worker to local law enforcement. This includes workers that do not respect the mandatory self-isolation period.

9. Throughout the course of this pandemic, all people in Canada, including employers, are expected to follow the latest public health requirements and/or guidance from the Government of Canada and the province/territory in which they operate. In addition, as per existing Program requirements, employers are required to follow all applicable federal and provincial/territorial employment and health and safety laws. This includes new provisions in several jurisdictions for job-protected sick leave as a result of the COVID-19 pandemic. Additional Criteria for Employers who Provide Accommodations:

10. The employer must house self-isolating workers in accommodations that are separate from those not subject to self-isolation. This may require finding alternate accommodations (e.g. hotel) if this requirement cannot be met.

11. The employer can house workers who are subject to self-isolation together, but the housing must enable them to be two metres apart from each other at all times. For example, beds must be at least two metres apart. Shared facilities (e.g. bathroom, kitchen, living space) are allowed, provided that there is sufficient space in the accommodations for workers to respect the self-isolation requirements. If this requirement cannot be met, alternate accommodations (e.g. hotel) may be required. In the best interest of all parties, it is recommended that date-stamped photos be taken of the facilities, including the bedroom, to demonstrate compliance.

- Note: If new workers are housed for self-isolation in the same accommodations as others who are self-isolating, the clock resets to the day the most recent worker arrived. This is to account for the potential exposure of the new person from outside of the country to those already here.

12. The employer should ensure that surfaces in the accommodations are cleaned and disinfected regularly. It is suggested that surfaces in bathrooms, kitchens and common areas be cleaned and disinfected daily, or more often as required, and that a log be maintained. Workers can do this, as it constitutes essential care. The employer can also use the services of a professional cleaner, if desired. Regardless, the employer is expected to provide the cleaning materials (e.g. paper towels, household cleaning and disinfection products, dish soap and laundry soap).

13. The employer is asked to post information about preventing the spread of COVID-19 in the accommodations, including information that outlines best practices for workers in maintaining bathroom and other washing facilities. It is suggested that such information be posted in bathrooms, kitchens and common areas, and that it be posted in the language of the worker. Several resources are available online (visit the Resources section of www.canada.ca/coronavirus). In addition, the Public Health Agency of Canada has some materials available in several languages for use, which can be accessed by calling 1-833-784-4397 or emailing phac.covid19.aspc@canada.ca.

14. For the duration of the self-isolation period, the employer must ensure that the accommodations do not prevent the worker from avoiding contact with older adults (65+) and those with medical conditions who are at risk of developing serious illness. For example, a caregiver to an elderly person must be housed in separate accommodations for the duration of the self-isolation period. ■

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Maritimes



Chris Lockhart

I would like to start by thanking Mario Swinkels for his time as the Atlantic Canada CHC director. I've gotten to know Mario over the years and he has put in a great deal of work both regionally and nationally and I applaud his efforts.

I was hoping to have some AGM updates to report on but several have been swallowed up by the Covid-19 crisis. I was able to attend the Nova Scotia AGM which had a great turn out and was run very well. Newfoundland held their AGM in the fall. In

New Brunswick our AGM had to be postponed as our government, Tech Transfer Team and guest speaker were all forced to cancel amid the crisis.

Retail honey sales for us have been steady at the moment. We fear that the longer the crisis lasts and further uncertainty grows we will be deeply affected. As unemployment rate goes up and money starts to get tight, people might be less inclined to purchase honey and stick strictly to the essentials. Many supplies that we use daily have gone up at least 10% overnight. It's difficult to foresee the true implications the Covid-19 crisis will have on the Agricultural community in the coming weeks, months and years. It's going to be a very difficult time for all of us and something we will be talking about for a long time.

We are mid March here and my hives are still 90% covered in snow. I have spoken to several other beekeeper friends around the country who are enjoying bragging about seeing some pollen starting to come in. I can safely say that we are still about a month away from that. Early reports are people getting nervous about food stores. Fall had some strange brood breaks and fall feed was consumed by some colonies early which led to heavier feeding than most years. Winter hasn't been overly cold this year and we haven't gotten the snow we are typically used. Newfoundland however wasn't able to escape the winter wrath as they were slammed by a massive storm in January. Wind gusts hit over 150km/h and they received over 75cms in one day! It's safe to say they are a resilient bunch over there.

The Maritime Bee Tour will hopefully be on again this year. I encourage everyone to attend this great event. We always get a good turn out and it's a great time to meet new beekeepers and see some old friends. This year it will be held in Nova Scotia, follow your local association for details to come.

I look forward to my term as CHC Director. Let's work hard and get through these difficult times. I wish you all a good spring and hope your families are safe and healthy.

Here is a parting message from Mario:

Well my term as Atlantic Director on CHC has come to an end. It was truly interesting to see what happens and how much happens at the National level. In our small area of Atlantic Canada we sometimes don't see the big picture. I can say the past 4 years have opened my eyes to all the work that is done at the Canadian Honey Council. Rod is the backbone, he along with the Chair do a majority of the travel and federal commitments, I mention this so everyone can get a grasp of how important the council is. As well I hope everyone can see all the work that your provincial associations do, please support them as this is the group that gives you a voice. We are in a crises now

and your organizations are doing everything to help.

On another note I would like to thank everyone for their support of me on the council. Your open minds have created lasting friendships all across the provinces, Thank you

Québec



Maggie Lamothe Boudreau

I never imagined seeing this. These few mundane words already allow you to grasp what I'm about to talk about. We are in the midst of a global pandemic. So much change every day! No one expected society to be so impacted. This pandemic is being felt in all sectors of the economy, including ours, agriculture. Fortunately, we are considered essential and we are able to continue all our activities. As one colleague told me so well last week, "Let's hope our society won't be too hurt by the current situation."

Our annual general meeting has been cancelled. It may be rescheduled electronically. Keep an eye out, we will send you the information by email when the time comes. Temperatures have started to get slightly warmer so beekeepers have started taking out their hives from wintering vaults. Let's hope we have a great spring.

The buying group is restarted this year with the AADQ. We plan to offer sugar and treatments for hives. If you are interested, contact the AADQ to find out about the details.

Federal authorities have just issued an official statement that temporary foreign workers (TFW) expected in Canada will be able to enter the country despite the closure of the borders. Otherwise, approximately 16,000 TFW would not have been able to make it on Quebec farms. Get ready, it is quite possible that we will not be able to receive all TFW this year, because several countries have closed their borders such as Guatemala. Others have also had their software hacked (Mexico). Canada is in the middle of negotiations with multiple countries on this subject and we have just received the very strict protocol for the arrival of TFW that will have to be followed by the agricultural companies with respect to the Covid-19. Thank you to FERME, UPA, Arimé Inc. and the CHC for working on this very important issue for Canadian agriculture.

At the moment, the losses of hives seem very low in Quebec, less than 10 %, but this can change very rapidly. It all depends on the spring. I wish all of you a great beekeeping season.

Je n'aurais jamais imaginé voir ça. Ces quelques mots banals vous permettent déjà saisir ce dont je vais vous parler. Nous sommes en pleine pandémie mondiale. Que de changement à tous les jours! Personne ne s'attendait à ce que la société soit aussi impactée. Cette pandémie se fait ressentir dans tous les secteurs de l'économie incluant le nôtre, l'agriculture. Heureusement, nous sommes un secteur considéré comme essentiel et il nous est possible de poursuivre toutes nos activités. Comme un collègue me le mentionnait si bien la semaine passée, « espérons que notre société ne sera pas trop amochée par la situation actuelle ».

Notre assemblée générale annuelle a été annulée. Il est possible qu'elle soit remise sous format électronique. Soyez attentif, nous vous ferons parvenir les informations par courriel le moment venu. Les apiculteurs ont commencé à sortir leurs ruches des caveaux car les températures s'adoucissent. En effet, jusqu'à maintenant le printemps semble plus clément que celui des 2 dernières années. Espérons qu'il se prolonge ainsi.

Le groupe d'achat est redémarré cette année avec les Apiculteurs et les Apicultrices du Québec (AADQ). Nous prévoyons offrir du sucre et des traitements pour les ruches. Si vous êtes intéressé, contactez l'AADQ afin d'obtenir les détails.

Les autorités fédérales viennent de publier un communiqué officiel indiquant que l'agriculture est essentielle et que les travailleurs étrangers temporaires attendus au Canada pourront entrer au pays en dépit de la fermeture des frontières. Cette fermeture équivalait à ne pas pouvoir accueillir les quelque 16 000 travailleurs étrangers temporaires sur les fermes Québécoises. Préparez-vous, il est fort possible que nous ne puissions pas recevoir la totalité des travailleurs étrangers cette année, car plusieurs pays ont fermé leurs frontières tels que le Guatemala. D'autres ont aussi vu leur logiciel piraté (le Mexique). Le Canada est en pleine négociation et nous venons de recevoir le protocole très strict qui devra être respecté par les entreprises agricoles en ce qui a trait au Covid-19 pour la venue des travailleurs étrangers. Merci à FERME, L'UPA, Arimé inc. et le CCM de travailler sur ce dossier fort important pour l'agriculture canadienne.

Pour le moment, les pertes de ruches semblent vraiment faibles cette année, moins de 10%, mais cela peut changer rapidement. Tout dépendra du printemps. Sur ce, Je vous souhaite une excellente saison apicole.

Manitoba is continuing to work towards a Tech transfer program however we are still awaiting grant approval for the implementation of the program/dates/support. Hopefully Manitoba will be able to kick off the program this year; and be as stylish as the rest of the provinces with their excellent Tech transfer programs and support systems.

Although Manitoba is facing the same challenges of low honey prices there is the added challenge of nearness to the packing market. The prospective new plant being built in Winnipeg by Bee Maid could open up opportunities for better pricing in the long run for Manitoba BeeMaid members.

Lab diagnostic services were restored this year and are now available in Manitoba's Vet Diagnostic lab. For those who want a quicker turnaround time rather than sending it across the country to the NBDC lab in Beaverlodge; this is now an option.

It would seem you can't get away from Covid-19 reports these days: Across Manitoba there is concern over the Covid-19 travel restrictions being implemented. As many producers in the province rely on foreign workers the travel restrictions will limit the availability of some much needed help. The travel restrictions are being implemented under the local countries as well; and the airlines are limited to only certain airports for those entering the country. To make matters worse: certain embassies have been shut down that have limited TFW capacity to prepare and provide travel documentation as required at ports of entry.

Limitation on available flights have caused concern as packaged bees and queens are expected to have difficulty getting to market as well. Ground transport is being expected to function to distribute those needed queens from the USA.

Ontario



Albert Devries

It is my hope that we are all safe and healthy. I feel I am as I write this and I hope you are as you read it. The virus that is spreading around the world will change so much of how we conduct our lives and businesses for the next while. Air shipment of queens are uncertain at the time of writing. I hope this will have all been sorted by the time of publication.

The winter in Ontario has been mild. The few beekeepers I have talked to say that hives are still quite heavy. As is often the case, winter loss reports vary. It ranges from the small-scale beekeeper who lost almost everything to the commercial operation that only lost 7%. Demand for bees for pollination is strong as low-bush blueberry growers are looking to maximize their crop now that the price has rebounded. Sales of bees has also been good this spring.

It has been a time of transition with our staff. Lorna Irwin, our general manager, has moved on to pursue other opportunities. Lorna did a great job making our spring and fall meetings into must-attend events. Les Eccles is also moving on. Les contributed greatly with his leadership of the Tech Transfer Program. We are fortunate that long time TTP employee, Melanie Kempers, has assumed the role of our GM for the interim. We would like to welcome Kelsey Bradfield to the OBA. Kelsey is doing a great job at membership services and is very welcoming. It was too bad we had to cancel our spring meeting due to COVID 19. It would have been a great chance for the attendees and to meet Kelsey in person. Hopefully by the fall, we will be able to meet together.

Saskatchewan



Jake Berg

I was fully expecting to be reporting to you about how Food Ex in Japan went, but the world's been turned upside down with COVID-19. All the food shows that CHC was planning on attending this year have since been cancelled. Hopefully, my report next March will include how good Food Ex Japan went. All of the budget that was allocated for Food Shows in 2020 will be carried forward to 2021.

Since the world has been tipped on its head, life in general has gotten a whole bunch more challenging. Getting our temporary foreign workers to the farm safely and safely carrying out daily activities will prove very interesting this year. Hopefully, by the time you read this, we will have sorted out some, if not all, of the logistical issues of getting the TFW's to our farms. The CHC's Labour Committee has been and is continuing to work extremely hard on this issue.

Replacement stock is going to be just as much of a problem as the TFW's. As I'm writing this, it seems like importing queens will be possible but supplies of packaged bees is yet to be determined. The CHC's Stock Replacement Committee has been working diligently on getting replacement queens and packages imported into Canada for the season ahead.

Although I am just repeating what has already been said by many others, it is immensely important that we all follow and obey all of the health and safety protocols being put into place by all levels of government and health authorities. It is important for all of us to help keep our families, employees, and communities healthy and strong through this trying time.

Manitoba



Mark Friesen

The winter has been relatively mild across Manitoba and there are not many beekeepers reporting concern over the winter health of the colonies as there have been other years.

The Manitoba AGM/symposium was conducted on Feb 27-28. We had an excellent set of speakers including Frank Rinkevich and Ray Olivarez. The convention and symposium was well attended and there continues to be support for the MB association and the industry.

Alberta



Ron Greidanus

March came in like a lamb this year in the province of Alberta and is leaving like a.... Well, it hasn't left yet and the future is a dark tunnel that no one can peer into and see light at the other end. Some beekeepers, overly anxious, have had the opportunity to go and look into some of their hives in the first week of March. The results that they were seeing is a mixed bag and is still too early to tell. Some beekeepers have reported seeing 50% winter losses, others have reported seeing losses below the 10% level. Now after another

week long cold snap, I am sure those numbers will change.

The overarching issue that is dominating the season so far is the Corona Virus pandemic. Will we get queens? Will we get Packages? Will we get employees? If ever there was a year that separate the Adults from the babies, this will be it. I jokingly told my wife that by September, I am either going to be strapping ripped body builder or dead. The very real issue is can these large commercial operations survive or will the industry be decimated and set back by 15 years at the end of this season?

At this point in time, many commercial operators, in the face of last years historic poor crop had elected to send workers home early and rehire them later than normal.... Ahhhh! hindsight is 20/20. Curtis and the labour committee have been working diligently on the issue of getting seasonal workers in (Both SAWP and TFW) and at this time, it appears that workers will be allowed to arrive and work in Canada. But we are not out of the woods yet (Can't see the forest, all these trees are in the way!) However, there does appear to be a light at the end of the tunnel and the first seasonals should begin to arrive the first week of April.

The second major hurdle that the Chinese communist party corona virus has highlighted is Canada's woefully inadequate ability to be self sustaining with regard to stock replacement. At this time it appears that the majority of queens that typically come in to Canada will be arriving. Many queen breeders have a good supply of queens and are ready to start shipping. The exception being New Zealand queens, Chilean Queens and Australian Queens. The issue here is simply there isn't enough Aluminum jumping the puddle to get them here. Routing is extremely important in shipping queens as well as where they are placed in the hold on an airplane. You can put the boxes on a plane, and eventually they will get here; but at what cost? If undue care and attention is given to how they are transported, the queens show up as either sterile, or curled up in a nice fetal position that makes 'em kinda useless. Queens from Chile, NZ or AUS -- not likely.

Hawaii and mainland USA are a completely different story. It would appear that these suppliers should have a banner year and that queens will come to Canada in an unabated fashion albeit through modified routing in consideration of the Covid 19 pandemic.

Packages are a different story. in a word: Limited. There are some pallets of package bees coming in from Australia but the issue is one of a supply chain. If one link is broken, then the entire chain is useless. Participants in this supply chain are making decisions in an effort to maintain the best public perception as possible. No airline wants to have a dead pooch to present to the poochies owner after that owner finishes up their quarantine... Dead dogs make for bad news coverage. Bees and dogs are viewed the same in the transportation industry.

This all translates into very few options to rebuilding a beekeeping operation here in Alberta if you have a wreck. I wish I could be more optimistic and offer more hope. As I am writing this, I am listening to the snow melting and dripping onto the over hang, the Sunlight is streaming in through the window. I want to get out into my bees and see what I have this spring. The old expression that it is always darkest before the dawn is floating around in the back of my brain. I have a premonition that we will be looking back in September and enjoying a fantastic post Covid party, saying to each other, "I never would have believed it, even if you had told me that it would end this well, back at the end of March."

British Columbia



Stan Reist

Its past time and Geoff has been very patient with me in getting my report in so lets get it done.

With all the goings on The B.C.H.P.A. had to cancel the Semi Annual meeting in Kamloops this spring due to Coved 19. Dan Mawson was able to convince the executive that we could hold a conference call, and plans were made to do this. The executive submitted reports ahead of time and then we called in and surprisingly it worked very well. The numbers are just coming in and they are being

looked at along with the costs.

The ministry of agriculture is still maintaining the B B.C. program and

projects are still being evaluated and assessed for acceptance. The deadline is right close for some of them and they are in the final stages.

Our bee inspector just phoned wanting to arrange for inspections. We will probably be ready in about two weeks for her to start inspecting. I asked about hive losses this year and she said it was all over the show. No rhyme or reason, beginners without losses seasoned beekeepers with 80% and the list goes on. Clearly we have work to do on education, speaking of which, our Provincial Apiarist is about the only game in town right now. He is teaching a bee course on the web, so please sign on and do a refresher course and you might learn something, maybe.

I am not sure of the numbers of packages that have already landed in B.C. but a good estimate is about 8 pallets for sure. These are considered early packages, landed here on the 4th of March. However, that was delayed because New Zealand Air didn't get the one pallet of packages on the aircraft on the Sunday they were supposed to, so they were held and shipped on the following Wednesday. That meant our shipment was delayed until the following Sunday. There have been shipments since but again how many made it through I just don't know.

The next crisis on the horizon are the Queen shipments from California. Talking to Gloria at Olivarez they are going to use UPS to ship to Canada. This leaves us with a lot of apprehension, simply because we are used to Air Canada freighting them in from California. We clear them at the airport ourselves and It's a bit of a pain in the ass to do this but we gladly do it for the peace of mind knowing how the queens have been handled. We get control of them, water them and then transport to our businesses.

One of the BIGGEST Problems is that AIR CANADA is no longer shipping live animals. This presents a huge problem on two fronts. One is the afore mentioned Queens from California and the other is the Packages from NZ. The suppliers in NZ are more than willing to make the packages and have them ready for shipment but there is no aircraft space to do that. This is speculation but if we did get the packages to Vancouver, how would we forward them to the rest of Canada (This is not speculation but fact). Individuals have tried to book freight across Canada and they have not been successful. Regardless of what the Prime Minister says. If the memo does not reach the lowest person on the chain and they do not have a piece of paper in their hands saying it's all right to do this, it's not going to happen period. They have been trained very well to cover their ass (CYA).

I have seen letters requesting help from government departments and have been on conference calls discussing the situation we are in and what we can do about it. At the last CHC exec meeting I was given the opportunity to Chair the Interprovincial Movement of Bees. This was started about two years ago for two reasons. One is the meeting with the provincial ministers to allow for the freer movement of goods between the provinces to make it easier to buy Canadian rather than import from other places. The second most important issue is to move stock with a high degree of health confidence to alleviate shortages and promote sales within Canada. This is just starting, the committee has been struck and now we have other important issues to deal with. Time is going to become a big issue very shortly as the bee season kicks into high gear or not?

This could be a disastrous accumulation of the perfect storm, no replacement packages and at the same time curtailment of foreign workers. I know Rod has been working on a number of issues, foreign workers the priority. Almost every day he is on the phone for hours, with various Coved-19 information meetings how successful this is will remain to be seen, but it won't be from lack of trying on the CHC's part.

During times of crisis it is amazing how many people try to reinvent the wheel. School are open but no pupils and just how are we going to teach the students left at home. We have to come up with ways to do this! My very simplistic approach is to use the sports channels not broadcasting sports events at this time. I turn my TV on and channels 300 and up, no programing at this time. Did somebody think to phone Shaw and ask if these channels could be redirected to broadcast school lessons? Camera, school teacher, action. My simplistic view.



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APIARIST RETIREMENT AUCTION

TISDALE, SK | WEDNESDAY MAY 20th | 11:00am



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46th APIMONDIA

International Apicultural Congress

MONTREAL, 8-12 SEPTEMBER, 2019
QUÉBEC - CANADA



APIMONDIA HIGHLIGHTS



Submitted by Rod Scarlett (taken from the "FINAL CONGRESS REPORT")

The 46th International Apicultural congress was held in Montréal, from the 8th to the 12th September 2019.

The theme of the congress was: Working together within agriculture.

CONGRESS OVERVIEW

SUNDAY Sept. 8th 2019	Exhibition and registrations Opening ceremony
MONDAY Sept. 9th 2019	Exhibition , Registrations , Scientific Sessions and General Assembly
TUESDAY Sept. 10th 2019	Exhibition , Registrations, Scientific Sessions
WEDNESDAY Sept. 11th 2019	Exhibition, Registrations, Scientific Sessions
THURSDAY Sept. 12th 2019	Exhibition , Registrations, Scientific Sessions General Assembly + Closing Ceremony

FORMAT OF APIMONDIA 2019 CONGRESS

- 4 Daily Keynote speakers
- 48 Symposia
- 9 Workshops
- 9 Round tables
- 2 Satellite symposia
- General Assembly (1st part) of the Apimondia Federation and voting delegates
- Opening Ceremony, Closing Ceremony and 2nd part of the General Assembly
- 4 days Poster sessions
- Tours: 1 Pre Congress + 8 Technical + 1 Post Congress
- 4 Accompanying persons' tours
- WBA World Beekeeping Awards
- APIEXPO area

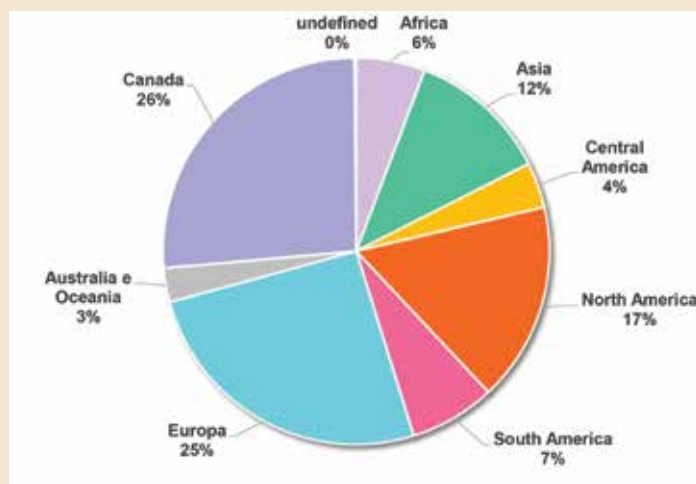
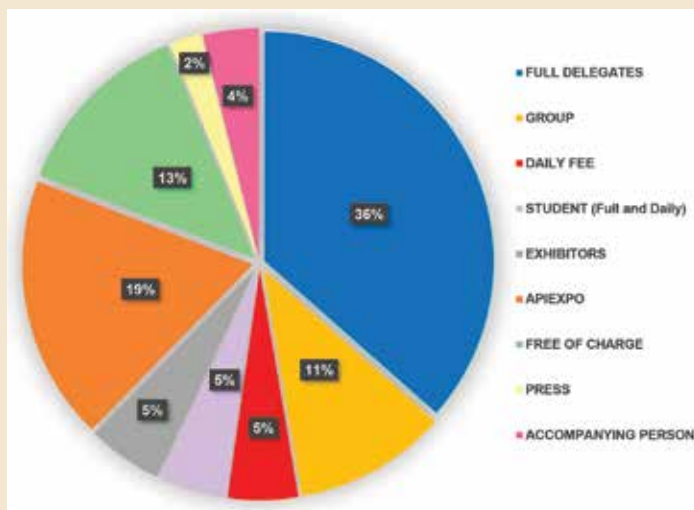
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REGISTRATIONS

Registration Type	Total pax
FULL DELEGATES (all Categories + Ambassador)	2016
GROUP	594
DAILY FEE	273
STUDENT (Full and Daily)	264
EXHIBITORS	292
APIEXPO	1024
FREE OF CHARGE	714
PRESS	125
ACCOMPANYING PERSON Accompanying, Daily Kids, Full Kids; Kids free	217
TOTAL REGISTRATION	5519

TOTAL REGISTERED BY CONTINENT

	Quantity of	
	People	Countries
Africa	265	33
Asia	542	33
Central America	176	12
North America	767	5
South America	331	9
Europa	1177	37
Australia e Oceania	131	6
Canada	1209	1
undefined	7	
Total	4605	



The total not includes Accompanying persons and Exhibitors

SPONSORS

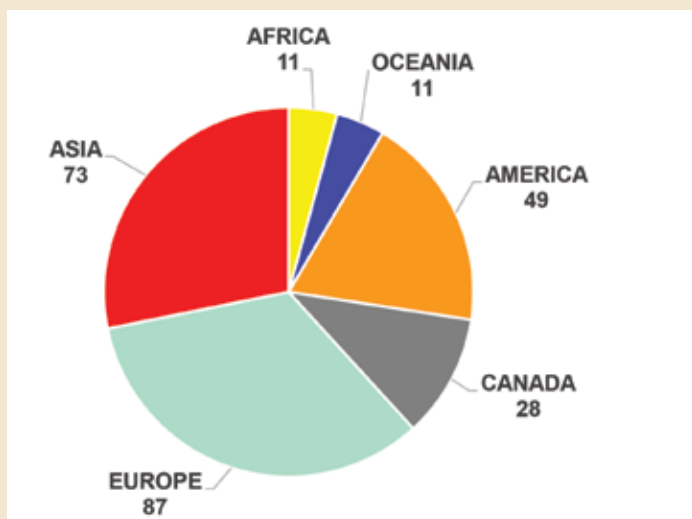
- 1 PLATINUM** Healthy Bees, LLC
- 2 GOLD** BeeMaid Honey Limited, Mann Lake, LLC
- 3 BRONZE** McCormick, Odem International INC, Véto-pharma
- 4 Supporting sponsors** Canadian Seed Trade Association, Miels d'Anicet, University of Guelph, Vita North America
- 9 Partners** CAPA, CRSAD, City of Montréal, Fédération des Apiculteurs du Québec, Palais des Congrès de Montréal, Québec, Syndicat des apiculteurs du Québec, Tourisme Montréal, Université Laval

APIEXPO

- 259 Exhibiting companies
- 62 countries
- 5313 m2 total area
- 1 Info Point
- 2 Lounges
- 2 cafeterias



EXHIBITING COMPANIES BY CONTINENT



WORLD BEEKEEPING AWARDS

- 467+ exhibits: 201 for honey classes and 268 for other classes
- 170 participants
- 41 countries
- 550 mq total area in the ApiExpo
- 30 judges, representing all Continents
- 140 medals & 1 trophy for the Best Honey in the World

INDIVIDUAL CLASSES

Designed for those for whom beekeeping is a fascinating, occasionally profitable hobby or an exciting small business.

COMMERCIAL CLASSES

Designed for the bee product producers, traders, packers and other apicultural sector representatives from all over the world for whom beekeeping is the principal business.

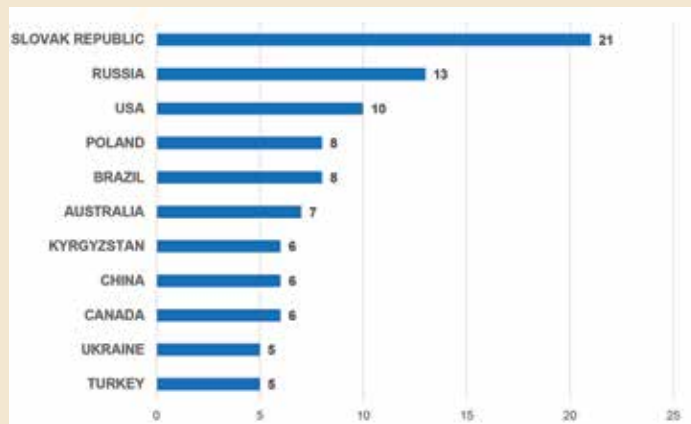
APIMONDIA CLASSES

Designed for all people for whom apiculture is an academic field, a professional occupation or a hobby beyond the apiary business itself. They include Photograph, Printed Materials and Video, Decorative and Art and Innovations.

CANADIAN CLASSES

Designed for persons residing in Canada and have their hives in Canada and it includes Trade.

WINNERS BY COUNTRY



PRE, TECHNICAL and POST CONGRESS TOURS

PRE CONGRESS TECHNICAL TOUR

Ontario Beekeepers Pre-Apimondia Bee Tour and visit of many attractions in the Ontario Province.

departure: 2 September, 2019 return: 7 September, 2019

CONGRESS TECHNICAL TOURS

THE URBAN AGRICULTURE LAB OF THE PALAIS DES CONGRÈS DE MONTRÉAL AND ITS POLLINATING BEE HIVES IN PARTNERSHIP WITH ALVÉOLE 9, 10, 11 and 12 September 2019

INTERMIEL 13-14 September 2019 Tours in AM or PM

MIELS D'ANICET Departures: 13 or 14 September 2019. Returns: 14 or 15 September 2019

MONTRÉAL HONEY 7 September 2019 13-14 September 2019. Tours in AM or PM

HAPPY-CULTURE AND MIEL FONTAINE 13 September 2019

BEEKEEPING DAY TRIP IN LANAUDIÈRE 13 September 2019

POST CONGRESS TECHNICAL TOURS

QUÉBEC CITY TOUR 13-14 September 2019

More than 600 participants

ACCOMPANYING PERSON'S TOURS

The accompanying persons tours give the opportunity to discover Montréal and some of its cultural and "green" attractions.

They are included in the accompanying person registration fee which is intended for spouses, friends and significant others who are NOT professionals in the field of beekeeping and are joining a full paid congress registrant.

Each accompanying person was requested to choose a combination of 2 tours:

BONJOUR MONTRÉAL CITY TOUR 9 September 2019

WALKING TOUR OF OLD MONTRÉAL 9 September 2019

GREEN MONTRÉAL: JEAN TALON MARKET & BOTANICAL GARDENS 10 September 2019

VISIT TO MCCORD MUSEUM & RESO CITY 10 September 2019

More than 150 tours booked

OPENING AND CLOSING CEREMONIES

OPENING CEREMONY - Sunday, September 8 more than 2500 participants attended

Programme

Welcome from the Local Organizing Committee, Welcome from the honorary guests, Welcome from Apimondia acting President and

Commissioners, Featured Entertainment (Blessing ceremony by Sedalia Kawennotas & indie folk rock and traditional Inuit throat singing by the Jerry Cans)

CLOSING CEREMONY - Thursday, September 12 more than 2000 participants attended

Programme

Highlights of the Apimondia 2019 (photos and video), Thank you remarks from the Local Organizing Committee and Apimondia acting President

Presentation conclusions scientific programme, Speeches by Apimondia Regional Commissioners, Featured Entertainment (Bassoonist)



Peter Kozmus (Acting President of Apimondia)

Deliberations of 1st meeting of General Assembly, Presentation bids for 48th Apimondia Congress, voting and declaration of Venue for next Apimondia 2023 Collar hand over to the new Congress Chairman

SOCIAL EVENTS (by invitation only)

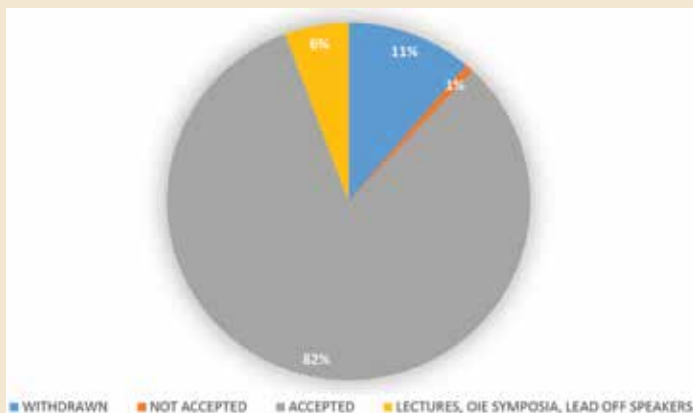
- Sept. 8 - CHC NIGHT around 300 people
- Sept. 9 - African Reception around 200 people
- Sept. 10 - Veto Pharma Reception around 250 people
- Sept. 11 - ODEM Reception around 50 people
- Russian Reception - around 170 people

SCIENTIFIC PROGRAM

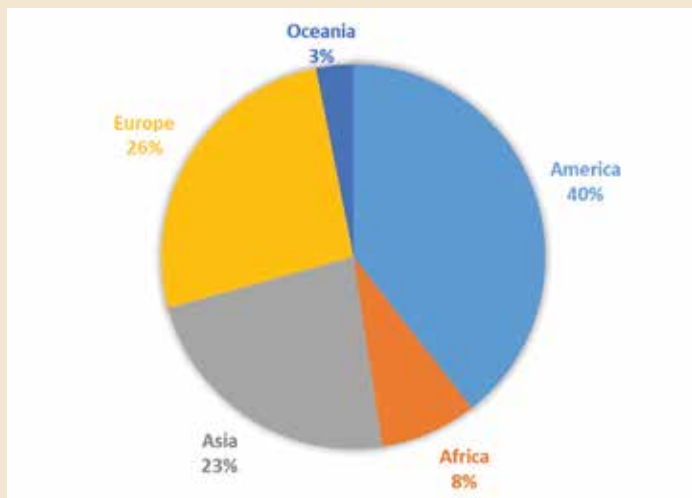
- 1000+ abstract
- 4 keynote lectures
- 48 symposia
- 8 round tables
- 9 workshops



ABSTRACTS RECEIVED – 1041



ABSTRACTS by CONTINENT



ROUND TABLES

Title	Classification
Honey Adulteration	Economy & Technology
The Social Impact of Bees	Beekeeping for Rural Development
Pesticides and Bees	Bee Health
Valuation of Economic Contributions of Bees	Beekeeping Economy
The Future of Global Beekeeping Facing New Challenges	Beekeeping Economy
World Wide Modes of Honey Production	Beekeeping Economy
Current Beekeeping Issues in the Asian Region	No Classification
Apimondia Regional Commission for Africa	No Classification

POSTER AREA



FIRST TIME @ APIMONDIA

1. WBA management with new guidelines and regulations
2. Congress APP
3. Paperless abstract book (APP and website only)
4. Organizing secretariat operating in another continent
5. Mosaic wall

The “FINAL CONGRESS REPORT” in full is available on the CHC web site.

Obituary

Ann Vautour



Ann Elizabeth Vautour, born May 31, 1943 in Saint John, the daughter of Harold William and Jessie Alexandra (Pedersen) Nagle, passed away at the Moncton Hospital on February 7, 2020 at age 76.

Ann was a graduate of the Netherwood School for girls in Rothesay and Mount Carmel Secretarial Academy in Saint John. She worked as Executive Secretary to the V-P of a national company and was a sports car enthusiast and avid equestrian.

She is survived by her husband of 53 years - Paul Vautour, sons Michael (Nancy), Christopher, Louis Marc (Laura), and grand children Sabrina, Mathys, Kurt and Joshua; God-daughters Monique Landucci (Stuart) of Boston and Beth-Anne Daigle of Saint John. She is also survived by her brother Peter and nephews Nahani and Jonathan, and predeceased by her brother Thomas. On Paul's side she leaves beloved nephew, nieces and their children: Joseph Vautour (Wendy), Elizabeth McQueen

(George), Susanne Daigle (James) - all of Saint John; sister-in-law Dianne LeBlanc (Ronald) and nephew Andrew (Marisa) - all of the U.S.A. Ann also cherished many of the Netherwood Class of 62 as dear sisters.

Following marriage in 1966, Paul's career led her to various adventuresome places: Sept Iles, Que.; Frobisher Bay, NwT. (now Iqaluit, Nunavut); Fort Chimo (Kuujuac) Northern Que.; Iqaluit again; Montreal; Halifax; Labrador City; and finally settling in Moncton in 1988 where she worked for Sears Canada Administration for 18 years.

Although small in stature, Ann carved a wide path in life with her determination and antics. Once established in Moncton, she made friends in the local garden, bird-watching, and Country Meadows Golf Clubs (where she once won the Senior Ladies Club Championship). She was a member of Saint Bernard's Catholic Church.

In addition to volunteer work, Ann took up beekeeping and devoted herself to actively helping organize the related associations. She re-grouped the South East N.B. Beekeepers as well as forming a close-knit group of lady beekeepers in the area, and served as Secretary to the NBBA and the Maritime B.A. - attracting several world-renowned experts to speak at annual meetings. In 2015 the Canadian Honey Council honored her with the WILLIE BAUMGARTNER MEMORIAL AWARD "for outstanding contributions in improving the Canadian beekeeping industry." In 2018 the NBBA launched the annual ANN VAUTOUR LIFETIME ACHIEVEMENT AWARD for competent, outstanding individuals who volunteer their time and ability to help promote apiculture in New Brunswick.

She will be sadly missed by friends and family.

PACKAGES AND QUEENS

Submitted by Rod Scarlett, Canadian Honey Council, March 27th 2020

Work is continuing on this issue. Further updates will be provided as soon as available.

California/Hawaiian Queens

The breeders have good stock and are preparing for their first loads. Since Air Canada has ceased carrying livestock alternate plans for Kona Queens have had to be put in place. Currently, we do not think there will be an issue, but that can change. We are working in cooperation with a lot of other industry participants on alternate plans should there be an issue in the delivery of queens from these locations.

Packages/ Queens from outside the USA

Again, Air Canada disruption of services has created a myriad of issues. Certain Australian beekeeping operations have closed down. Flights between Canada, Australia, New Zealand and Europe are drastically reduced. The Government is assisting us in trying to find solution as these commercial operations are extremely important to our food security.

It is more difficult to provide exact information in stock replacement area since most of the activity is an one-off. We will continue to keep everyone updated as things progress. ■

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Saskatraz Breeding Stock Available in 2020

Queen cells from tested Saskatraz breeders (\$20). Closed population mated breeder queens (\$300), out crossed breeder queens (\$100) Saskatraz stock carrying VSH trait also available as queen cells, in Saskatraz hybrids and breeder queens in 2020.

Saskatraz Hybrid production queens 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. Limited number of nucs available in 2020 with Saskatraz hybrid queens. See www.saskatraz.com for breeding information and updates.

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INTERNATIONAL HONEY MARKET

by RON PHIPPS

This report reflects many themes presented at the annual convention of the American Honey Producers Association, as well as the important statement by the Congress of the World's Beekeepers (Apimondia) regarding the adulteration of honey.

The Plight of the Beekeepers

At the prelude to their new crop, Vietnamese beekeepers asked, "Please advise us regarding the market. Our beekeepers are afraid to invest any more money and keep losing their investment."

Canadian and U.S. beekeepers over the past year have lamented their difficulties to pay loans, threats of bankruptcy and the lack of incentive to produce honey. According to several reports, there are beekeepers in North America who still have unsold stocks from 2018 and 2019 crops. Any industry which de-incentivizes the producers of their crop is an industry which has entered a severe state of tension. Healthy and vigorous industries integrate the incentives to produce and to consume.

The fundamental cause of the dilemma facing beekeepers is the continuing collapse of honey prices. Condemning problems is not effective unless we understand the fundamental causes which create the crisis, making it possible to craft solutions which cure the problem and prevent its recurrence. The international honey industry is distorted by the emergence of huge quantities of adulterated honey with which authentic honey cannot compete. Modern modes of illicit production have created a situation in which there are no ceilings to quantities and no floors to prices.



Prepared by Dr. Stan Daberkow, USDA Economist Emeritus

Studies of Honey Samples

The manifestations of honey fraud include a study presented at Apimondia in 2019 by Federico Beron of samples taken at retail from around the world which failed to pass adulteration tests. The conclusion of the report was that up to 1/3 of honey showed indications of adulteration. In July 2019, the Canadian government released results of a study indicating that 22% of the 244 honey samples pulled from retail, wholesale and bulk stocks were adulterated. The traditional Carbon Isotope test for cane and corn sugars and the Nuclear Magnetic Resonance (NMR) testing for authenticity were both used. The countries of origin of the adulterated products were outside Canada. It is important to note that exports from five of these countries constitute about half of the imports to the USA. This was the first official report, to our knowledge, in which NMR testing, based on the Bruker database of 19,000 samples, was used.

Trends in Honey Prices in the U.S.

The growing gap between retail and wholesale honey prices has been analyzed by Dr. Stan Daberkow, Economist (USDA, retired), in the above chart.

Given the steep and relentless price drops that have resulted from market manipulation and adulteration, there are reports of potential antidumping lawsuits of either a global scope or a more targeted focus on the sources of the largest quantities and lowest prices. Some lawyers have argued that the conditions are ripe, since the data is overwhelmingly favorable.

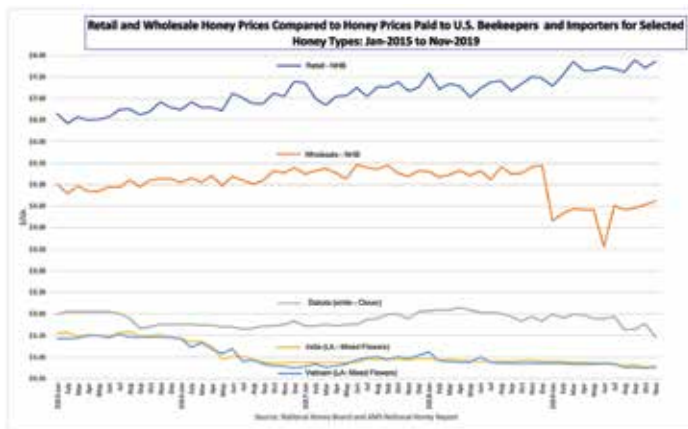
From a broader perspective, there is debate among lawyers about whether the issue is the dumping or adulteration of honey. This is an interesting and relevant point, due to the fact that modern modes of adulteration of honey allow for huge quantities with extremely low costs of production. Therefore, the fundamental question may not be selling below the cost of production but rather food fraud in selling products that are mislabeled. To enter into the country and into commerce products which are not authentic honey, and label them as honey, is an example of customs and food fraud.

Consumption of honey in the U.S. has increased by almost 50% in the past 20 years, from about 400,000,000 pounds to about 600,000,000 pounds per year. The variety of ways in which honey is used has also increased. The total value of global honey exports reached the range of \$2 Billion in 2018, despite the collapse of honey prices during the past three years. Consumer perception of the benefits of authentic honey is the basis of the increase in consumption. There has never been a greater awareness of the importance of bees to society, global food security and environmental sustainability than there is today. Nor has there ever been greater concern with food authenticity. Bees are the subject of global empathy. The plight of bees is of deep concern, including to new generations of consumers.

At the same time, the vulnerabilities of bees and the cost of keeping bees healthy and vigorous have never been greater. For numerous reasons, the productivity per hive has reduced. With increasing demand, increasing cost of production, and declining productivity, the laws of economics imply that international honey prices would have increased dramatically. The opposite is the case.

This is true for both conventional and organic honey. In 2019, the consumption of organic honey at retail increased by 7.8% compared to a loss

► pag. 20



Prepared by Dr. Stan Daberkow, USDA Economist Emeritus

of 3.7% for non-organic honey according to the Nielsen Scantrak report to the National Honey Board. Concurrently, the import price of organic honey has fallen by 50%. Over the past five years, retail sales of organic honey grew by 12.5%. The laws of economics suggest that the price of organic honey should be much greater than it currently is. The anomaly is further illustrated by the fact that the price of conventional honey has ironically with some frequency been higher than the price of organic honey, despite such facts that in the U.S. only 1% of agricultural land is certifiable as organic.

The only explanation for this vexing anomaly is found in the prevalence of adulterated honey in the international market, which artificially increases supply of products which are fraudulently marketed as honey, and with which authentic high quality honey cannot compete.

The Struggle Against Food Fraud

During the past four years, the battle to overcome food fraud and attain food authenticity has strengthened. Apimondia is finalizing a formal statement on Adulteration of Honey. This statement will be formulated with the expertise of the beekeeping community from five continents, and will be published in four languages.

The starting point of Apimondia's important statement is that honey is an historic product, resulting from the complete interaction of botanical and zoological life. That interaction transforms nectar into honey, with its rich and diverse chemical profiles and complex composition. The production of honey through evolutionary history has involved the transformation by bees of nectar and other botanical secretions. Honey is not nectar. The attributes of honey depend upon the completed interactions of botanical and zoological life. The production of honey by bees is biochemically designed to preserve the quality of honey and its stability as a food supply for bees during periods when blossoms and nectar are not available. These natural processes cannot be circumvented.

The Apimondia statement is a result of extensive observation of beekeeping practices and methods of adulteration which have taken center stage during recent decades. Those methods include extraction of immature, unripened pseudo honey which lacks the chemical profile of genuine honey, the use of resin technology, and the blending of bio-engineered sweeteners including C3 and C4 sugars (beet, rice, sugar, cane, corn, etc.), and false labeling of floral sources and/or geographic origin. The Apimondia statement recognizes that adulteration is very fluid as the fraudsters continually seek to elude detection. This requires staying ahead of the game and using multiple sophisticated tools for detection of adulterated honey.

The U.S. Pharmacopeia is formulating a document regarding the demarcation between authentic and adulterated honey. The U.S. Department of Agriculture issued a Commercial Item Description (CID) for honey in late 2019.

All of these recent works are consistent with the mandate that underlies the U.S. FDA's honey research protocol, which I worked on with Dr. Samuel Page and others two decades ago. The goal of all these efforts is to create standards and analytic techniques which are strong rather than weak, comprehensive rather than narrow, relevant to the contemporary realities rather than archaic.

Of great significance, the United Nations Food and Agricultural Organization has entered the effort to prevent adulteration of honey. Professor Michael Roberts, distinguished Professor of Law at the Resnick Center for Food Law & Policy at the UCLA School of Law, has signed a memorandum with the UNFAO regarding global Food Fraud. He has also served as an adjunct of law at China's prestigious Renmin University. In that capacity he has been engaged in fighting food fraud within China itself. Laws concerning food fraud are evolving rapidly in national and international arenas.

The media, local beekeeping associations, consumer advocates, and the legal system have turned more attention to the adulteration of honey than has ever been seen in human history. This national and international coalition reflects the growing awareness of the imperative to defend food authenticity, global food security and ecological sustainability.

Traceability

In the modern era of economically motivated adulteration (EMA) it has become clear that more rigorous and intrusive traceability regimes are necessary. Those regimes must include the multiple variables which influence the chemical profiles of authentic honey. Those variables include geographic origin, botanical origin, typical climatic conditions, specific weather patterns during production, methods of extraction, methods of processing, methods and conditions of storage, and moisture levels.

Step by step the science of honey authenticity is evolving so that a more thorough understanding of the conditions of production creates the opportunity to develop detailed chemical profiles of honey. With modern computerization it is relatively easy to have a wide range of complex profiles which can be wedded to rigorous traceability regimes. In agricultural products, such as wine, coffee, tea and honey, where there is immense and charming diversity, the above wedding is desirable. In fact, consumers' demand for local products and deeper understanding of the products they consume supports this scientific position. The evolution of more powerful methods to affirm authenticity can be integrated with global consumer demand for a more thorough and romantic understanding of the products they consume.

In the history of the fight against adulteration of honey, Dr. Jonathan White originally sought a particular number of the carbon isotope ratio to determine authentic honey from honey adulterated with corn or cane syrup. The White study was based on 100 samples, mainly submitted by American beekeepers. The second year, the same areas and floral sources were resampled, but the results, which were not published, were completely different. Dr. Joseph Bowden attributed that to the changed weather conditions, which were dry and sunny one year, and rainy and cloudy the other year. This change in conditions naturally affected the rate at which different carbon isotopes were fixed through photosynthetic processes. In dry years, sage honeys produce sugar profiles that inhibit crystallization. In rainy years, when wild sage bushes have many flowers in bloom, the sage honey is both darker and crystallizes more rapidly. We have discussed with scientists, including with the Bruker group, the need to use enhanced traceability and NMR to detect multiple illicit modes of adulteration and production.

Contractual Obligations

As retailers, manufacturers, food service, cosmetic and pharmaceutical industries become increasingly aware of the phenomena of food fraud and economically motivated adulteration, they have every right to demand of their suppliers the prohibition of illicit modes of production and adulteration, and include adequate testing using the most sophisticated modes of detection for adulteration.

There must be 1) sophisticated tools within the toolbox for detecting economically motivated adulteration and 2) those tools must be used, when possible, to investigate potentially multiple modes of adulteration which may be co-present. For example, NMR can detect nearly 40 parameters in the profile of honey. NMR is being developed in such a way that it can detect multiple modes of adulteration, making it the most powerful of methods. The honey industry is learning about the wide range of uses of NMR in juice, olive oil, wine, coffee, fish and other industries which are attaining

global acceptance. What is not fully appreciated is that NMR profiles are lengthy, and Bruker, the holder of the world's biggest honey database, encourages that clients have access to all aspects of their reports.

Contractual obligations can include not only the use of all appropriate methods of detection, but the use of those methods to detect multiple modes of adulteration.

Industries Policing Themselves

Industries that are permeated by adulteration are notoriously incapable of effectively policing themselves. As data provided in previous reports have indicated, the wholesale price of honey has steadily risen while the prices of honey imports have severely collapsed. The growth in those gaps constitute the economic motivation in EMA, which is substantial.

This means that it is absolutely essential that attempts to combat adulteration and the harm it does to honest producers requires auditors which are totally independent, professional and who have absolute integrity. Industries which are targets of EMA cannot effectively determine 1) the questions asked, 2) the methods used to detect adulteration, and 3) what information to suppress or release.

At recent national meetings, beekeepers and other participants within the honey industry were shocked to hear those who had for the past five years disparaged advanced techniques such as Nuclear Magnetic Resonance testing suddenly embracing and applauding those techniques. The isolators had become isolated. Science and facts, observations and analysis, increasing cooperation among government, academic and private laboratories, and the sheer negative consequences of adulteration on the industry, have caused the colluding players to sing a different song. Foxes and farmers cannot cooperate to protect the chickens in the henhouse.

In the battle against EMA there are many tributaries which include: 1) collaboration between government, private, and academic laboratories, 2) beekeeping organizations actively addressing adulteration, 3) the media exposing the subterfuge, 4) the legal system addressing fraud the consequences of EMA, and 5) responsible members of the honey industry demanding a level and fair playing field, which are coming together in a mighty river which has the potential to sweep away adulteration.

Prof. Roberts' second White Paper, we point out, makes clear the growing interest by major retailers to avoid food fraud. Some major retailers have illustrated how much food in their supermarkets would be absent except for the pollination provided by bees.

At recent meetings of state beekeeping associations, there were very vivid examples described of the top down pressure from major retailers and industrial users of agricultural products. It is anticipated that such pressure will be brought to bear in solving the problem of economically motivated adulteration.

An Inflection Point

After a long period of steady price growth at retail, and steady prices on the wholesale level, both of which exist in contradiction to the collapse of prices experienced by beekeepers and exporters during the past three years, a potential inflection point has been reached. While retail prices remain steady, there has been a decline in wholesale prices for honey. The data covers a short time span and the explanation of the aberration is not clear. However, as a consequence of the Netflix documentary on honey adulteration, other media events, the allegations of adulteration in Canada, the U.K., Australia, the U.S., China and India and the extensive discussions during Apimondia and among U.S. beekeeping associations, U.S. retailers are becoming more aware of qualitative problems and the collapse of prices.

The good news is despite steady retail prices, demand for honey has been steady. At the same time, prices at farmer's markets, gourmet shops and other outlets outside the mass market have witnessed significant increases.

A growing concern has been that some regions that have been innovators for natural products have seen declines in honey consumption. Beekeepers and experts in the quality of honey attribute this to the decline in quality of honey and the ubiquitous presence of adulterated honey.

Consumers will pay a high price for authentic high quality honey and will in fact increase consumption of high quality honey. The general hypothesis among beekeepers is that when honey becomes sold as a commodity indifferent to quality, consumption will inevitably decline.

At Apimondia's session on the Value of Bees, it was made clear that the benefits of honey depend upon the authenticity and the quality of honey.

Beekeepers in Australia provided a sobering report about the 120 fires which have engulfed the continent nation. New South Wales has declared a state of emergency and Victoria was declared a state of disaster. Beekeepers have been forced to travel as far as 1600 km in search of bee sites, and to move their bees from sites suffering the devastating fires. Safe havens have quickly turned into endangered zones, from which cattle and horses also have to be removed. Australian beekeepers have said that the devastation is so extensive and severe that Australia will not be able to produce any honey for the export market for at least a decade. That assessment is based upon the presumption that during that decade such devastating fires will not recur.

In the past, migratory beekeeping practices were guided by the succession of blooms. The current tragedies of Australia have given a new meaning to migratory beekeeping. The devastation in Australia was so severe and intense that a billion wild animals, excluding insects and pollinators, were destroyed. Scientists told us that the cries of animals were like the cries of Dante's Inferno. Jodie Goldsworthy of Beechworth Honey, Australia, the President of the Oceania section of Apimondia, poignantly describes the crisis to bees and their shepherds in a letter which is posted on the Apimondia website.

The health of any species, whether bees or humans, cannot be abstracted from the health of the Biosphere as a whole, including its botanical and zoological life. This concept I have introduced within a larger theory of "Integral Medicine."

Bret Adee shared an article in the Atlantic which indicated that the green revolution did produce more food, but at the expense of the soil, which became depleted of organic matter, minerals and micro-organisms important to the health of bees. The reintroduction of soil organisms is now possible through biofertility products, a \$500 million dollar industry.

It is becoming increasingly clear that the toxicity of the soil, water and air is directly linked with the decline in productivity of beehives. We see this phenomenon in countries with extremely experienced and disciplined beekeeping industries such as the U.S. and Argentina. It is also well known that India and China have many of the most toxic environmental conditions of any countries in the history of human civilization. It would stand to scientific reasoning to expect the same, if not even more severe declines in productivity per hive, in India and China.

HONEY MARKETS

Argentina

Recent reports from Argentina indicate that the majority of the preceding crop was sold, and availability is primarily for darker colors. Conditions for production are good but prices remain already depressed compared to three years past.

Brazil

Average import prices of Brazilian Organic honey have declined by 50% in the past two years from \$2.09/lb. to \$1.07/lb. The Brazilian real has declined relative to the U.S. dollar since early 2018.

Canada

The Canadian Honey Council did a beautiful job in hosting Api-



Professor Michael Roberts

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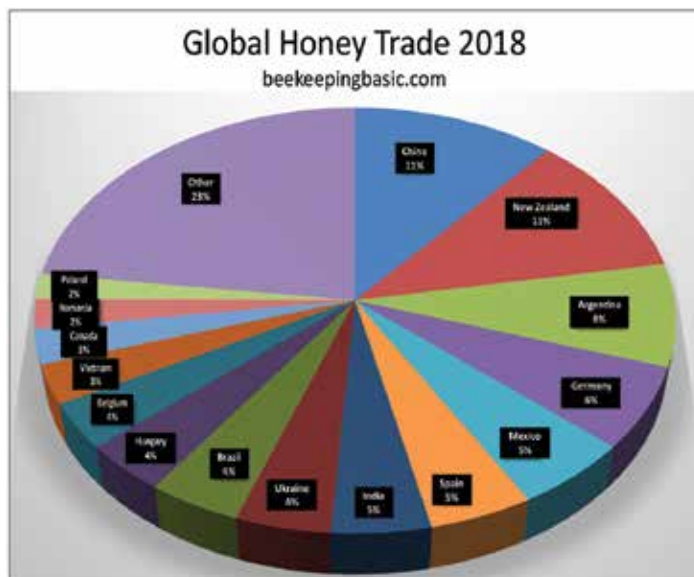


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mondia, whose new President is Dr. Jeff Pettis of the U.S. Canada's exports reached about 12,000,000 pounds as of October 2019. The province of Alberta suffered a drop of 20% in their 2019 crop. The Canadian government is continuing a program to sample honey at different stages within the distribution channels, and in March of 2020 new results will be released.

India

A PTI news report from New Delhi on November 24, 2019, stated:

The government has asked the Export Inspection Council (EIC) that comes under the Commerce Ministry to make NMR-testing mandatory for honey exported from India to ensure quality as part of its efforts to boost outward shipments.

The NMR (Nuclear Magnetic Resonance) screening technique is used to test for adulterations and other manipulations. Industry experts believe that this test will ensure quality of honey and help exporters in getting a better price in the international market.

According to representatives from the apiculture industry, the Agricultural and Processed Food Products Export Development Authority (APEDA) — which comes under the Commerce Ministry — had called a meeting of honey exporters on November 18, and a honey export body was set up.

During the meeting, the participants had an unanimous view that the NMR testing should be made mandatory.

A National Bee Board executive member stated that due to adulterated honey, Indian honey prices dropped by about 50%. They anticipate that by testing their exported honey, their prices will increase by 25% or more.

The effectiveness of this change remains to be seen but it is worth noting that it emerged after 1) the Indian government found 100% of the honey at retail in India was adulterated, and 2) protests from Indian beekeepers that they cannot compete with the adulterated honey in the honey market. Let us be hopeful, but vigilant.

China

As is well known, the China model of production has been exported to many countries, principally, but not exclusively, in Asia. Some believe that it underlies the low prices that led to the successful U.S. antidumping order against Chinese honey, the phenomena of circumvention and customs fraud, including the legal event of Honeygate.

Upon reflection, China's disruption and depression of the international honey market is less about selling honey below the cost of production and more about selling adulterated honey, whose cost of production is very low. Some members of China's honey industry are beginning to see the imperative of producing authentic honey and abandoning an archaic model. As had been noted in other contexts, the Chinese themselves call the product

they produce "water honey." Many beekeepers and members of the industry from around the world have witnessed the extraction of immature honey and its moisture reduction in huge modern factories with sophisticated systems of vacuum chambers. The problem is, water honey is not authentic honey.

Conclusion

Through discussions with the honey industries and exporters of low-priced honey to the U.S., it has become clear that modes of production and beekeeping practices can be adjusted. Key players in these honey exporting countries have said that they have no fundamental problem in producing fully ripened, mature honey. The problem is, if we do so, it will take much more time, the quantities will be much smaller, and the prices much higher than the prices which importers and packers demand. What is happening now in the international market, including the U.S. market, is that the demand is fundamentally shifting to authentic and pure honey, not its bland imitators. So many who have been victims of and or colluded with masters of market manipulation see clearly that there must be change.

The phenomenon of adulteration has been sustained through systems of "bribes and boycotts." The masters of market manipulation have lured many producers and exporters into the use of illicit modes of production, while the collusion of exporters, importers and end users has provided illicit economic benefit for some. The overall effect has been devastating to the sustainability of the international beekeeping community. The concerted efforts from American beekeepers, Apimondia and other groups are transforming the situation and creating hope that 2020 will be the commencement of a decade in which the fortune will belong to those who produce and creatively market authentic high-quality honey.

It is poetic that in the Dakotas, the world's premier producer of clover honey, is found Mount Rushmore, upon whose cliffs are found the faces of four U.S. presidents: Washington, Jefferson, Lincoln and Theodore Roosevelt. Teddy Roosevelt led the nation in creating anti-trust and anti-monopoly law, establishing the National Park System to protect and



Ron Phipps, AHPA January 2020

preserve the natural beauty of the nation, and creating the U.S. Food and Drug Administration to protect the purity, authenticity and safety of the nation's food and drug supply. Prof. Roberts, in his book "Food Law in the United States," recognizes TR's historic role in protecting the food supply.

That imperative has never been more urgent in our country and our world than it is now.

Mr. Phipps is President and founder of CPNA International, Ltd. He is a former member of the National Honey Board and Co-Chairman of the Committee for the Promotion of Honey and Health. He was a recipient of a National Science Foundation Fellowship in the Philosophy of Theoretical Physics. In 2017 he was appointed Vice President of the Apimondia Scientific Commission on Beekeeping Economy. He has worked with FDA to develop a research protocol for the global diversity of honey. e-mail: info@cpnaglobal.com ■

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The Asian giant hornet *Vespa mandarinia* has arrived in North America!

By Prof. Stephen Martin, University of Salford, Manchester UK
Submitted by Pierre Giovenazzo PhD.

If North American beekeepers did not already have enough to deal with, another threat could be on the way. During August 2019 three Asian giant hornets (*Vespa mandarinia*) were reported on Vancouver Island, Canada just south of the town of Nanaimo in Robins Park. This urban park is connected to a wooded valley, ideal nesting habitat. The original reports were from two people and occurred a few hundred yards apart. These hornets were likely to be workers that were hunting from the same nest. Hopefully, this was an isolated incident of a single mated hibernating queen been accidentally imported into the area. Nanaimo (BC) is a vibrant harbour city. The best course of

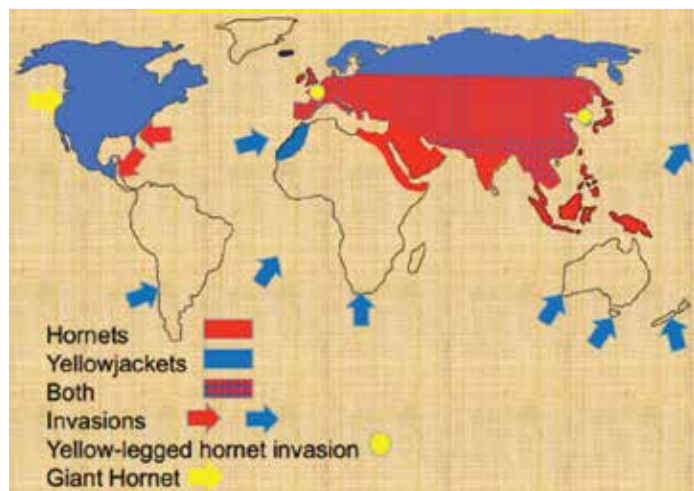


Figure 1. Worldwide occurrence of yellow-jacket wasps and hornets, this the arrows and dots indicating locations where either yellow-jacket wasps (Blue) or hornets (Red = Old and Yellow = recent) have become established or in the case of the Asian giant hornet had multiple sightings.

action was to locate and destroy the nest, although without specialist help this could be difficult, since although large and nests are typically built underground in well wooded areas. Failing this the subsequent sexuals (new queens and males) produced by the nest may fail to breed successfully in 2020.

However, this idea quickly became redundant when on 8th of December a dead Asian giant hornet (Fig. 4) was reported on the mainland a few miles east of Blaine (WA) a small town on the US/Canada border about 30 miles south of Vancouver (Fig. 2). More importantly the person reported that a second hornet had been flying near a hummingbird feeder before disappearing into a nearby forest, suggesting a second active nest. However, follow up reports found three more serious reports in the area. Firstly, a beekeeper reported his apiary had been attacked and a specimen collected by this beekeeper was submitted and verified as Asian giant hornet by Washington State University. As this new loca-

tion was under a mile from the original Blaine the sighting probably represents adults from the same colony. Then 5 miles SE from Blaine a beekeeper reported a strong hive being butchered a few months earlier (Fig. 5). Then reports appeared of three hornet colonies/sightings from a single location near the town of Bellingham (WA), a further 17 miles south of Blaine and now almost 100 miles from the first location at Nanaimo. These included a hive been attacked in October, but this report could not be verified or ruled out by the evidence provided.

Based on these reports it suggests several active Asian giant hornet nests in the lower region of the Strait of Georgia with colonies on both sides of the straits almost 100 miles apart. The region around and between the hornet sightings are heavily wooded as is the region between the sightings, which is the location of the wooded San Juan and Gulf islands. These are all excellent areas where hornets could thrive. Therefore, I suspect there are more unknown locations where the hornets currently exist suggesting the population could well be already established and thriving in this region, but only time will tell. The presence of late occurring workers attacked honeybee colonies all suggests that nests have successfully bred. Therefore, 2020 will be a key year in delimiting the true extent of its distribution. Education rather than eradication is likely to be the only path forward now since a successful nest



Figure 2. The locations in late 2019 where sightings of the Asian giant hornet in North America have occurred.

can produce around 400 new sexuals (new queens and males) and even the eradication of 95% of all nests only leads to a 50% overall reduction in the following year.

There are three different subspecies or color forms and hornet ex-

► pag. 26

pert Dr. J. Takahashi thinks based on the limited material he has seen that the ones in North America came from Far East Asia region. This color form occurs in Japan, the Korea peninsula, Priorsky region of Russia and northern China. Further molecular analysis is underway to narrow down the precise region it/they came from. Irrespective of the precise location it means that these hornets will be very familiar with the climatic conditions found in the BC/WA area.

For beekeepers the Asian giant hornet (*Vespa mandarina*) is the one that gets all the press coverage and its easy to see why. It is one of the largest flying insects in the northern hemisphere, it's an apex predator and is infamous for decimating an entire honey bee colonies in just a few hours. The good news is that unlike its smaller cousin *Vespa velutina* (yellow-legged [Asian] hornet) that is spreading throughout Europe and the Korean peninsula and should be on a North America 'watch' list, it is relatively easy to defend your hives against the mass attacks. Beekeepers in Japan place a wire screen around the entrance/landing board to preventing the hornet's access of the colony. This will obviously need to be adapted to the wide range of hives kept throughout North America, but the hornets need access to the hive body in order to mount a mass attack.

If/when the hornets establish a viable population in North America, the rate of spread is difficult to predict, as this is the first case of several hornets outside their native range. Excellent data from the yellow-legged hornet showed an annual spread of around 30km per year in South Korea, and 100km in Europe. The most likely explanation for the differences is the lack of competition from other hornets' species in the two regions. Korea has ten species while only one species occurs in Northern Europe. This doesn't include accidental long-distance movements of hibernating queens that have allowed entirely new viable populations to reach Japan from Korea and Portugal from France.



Figure 3. A Asian giant hornet found near Blaine WA, showing clearly the enlarged head behind the eyes used by the large mandibular muscles, and distinctive markings. Photos by Sven-Erik Spichiger

Asia is the birthplace of all hornets and honeybees and hence they have a long evolutionary history, and this has selected some unique behaviors. In Japan the Asian giant hornet is considered a semi-specialist as it feeds on slow-moving prey such as beetles, large moth/butterfly larvae and spiders. Unlike other hornets it is not very agile, so solitary hunting of flying insects is difficult, instead it has evolved a group predation strategy in order to prey on colonies of wasps, hornets and honeybees. The group predation by Asian giant hornets was studied by Dr. Matsuura who observed such attacks peak in September when the



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Figure 4. Asian giant hornets attacking a Western honeybee hive in Japan. Photo. by M. Ono.

Asian giant hornet colony is reaching its maximum size. During the solitary hunting phase hornets land on the colony and predate single adults but success rates are low and effects on colonies negligible, especially since most species try and attack the hornet. However, this can switch to the slaughter phase when a dozen or so adults target a single colony. When this occurs, they continue to fight until they die or annihilate all the inhabitants of the colony and then carrying back the larvae and pupae to their colony. However, with Western honeybees if the colonies are not artificial protected, the hunting phase frequently shifts to the slaughter phase resulting in a small group of hornets killing over 35,000



Figure 5. The results of an attack on a colony SE of Blaine WA in autumn where a strong hive was butchered with the bees characteristically chopped in half. Photo by T Custer.

honeybees in just a few hours (Fig.5). If the hornets fail to overwhelm the colony on the first day, they return the next to finish it off!

When under attack the Asian honeybees (*Apis cerana*) retreats into the hive and waits, if the opportunity arises the bees on mass form a ball around the hornet (Fig. 6) and commence to kill it by raising their body temperatures at the center of the ball effectively 'cooking' the hornet. This thermal defense is unique to Asian honeybees, and although they are reports of Western honeybees (*Apis mellifera cypria*) in Cyprus and Greece balling the native hornet (*Vespa orientalis*), but the bees kill by asphyxiation not heating.

a colony with a bee suits since Asian giant hornets can easily sting through the fabric and squirt venom through the veil but call in the experts. Hopefully, the colonies in BC/ WA region will fail to establish a viable population, as no doubt has happened many times in the past since only *Vespa carbo* has successfully become established in North America, but the signs are not promising.

Any hornet sightings in British Columbia can be reported to the Invasive Species Council of BC at 1 888 933-3722, via the council's "Report Invasive" mobile phone app, or at: <https://bcinvasives.ca/report>. Reports from Washington can be made at agr.wa.gov/hornets, by calling the Pest Program at 1-800-443-6684 or via the WA Invasives app. I am grateful to Paul Van Westendorp, British Columbia Provincial Apiarist; Michael Jaross a Bellingham beekeeper and Sven-Erik Spichiger the Washington State Managing entomologist for providing information for this article.

Further reading:

I wrote a book about the biology the Asian Hornet (*Vespa velutina*) but it contains much general information about hornets and has section on Asian giant hornets. Its available from Amazon and all profits go to support International Bee Research Association (IBRA)

Martin, S. J. (2017) *The Asian Hornet: Threats, Biology & Expansion*. IBRA & Northern Bee Books.100pp

Asian giant hornets' colonies are a long cycle species with the hibernating queens emerging in April/May and sexual (new queens and males) production in sept/oct. In Japan their mature nests contain 700-1100 cells contained within 5 combs. It takes around 40 days for an egg to develop into an adult, and the adult workers live around 2 weeks. A mature nest is capable of producing 400 new sexuals, with peak numbers of workers reaching between 200-500.

Its very easy to identify this species, since its truly massive compared to all other flying insects in N. America and has a distinctive orange and black pattern. Away from their colony hornets are not overly aggressive so long as people remain clam, which few will be able to do. The nests are typically in parks, hill sides, woods and forests and in well drained ground 1-2ft underground often associated with sloping ground or an overhanging cliff. A few nests occurring in tree cavities but always within a couple of feet of the ground. Beekeepers should never attempt to remove



Figure 6. Asian honeybees balling or 'cooking' a Asian giant hornet, whose head can just be seen. Photo by S. Martin.

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Hive Rights Help Wanted

Help Wanted: Fisher Branch (MB)

Interlake Honey Producers Ltd. P.O. Box 328, Fisher Branch, MB R0C 0Z0 has the following positions:
Apiary Technician 5 Positions Available

Required for the 2020 Honey season. Seasonal, full time, days, evenings and some Saturdays. Work is mostly outdoors, so must be able to work under hot conditions. The job starts April 1st – July 1st. End date: Sept 10th- October 31st. Wages: \$13.00 - \$16.00/hour. Minimum 2 years experience preferred. Performance and/or production bonus may be available.

Duties: include but not limited to, feed and care for bees, replacement of hives and production of nucs; moving hives, supering hives, detect and report hive health and apply correct disease cures and/or controls; keep field and/or production records; harvest honey; work on extracting line; cleaning extracting equipment and honey house; raise queens, assemble and maintenance of bee equipment; drive and maintain vehicles; other duties as assigned. Work is very physically demanding, with long days and heavy lifting.

The job is located 2 hours north of Winnipeg in the RM of Fisher NE 33-23-1W in Fisher Branch, MB. Send resume by mail to Box 328 Fisher Branch, MB R0C 0Z0 or email anita@interlakeforageseeds.com

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Help Wanted: Kinistino, (SK)

Position 1

Bacon Apiaries Ltd, located in Kinistino, Saskatchewan, is looking for an Apiary worker for the 2020 honey crop season. The job will commence approximately on March 15, 2020 to Oct 31, 2020. Primary duties (but may not be limited to) includes moving hives, feeding and medicating colonies, evaluating colonies, supering hives and harvesting honey, extracting and storing of honey and repairing bee equipment. Availability to work long hours, including week-ends and evenings is required. Salary starting from \$12.30/hr to \$14.00/hr depending on experience.



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Position 2

Bacon Apiaries Ltd, located in Kinistino, Saskatchewan, is looking for 5 Honey harvester labourers for the upcoming 2020 honey season. Job duties include using an automatic lift to place full honey supers on a conveyor, running honey frames through an uncapper, moving frames into an extractor, removing empty frames and putting them into supers, stacking them away, making new honey equipment and repairing existing honey equipment. Employees hours will be 40-60 hours/week (5-6 days) with wages starting at 12.30/hr to \$14.00/hr depending on experience. Employment from July to September 24th 2020. Send resume to rbacon@sasktel.net

Help Wanted: Sexsmith, AB

Location: COUNTY GRANDE PRAIRIE No.1, Alberta

Moondance Honey Inc. located at 55063 TWP RD 750, Sexsmith, AB T0H3C0 has the following positions for the 2020 season. Beekeeper Technician (NOC 8431)-3 seasonal positions, wages \$17 -18/hour, depending on experience. Duties include hive management, queen introduction, nuc production, pest/disease recognition and control, hive supering, honey removal and extraction, equipment construction and repair, and winter hive preparation. Requires 2-5 years of commercial beekeeping experience. Apiary Worker-4 seasonal positions, wages \$15-16/hour depending on experience. Minimum of 1 year beekeeping experience or training. Duties include assisting beekeepers with hive management, supering, honey lifting and extraction, moving hives, and assisting with winter hive preparation. All applicants must be able to work in hot environments while wearing coveralls, handle heavy lifting, and not have allergies to bee stings. Apply to termeerbill@yahoo.ca or fax resume to 780-833-5747

For a complete list of Help Wanted go to: www.https://honeycouncil.ca/honey-council-classified-ads

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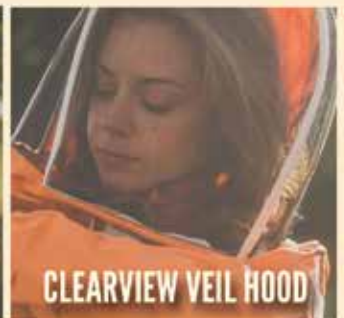
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