

Winter 2022 | Vol 35 # 1



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Cover photo: You can never treat too early.
Photo credit: Simon Lalonde, Lalonde Honey Farms

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Canadian Honey Council Report



Rod Scarlett, Executive Director, CHC

Looking back on 2021, the beekeeping industry in general had a fairly successful year, at least according to statistics. Statistics Canada released the following:

Canadian honey producers harvested 89.8 million pounds of honey in 2021, up 8.0% from 2020. The number of colonies increased by 6.0% from a year earlier to 810,496 in 2021, which contributed to the higher production. The total value of honey sold increased by 39.4% to a record-high \$278.0 million in 2021. Lower production and less supply since 2017 contributed to higher prices and value for honey in 2021.

The number of beekeepers grew to 13,105 in 2021, as 1,111 more beginner beekeepers started their honey-making journey this year. Honey exports were down by 13.3% during the first three quarters of 2021 to 12.4 million pounds. Sales from honey exports climbed up by 4.3% to \$33.1 million. Over 90% of Canadian honey is exported to the United States and Japan.”

Of course, not all beekeepers had the same experiences, and many had additional input costs to achieve the economic benefit, but on the whole most commercial operations did okay despite smaller honey crops. Colony numbers were up in spite of the fact that very few packaged bees arrived from Australia, New Zealand and Chile. There were strong numbers of nucs moving interprovincially which certainly help alleviate some of the

pressure to restock numbers. The question of domestic self-sufficiency and stock imports remains a constant discussion at both the Board, provincial and regional levels.

Covid continued to have an impact on the supply of labour, especially in the spring. The CHC again chartered planes to get workers in and thankfully, commercial flights were able to accommodate their return. In December, two reports were released which could have an important, (and detrimental) impact on employers and employees. The “What We Heard” report on housing of temporary foreign workers and the “Auditor General’s report on Temporary Foreign Workers” both had recommendations that direct most recommendations towards bunk house type accommodation and have little consideration for rural housing that beekeepers commonly use. While there is a recognition that workers health and safety is paramount, and inspections are necessary to ensure the rules are being adhered to, the reality is that commercial operations do not have dozens if not hundreds of employees living in bunkhouse type accommodations and rules to rectify inappropriate situations cannot necessarily be translated over to smaller living environments.

The Labour Committee of the Canadian Honey Council, chaired by Curtis Miedema will be providing perspective to each of the reports and will be vigilant in ensuring the voices of commercial apiary operations will be heard. ■



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Regional Reports



Atlantic



Chris Lockhart

It's the end of December and chatter has already started to begin in the eastern lowbush blueberry industry. Most blueberry producers were able to grow an average to above average crop last season. This coupled with very encouraging berry price has put quite a bit of optimism into the industry. With high demand on bees, it sounds like the upcoming season could see record hive rental prices for lowbush blueberries.

While this is good news for blueberry growers and beekeepers alike, it also is cause for concern. With rumors arising of potential big losses in some provinces, the major worry is there will not be enough hives to fill the pollination demand. This has been a growing concern for years within the industry. With the rollercoaster price of blueberries, it has been difficult and risky for blueberry growers to expand and make commitments. This has in turn affected the beekeeping industry that is reliant on pollination as a dominant source of income. With so much uncertainty in the berry industry in the last few years, many beekeepers have decided that expanding was just too risky. Now all of a sudden with booming prices and potential for high losses in some areas this could be a perfect storm for massive hive shortages in the blueberry fields. Beekeepers are also seeing record shattering prices for honey which may also make it harder to fill the pollination void. There needs to be more communication between the growers and beekeepers on where the industry is going. If the demand for hives continues to go up, beekeepers and growers are going to have to work together and get creative to fill the demand. CHC has started a task force to include some key players in the industry to see if some of the above issues can be tackled. It is my hope that the future is bright and both industries can work cohesively side by side and grow together.

The honey committee has also been hard at work on several issues. One of the issues we've been dealing with is trying to define several definitions surrounding honey (including defining honey itself). Several of these definitions include raw honey, pasteurized, comb honey, honey spreads. It is our hope that we can solidify these definitions with CFIA to make sure that the terms are properly used and protect the integrity of Canadian honey.

Québec



Est-ce que la pandémie aurait un impact sur les prix du miel vu la très grande promotion réalisée en vue de l'achat local? Ou encore les pertes de ruches durant l'hiver 2021? Peu importe la raison, les prix du miel sont en forte hausse cet automne. Plusieurs rumeurs mentionnent

que le miel c'est vendu entre 3,00 \$ à 3,31 \$ la livre en baril dans l'ouest canadien.

Malgré le grand soin apporté aux ruches pendant la saison 2021 et les traitements agressifs contre la multiplication du varroa plusieurs prédisent des pertes considérables du cheptel canadien au cours de l'hiver 2022. Ces pertes pourraient avoir des effets considérables sur l'industrie et même des ramifications à l'extérieur de l'industrie apicole. Le Conseil canadien du miel met sur pied un « Task-Force » afin d'approfondir beaucoup plus le dossier de la pollinisation au niveau canadien. Les administrateurs des AADQ sont d'ailleurs en discussion avec l'association des producteurs de Bleuets du Québec afin de suivre adéquatement l'évolution du dossier.

Le projet du Centre de recherche Animale de Deschambault (CRSAD) concernant le nourrissage automnal au miel est maintenant rédigé. L'équipe travaille fort pour l'obtention de sources de financement de l'industrie nécessaire pour mettre sur pied le projet durant la saison estivale 2021. Le temps joue contre nous dans ce dossier complexe pour lequel nous avons besoin de réponses afin de veiller au meilleurs soins des ruches pour l'hivernage.

Les administrateurs de l'association québécoise AADQ ont participé au congrès de l'Union des producteurs agricoles du Québec afin de modifier la résolution 3.6 POUR UN USAGE JUDICIEUX DES PESTICIDES. Certains des articles allaient à l'encontre des valeurs de nos membres nous avons donc cru judicieux de tenter de les faire modifier avant son adoption durant le congrès. Merci Julie Fontaine pour ton temps et ta dévotion au comité pesticides des AADQ. Sans toi tous les progrès que nous avons réalisés au cours des dernières années n'auraient pas été possible.



Maggie Lamothe Boudreau



Figure 1 : Congrès de l'UPA 2021

Je tiens à souhaiter la bienvenue à Monsieur Denis Pellerin qui est dès à présent le coordonnateur de la table filière apicole québécoise. Félicitations pour ta nomination Denis et au plaisir de travailler ensemble sous peu.



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Plusieurs autres dossiers sont aussi sur la table de travail. J'en discuterai avec vous lors des prochaines de publications du Hivelight.

Si vous avez des questions, n'hésitez pas à contacter notre équipe.

Would the pandemic have an impact on honey prices given the very large promotion made for buying local? Or the loss of hives during the winter of 2021? Whatever the reason, honey prices are up sharply this fall. Several rumors mention that honey is sold between \$ 3.00 and \$ 3.31 per pound in barrels in Western Canada.

Despite the great care given to the hives during the 2021 season and the aggressive treatments against the varroa mites, many predict considerable losses of the Canadian hives during the winter of 2022. These losses could have significant effects on the industry and even ramifications outside the beekeeping industry. The Canadian Honey Council is setting up a Task Force to further explore the issue of pollination at the Canadian level. The directors of the AADQ are also having discussions with the Quebec association of blueberry producers in order to properly follow the evolution of this crucial matter.

The project of the "Centre de recherche Animale de Deschambault" (CRSAD) concerning autumn honey feeding is now drafted. The team is working hard to secure the industry funding sources needed to set up the project during the 2021 summer season. Time is against us in this complex matter for which we need answers to ensure the best care of hives for wintering.

The directors of the Quebec association AADQ participated to the convention of the "Union des producteurs agricoles du Québec" (UPA) to amend resolution 3.6 FOR A JUDICIOUS USE OF PESTICIDES. Some of the articles went against the values of our members so we thought it wise to try and have them amended before it was adopted in congress. Thank you Julie Fontaine for your time and your devotion to the AADQ pesticide committee. Without you all the progress we have made in recent years would not have been possible.



Figure 1: UPA Congress 2021

I would like to welcome Mr. Denis Pellerin, who is now the coordinator of the Quebec beekeeping sector table. Congratulations on your appointment Denis and looking forward to working together shortly.

Several other files are also on the worktable. I will discuss these with you in future Hivelight publications.

If you have any questions, do not hesitate to contact our team.

Ontario



This past fall, Ontario had a respite for several weeks from the regular rain that we had been getting, only to have the rain return. The weather remained mild so when it wasn't raining the bees had plenty of opportunity to take down their winter food. Wet ground made accessing some bee yards quite challenging. I had to resort to six ratchet straps and several conveniently placed trees to get my truck unstuck at one point this fall. I'm sure many Ontario beekeepers will have similar stories to tell.



Albert Devries

Due to Covid-19, meetings have remained online. At our fall AGM, the membership voted to reaffirm the closure of the US/Canadian border to the importation of packages of bees from the USA. The pandemic has highlighted how dependent we are on various supply chains and how fragile they are. Developing a dependable supply of domestic replacement stock is a goal many beekeepers are working toward. Research into overwintering queen bees continues to gain beekeepers' interest.

Looking ahead to the spring, beekeepers have been talking about how poor their bees appeared going into winter. There has been speculation about how high our losses will be this spring. It could be tough with many dead hives. It seems that varroa mites are the problem. The early arrival of spring started brood rearing and mites had many generations to reproduce. The efficacy of mite treatments is being questioned but at this point there is no clear answer as to why the mites were so particularly damaging this year. Demand for hives to pollinate lowbush blueberries in the Maritime provinces is very strong. Prices are high enough that beekeepers may be willing to alter their honey production plans and rent out their hives.

This is my last Ontario report as my time as a director on the Canadian Honey Council is coming to a close. I have many people to thank. I am grateful to the beekeepers of Ontario. You gave me your trust and allowed me to represent you at the national level. From my fellow directors and executive director, Rod Scarlett, I have learned much and will cherish the friendships I have been blessed with through the CHC. I am thankful to my wife and family. As my wife is a natural writer and I am not, she edits these reports and it is her voice I hear in my head when I try to make my writing better. This role has at times, taken me away from my family and I'm thankful to them for giving me that time.

I am grateful for the opportunity I have had to represent Ontario on the CHC. I have grown and learned much. Thank you!

Manitoba



Osee Podolsky

The beginnings of winter have been quiet which is not necessarily a bad thing considering the drawn-out fall season we had in Manitoba. Following the first snowstorm we had on November 11th, the weather has been mild with little snow fall and mild temperatures leading to the holidays which finally brought the winter chilly weather. The MBA will be hosting our convention online Via zoom again this year, the final date is still yet to be determined. We hope you will consider registering and tuning in to listen to the speakers and presentations! As for honey recent reports indicate that Manitoba beekeepers have already sold or committed the majority of their 2021 honey crop. I am hoping to see the market continue to hold strong for the 2022 season as availability seems to be low, especially for honey under 20mm. I hope you had a Merry Christmas and a Happy New year; I am wishing you the absolute best in 2022!

Saskatchewan



By the time your reading this hopefully it's warmed up outside. Currently in Saskatchewan, it's -36 with the windchill feels like -48 degrees Celsius! During this extreme cold weather, I've been growing more con-

► pag. 8



Jake Berg

cerned with how the bees are fairing in the wintering building. I found myself wondering out to the wintering building this evening to verify there was still heat being produced by the bees and that the fans where still running. The quiet hum of the exhaust fans was a very soothing feeling. There must be bees still alive and healthy if the fans are running even in these extreme temperatures.

I've been hearing some definite concern about what the levels of winter mortality may be with bees across Canada. This is caused mainly because of elevated mite loads leading into the winter months. With the thought that there could be a higher than normal winter loss, this has raised many questions about stock replacement. One of the questions being asked; will there be enough supply to meet the demand in the spring? This brings me back to the thought, that there is a huge opportunity for beekeepers in Canada to supply a greater piece of the stock replacement pie and keep the dollars spent annually on stock replacement in Canada rather than sending it out of country. If we learn anything from the pandemic and the disruptions it has caused in the last year and a half, I feel any product or service that could be sourced closer to home at a reasonable or comparable price is a far safer bet than the alternatives that are from other countries.

Domestically produced replacement stock is available and all though, at this time, it cannot fill the entire need I think it could still be considered to be the safer and more consistent source as it does not need to cross any international borders. I believe with an increased interest in domestic replacement stock, the increase in supply will naturally follow.

Now that I'm done my stock replacement rant, I would like to wish you all the best in 2022. I hope we see the end of the pandemic and a return to normality.

Alberta



Curtis Miedema

Winter has defiantly arrived here in Alberta. After a very nice fall and a mild start to winter this past week we have plunged into the deep freeze seeing temperatures fall below -30oc.

2021 has been another interesting and challenging year for the beekeeping community. The price seems to be the real good news story going on right now and we hope it sticks around for a while.

We had a successful in person Alberta AGM in November and look forward to our February IPM.

On the Labour side it sounds like many beekeepers have there LMIA's approved and look forward to their workforce safely arriving in the spring. CHC has been in talks with the government about potential adjustments being made to housing requirement but we continue to tell the good news story of the foreign workers and beekeeping being a win-win situation.

I hope everyone has had an enjoyable holiday season with friends and family. Wishing you all the best in 2022.

Alberta



I could really use a chinook right about now – its cold. But the cold weather has kept me indoors and forced me to take a long overdue break. I often talk to those that are in my employ about balancing out one's life – working to live opposed to living to work. All to often one is blind to the rut we find ourselves in -overwhelmed by the mountain of responsibility demanding every waking moment. And we lose sight of that which truly makes one rich and the Inheritance we



Ron Greidanus

ought to leave our children opposed to the monetary inheritance we strive for. This Christmas as my wife and children and I sat around the living room I realized that the greatest gift we were giving each other this Christmas was not to be found in box under the tree. It was the memory we were creating, the healing of hurts, the coming together, the sharing in the blessing derived from all our striving. Though the storm of life raged outside the walls of my home, we were together and together we have it all.

And now its new years eve, my eldest daughters have gone to resume their lives and the youngest ones are out with their friends. It seems that new years eve will be quite subdued this year. There is not much to tell on the bee front this month. We have past the shortest day and I can feel deep down in the core of my being that the sun is shining brighter and the days are getting longer and hope is rekindled in my soul. But to look forward we need to look back at the season that was. There are a few things that stand out. The first thing that stands out is the high varroa populations that many producers reported this past fall. Hope.

I want to say this: 'this too will pass and we will recover.' Spring 2022 will be what it will be. One way to stave off despair is to plan. Plan 'a' – less than 20% winter loss; plan 'b' – between 21-40% winter loss; plan 'c' - worse than that. Having a plan for the worst will have the psychological effect of building confidence that whatever 2022 throws at us - we can and we will survive.

The second thing that stands out about the 2021 season is the sheer number of bears that were shot by beekeepers. Guns are tools of our trade. Every year I hear stories of beekeepers working in bee yards and having a bear wander in looking to treat the hives as a wendy's drive thru.

Shooting is a perishable skill and gun safety is found in skill that is derived from proficiency. I have taken to teaching my kids the art and science of shooting. The down side consequences of pulling a trigger are horrendously horrible that can not be undone. It is a nightmare that the one who pulled the trigger will live with for the rest of their life.

I want to save my children from such a tragedy, therefore I train them and train them well. There is nothing more exhilarating than being able to fire a weapon (rifle, pistol, bow, slingshot, rock) from this emotionally charged, trembling, pulsing body we live in, and have that projectile go EXACTLY where it was intended. That level of proficiency translates into a high degree of safety.

But then there are bears. I have wrestled with sending my employees to the bees with a substantial deterrent... but one stop by law enforcement could result in career limiting consequences for my employees... maybe not a good idea... Instead, as part of my employee training, I try to instruct the employees on, "what to do if..." in the highly unlikely event that a bear enters the apiary while they are working there.

- 1) Stay calm. If you panic in fear, your fears will be visited upon you.
- 2) Keep something between you and the bear ie bee hives. Bears cant hurt you if they can't touch you.
- 3) While I serve up donuts during the training session, I point out that bears can run at speeds of 50 km/hr for short distances. Humans can't. They shouldn't try running away from a bear. (I like to point out that they only really need to be able to run faster than the other workers...)
- 4) Every truck has a radio and an air horn. – bears don't like loud

noise or Ricky Martin songs.

5) Get into the cab as quickly and as calmly as possible. When everyone is in the cab break out the phones and take all the pictures you want then honk the horn, drive a short distance away wait awhile then secure the load and go to the next yard.

Being proactive for a reactive situation is difficult – ‘the best laid battle plan is worthless once the first bullet is fired.’ (Ret CSM Eric L. Haney) If you find yourself in a situation where the only recourse is to react – having practiced the reaction is the best proactive preparation that one can make. There is no ‘try’ there is only trained and untrained - Have a plan. At the very least, it will help formulate what to do if... cause there is nothing worse than doing nothing – that just leads to panic.

That brings me back to the rapidly approaching spring. Do not let the hounds of depression near your door. Hope springs eternal and can make dismal circumstances brighter. The way to stave off the hounds of depression and feed the flame of hope is to be realistic and have a plan, make preparations, run through the scenarios. ‘What if?’ ‘What is the worst case?’ ‘What is the best case?’ ‘What is the most likely scenario?’

Third, the honey crop that was or wasn’t. I have waxed eloquent for way too long. I will only say this: In my many years of beekeeping experience I have come to realize I am powerless to put one drop of honey into a hive. I can not direct one bee to pollenate even one flower – only the Ancient of Days can do that. I can only move hives close to flowers I would like them to pollenate and put empty boxes on hives that I would like the bees to fill with honey. I can go through the motions, but I am powerless in all else. Be faithful, have Hope, do the work. Spring is coming.

British Columbia



Stan Reist

I would like to wish everyone a Merry Christmas and a Happy New Year. For some of us those words will probably ring hollow. There are people still out of their homes, some that don’t have anything left and are stuck in limbo. There a lot half way in between, still coping with the devastation and destruction. Probably the best that could be said is one foot forward and one day at a time. If there are any positives out there we all that we can get.

This year the reports of hive losses have started to come in before we are into winter and the forecast is for higher than normal losses, whatever normal is in these times. I have had reports from Quebec of 20% losses before the hives were winterized. The culprit is thought to be the mite, the reports are saying beekeepers are having a tougher than normal time controlling the mite. Some are saying they treated and had it under control and then all of a sudden they are overwhelmed by mites. Most are thinking they have been re-infested from other sources, not impossible and it’s happened before.

At the AGM in Saskatoon the researchers were talking about using two different treatments. AO, and then Thymol for instance or Formic Acid and then Thymol or Apivar and another treatment. It is appearing two different treatments back to back might be the future.

There will be packages available this spring, however, the total number is up in the air right now we are certain that Air New Zealand is going to be flying the packages out of New Zealand this year and not Air Canada. However, as with life anything can change at a moment’s notice without our permission. So the Call from Alberta and Manitoba to open the border to US packages is again an unending issue. Saskatchewan is I would hazard a guess 80% self-sufficient in stock replacement and has been for quite some time, well-kept secret or just trying to ignore that we actually winter bees and increase stock and

have our own replacement stock. While there is good movement in AB in putting away replacement stock or the following year’s losses it’s just starting to gain traction, but keeping the momentum going is key.

AB is consistently saying that BC and ONT were supposed to be the ones that are to supply packages and Nucs for winter losses and why have we not stepped up to the plate. This is probably long forgotten and hopefully not remembered but Morley Clark made regular trips out to B.C. in the 90’s to buy packages from BC beekeepers and ship them back to the prairies. I can’t remember the exact number of years but it was significant. However, on the other hand why is AB so far behind Sask in Nuc production? The call to open the border or the push to open the border by some is not sitting well in one particular province and I can’t blame them. Their provincial apiarist sold them a vision 35 years ago! Guess what, it worked, they bought in and they are now reaping the benefits. So do we want to throw 35 years of progress down the tube just because others are too stubborn to get with the program and create a Canadian industry?

Last year after all the B.S. was finished, we were not as short of stock, as was predicted, and it wasn’t the disaster that was supposed to happen, yes there were other glitches in the systems, shortage of workers and timing issues, and help from beekeepers that did sell off some hives it all helped. This year there appears to be a higher than normal request for pollination in the eastern provinces and predictions of hive numbers is coming in to question as to whether the demand could be met. This is leading up to interesting times and hopefully things will moderate. However, that does not mean that we can sit back roll a players and enjoy life. We, yes, We as an Industry, have to make choices of whether we are or are not going to pull together, to better ourselves and become less reliant on others to bail our ass out of the sling, so to speak. We have the technology, we have the experience and the Teck transfer teams that should be able to help pull this all together and make it work.

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Thymol – considerations for a successful varroa treatment

Dr. Claudia Garrido

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There are several highly efficient treatments against varroa mites which are based on substances from natural origin. They are less prone for resistance issues or residues in bee products than synthetic miticides. On the downside, they need a little bit more attention and knowledge to achieve best results. Thymol is one of the natural substances that are successfully used against the parasitic mite. There are two main products with thymol as main ingredient registered in Canada: Thymovar and ApiLife Var. The latter is the latest registration in Canada, dating only from October 2020. In the US, two main products with thymol are registered: Apiguard and ApiLife Var.

However, these products are not the same: Apiguard is a gel with thymol, while the other two products are strips, saturated with this substance. ApiLifeVar is a blend of thymol with eucalyptol, mentol and camphor, while Apiguard and Thymovar rely on pure thymol. These differences are important for understanding which product to choose in different conditions.

Thymol acts by its vapours, it must evaporate to kill the varroa mite. The bees distribute the substance in the hive by their activities, like ventilation or removal of the product, thus supporting the evaporation. For this process, the external temperature is important: the highest efficacy is achieved when the temperature ranges between 15-30°C and never falls under 12°C. The ideal range for thymol treatments is 20-25°C. This makes it clear why products based on thymol are summer treatments: They need temperatures seldomly reached in the colder months.

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Comparison of the three products under different environmental conditions

Not many studies are available comparing the three products by means of their efficacy under different environmental conditions. The bee institute in Liebefeld (Switzerland) compared Thymovar and ApiLifeVar, finding high and similar efficacy for both products (around 90%).

A first extensive comparison of all three products was made in Italy: the scientists performed a study at three different locations in Northern, Central and Southern Italy. In the Centre and the South, all three products showed high efficacy, killing more than 90% of the varroa mites in the colonies. In the North, however, Apiguard was less reliable. The efficacy dropped to 66.9%, which is insufficient for protecting bee colonies until the winter treatment. The researchers attributed this low efficacy to the lower temperatures and low activity of the bees: under these circumstances, the workers did not “work” on the gel to remove it. By this, the gel surface dried, impeding the evaporation. The other two products did not have this problem.

In Germany, the same occurred: all three products were tested in Hesse (with cooler climate) and in the Rhine region (with milder climate). Apiguard in this trial had the lowest efficacy on both sites, with 43.1% in Hesse and 71.5% in the Rhine region. Thymovar worked better, though this product was also less efficient at the cooler site in Hesse. In the Italian study, Thymovar in addition demonstrated some problems in tolerability: the bees removed brood and honey from beneath the strips. In Northern Italy, the colonies decreased significantly in strength. At one of the two apiaries in this region, the study had to be interrupted because of the severity of the effects. This may have been due to a higher dose of thymol in Thymovar than in the other products and may have been released too fast. No such adverse effects occurred in Germany, however. ApiLifeVar finally, was equally efficient at all sites and no problem with the safety for the bees occurred. In the table below, you can find a summary of the results of these studies.

Table 1: Mean efficacy of registered thymol products for varroa treatment in Italy and Germany.			
	Apiguard	Thymovar	ApiLifeVar
Northern Italy	66.9%	93.6%	93.7%
Central Italy	94.3%	99.5%	94.5%
Southern Italy	96.5%	97.5%	96.7%
Hesse, Germany	43.1%	86.5%	95.0%
Rhine Valley, Germany	71.5%	92.6%	95.9%

Product characteristics influence efficacy

In addition to the final efficacy, both studies measured the kinetics of the efficacy during the treatment period, i.e. how fast the products kill most of the mites. Again, under the warm conditions in Central and Southern Italy, all three products reached many mites already in the first week. Under the cooler conditions in Northern Italy and Germany though, Apiguard started only very slowly and killed only about 10% of the varroa mites within the first week of the treatment. Thymovar and

ApiLifeVar, in this short period, already killed 30-35% of the mites in Italy and 30-40% in Germany.

In this context, it is important to understand the conditions for treatment success with thymol. As already mentioned, this substance acts by its vapours. The concentration in the hive air must be high enough to kill the varroa mites, but low enough not to harm the bees. This concentration ranges between 5-15 µg/l hive air. Tests in Switzerland showed that Apiguard, under cooler conditions, did not reach this therapeutic concentration. It remained under 4µg/l hive air, which explains the only low efficacy on cooler sites. Thymovar and ApiLifeVar on the other hand reached the therapeutic concentration already in the first week of the treatment. Interestingly, the hive air concentration decreased during this week in treatments with Thymovar, while it slightly increased using ApiLifeVar.

Of all three products, ApiLifeVar was the most independent of environmental conditions. The efficacy remained over 90% at all sites. This may be due to the different composition of this product: unlike the other two, it is a blend of thymol with menthol, eucalyptol and camphor. An interesting property of this blend is that it remains liquid at colder temperatures. Pure thymol is solid until a temperature of 49-51°C, therefore also under hive conditions of 35°C. Mixing thymol with other aromatic substances decreases its melting point (i.e. when it becomes liquid). Both solid and liquid thymol can pass to the gaseous stage, which is necessary to reach the varroa mites on the bees. However, the step from liquid to gaseous (evaporation) is much more constant and reliable than the step from solid to gaseous (sublimation), especially under cooler temperatures. This may be the explanation for the more consistently high efficacy of ApiLifeVar under cooler climatic conditions.

Risks and side-effects of the treatment

Every medicinal product – like varroa treatments – has risks and side effects. Despite being a “natural” substance, thymol can be toxic for bees when the concentrations in the hive air are too high. This could happen, for instance, using DIY preparations with thymol crystals. The formulation of registered products helps to avoid this risk, if the label instructions are respected. On the other hand, underdosing the treatments for cost reasons may result in insufficient efficacy and subsequent colony losses.

Thymol is a fatty substance. Therefore, it may form residues in wax and enter honey by small wax particles. A recent study in Spain showed that the thymol concentrations increase significantly during the treatment, mainly in wax and honey. This is not a risk for the consumer: Thymol has a FAO GRAS status, meaning that it is “generally recognized as safe”. However, higher concentrations may change the taste of the honey. During the treatments, the concentration in honey could surpass the sensory threshold. Sensitive test participants noticed the taste even three months after treatment. These results confirm the recommendation to never treat with honey supers present. In addition, it is advisable to not mix the combs from the brood nest with those from the honey super.

It is important to note that these risks are mainly a consequence of wrong applications or of using DIY applications like pure thymol crystals or in presence of the honey super. If registered products are used according to the label instructions, the benefit of reducing the mite load clearly prevails. ■

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A practical bioassay to assess *Varroa destructor* resistance to acaricides in Ontario

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The control of *Varroa destructor* populations in honey bee colonies is one of the biggest challenges that beekeepers face in Ontario. Beekeepers rely on constant monitoring, the use of cultural or mechanical methods (e.g. removal of drone comb), the use of organic treatments (e.g. formic acid, oxalic acid and thymol), and the use of synthetic acaricides (i.e. tau-fluvalinate/Apistan™, flumethrin/ Bayvarol™, and amitraz/Apivar™) to control *V. destructor* parasitism (OMAFRA, 2021). The commercial presentation of synthetic acaricides consists of plastic strips impregnated with the chemicals; the strips are placed inside the brood chamber for 6-8 weeks for the phoretic mites, which are attached to worker bees, to come in contact with the chemical (Véto-pharma, 2014; Vita beehealth, 2021). Synthetic acaricides have been used for three decades in North America to control *V. destructor* (Kamler et al., 2016), time during which cases of mite populations resistant to acaricides have been documented (Elzen et al., 1999; Elzen et al., 2000; Rinkevich, 2020).

Resistance to acaricides in *V. destructor* populations is first noticed by the repeated failure of a product to reach the expected level of control (Coles and Dryden, 2014; Dang et al., 2017). The development of acaricide resistance by *V. destructor* is a major concern for beekeepers, as high levels of *V. destructor* in the fall (i.e. >3%) can translate into high overwinter colony mortality (Guzman-Novoa et al., 2010; OMAFRA, 2021). Thus, a constant surveillance of acaricide resistance is essential to establish informed strategies to control *V. destructor*, including the correct rotation of different active ingredients of synthetic acaricides to treat honey bee colonies, as well as the use of additional methods of mite control (e.g. cultural control). Methods to determine acaricide resistance have been developed (Pettis et al., 1998; Rinkevich, 2020; Bahreini et al., 2021). However, even when the tests are designed to detect resistance, they cannot measure the exact level of resistance and also present logistical challenges, like the use of highly parasitized colonies, they are time-consuming methods often carried out under uncontrolled conditions. Thus, we conducted preliminary trials to evaluate the use of a glass vial residual bioassay to determine the efficacy of three synthetic acaricides (tau-fluvalinate, flumethrin, and amitraz). The bioassay is aimed at reducing logistical challenges and to have more accurate estimations of resistance levels by determining the lethal concentrations (LCs) and discriminating concentrations (DCs) of acaricides (Elzen et al., 1999; Elzen et al., 2000; Maggi et al., 2008).

Here is what we did:

1. Mites were collected from three highly parasitized experimental colonies kept at the Honey Bee Research Centre, University of Guelph.



2. Dilutions of three chemical grade synthetic acaricides were prepared.



3. The walls of glass vials were impregnated with 200 µl containing 0 (control), 0.3, 0.5, 1 and 5 µg of tau-fluvalinate, or flumethrin, or amitraz.

4. Once the walls of the glass vials were dried, seven to nine mites were introduced into each vial and left there for 4 hours. Three repetitions were conducted (with an additional control with no solvent). A



total of 54 vials and 443 mites were used for the study.

5. After 4 hours of exposure, the number of dead and live mites were recorded.

6. The proportion of dead mites in each treatment was used to analyze and determine a) differences between treatments on their efficacy to kill mites, and b) the concentration at which 50%, 90% and 95% of the mites are killed (LC50, LC90, and LC95).



Testing for synthetic acaricide resistance in mite populations in Ontario is necessary for beekeepers to make informed decisions when designing their Integrated Pest Management strategies in order to achieve adequate control of *V. destructor* levels and the survival of their colonies. Based on the results from this study, we will be able to make recommendations on the protocol to test for acaricide resistance under laboratory conditions, by determining discriminating concentrations for each chemical. Also, we will recommend a protocol for conducting trials in collaboration with beekeepers to facilitate mites for testing.

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References.

- Bahreini, R., Nasr, M., Docherty, C., Feindel, D., Muirhead, S., & de Herdt, O. (2021). New bioassay cage methodology for in vitro studies on *Varroa destructor* and *Apis mellifera*. *Plos one*, 16(4), e0250594.
- Coles, T. B., & Dryden, M. W. (2014). Insecticide/acaricide resistance in fleas and ticks infesting dogs and cats. *Parasites & vectors*, 7(1), 1-10.
- Dang, K., Doggett, S. L., Singham, G. V., & Lee, C. Y. (2017). Insecticide resistance and resistance mechanisms in bed bugs, *Cimex* spp. (Hemiptera: Cimicidae). *Parasites & vectors*, 10(1), 1-31.
- Elzen, P. J., Eischen, F. A., Baxter, J. R., Elzen, G. W., & Wilson, W. T. (1999). Detection of resistance in US *Varroa jacobsoni* Oud. (Mesostigmata: Varroidae) to the acaricide fluvalinate. *Apidologie*, 30(1), 13-17.
- Elzen, P. J., Baxter, J. R., Spivak, M., & Wilson, W. T. (2000). Control of *Varroa jacobsoni* Oud. resistant to fluvalinate and amitraz using coumaphos. *Apidologie*, 31(3), 437-441.
- Guzman-Novoa, E., Eccles, L., Calvete, Y., McGowan, J., Kelly, P. G., & Correa-Benítez, A. (2010). *Varroa destructor* is the main culprit for the death and reduced populations of overwintered honey bee (*Apis mellifera*) colonies in Ontario, Canada. *Apidologie*, 41(4), 443-450.
- Kamler, M., Nesvorna, M., Stara, J., Erban, T., & Hubert, J. (2016). Comparison of tau-fluvalinate, acrinathrin, and amitraz effects on susceptible and resistant populations of *Varroa destructor* in a vial test. *Experimental and Applied Acarology*, 69(1), 1-9.
- Maggi, M. D., Ruffinengo, S. R., Gende, L. B., Eguaras, M. J., & Sardella, N. H. (2008). LC50 baseline levels of amitraz, coumaphos, fluvalinate and flumethrin in populations of *Varroa destructor* from Buenos Aires Province, Argentina. *Journal of apicultural research*, 47(4), 292-295.
- Pettis J.S., Shimanuki H., Feldlaufer M.F. (1998) An assay to detect fluvalinate resistance in *Varroa* mites. *American Bee Journal*, 138, 538-541.
- Rinkevich, F. D. (2020). Detection of amitraz resistance and reduced treatment efficacy in the *Varroa* Mite, *Varroa destructor*, within commercial beekeeping operations. *PloS one*, 15(1), e0227264.
- Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA). Available at <http://www.omafra.gov.on.ca/english/food/inspection/bees/apicultu.html> [accessed October 4, 2021]
- Véto-pharma. Available at https://www.mannlakeltd.com/mm5/graphics/pdfs/Apivar_brochure_USA.pdf [accessed October 4, 2021].
- Vita BeeHealth. Available at <https://www.vita-europe.com/beehealth/products/apistan/#work> [accessed October 4, 2021]

Protecting queens against viral infections

Abstract of work supported by the Canadian Bee Research Fund

*Applicants: Alison McAfee and Leonard Foster
Collaborators: Abigail Chapman and David Tarpy*

Background: 'Poor queens' is one of the most frequently reported causes of colony losses in Canada, but beekeepers have few concrete tools to directly support queen health. Surveys of failing and healthy queens in BC show that failing queens have high viral loads, and that heavily infected queens have smaller ovaries. Recent research in workers has shown that short periods of heat stress allow them to clear viral infections faster than control workers, but this concept has not been tested in queens. Here we investigated heat-shock as a potential low-cost method of protecting queens against viral infections and tested its efficacy in a laboratory infection challenge. Our overarching goal is to apply this approach to unmated queens, which do not yet contain sperm that can be damaged by heat stress, in order to protect them against virus exposure during mating and early in life.

Results: We first tested how long the heat-shock response lasts in five-day-old unmated queens and workers, and found that their responses were similar and antiviral heat-shock proteins remained significantly upregulated for at least four days after a 4 h heat-shock at 42 °C. We next evaluated if heat-shock could protect queens from viral infection by heat-shocking them, then microinjecting them with Israeli acute paralysis virus one day later. We found that, 2 d after injection, infection levels in the heat-shocked queens were 36% lower than the control queens, but this difference was marginally non-significant ($p = 0.061$). Due to problems rearing viable queen cells as a result of black queen cell virus, and low viability of queen cells purchased from a commercial producer, we did not have enough replicates for sufficient statistical power (after filtering out outliers, the infection challenge used $n = 8$ and 9 heat-shocked and control queens, respectively). However, we were able to conduct pathogen screening on viable and non-viable queen cells from the producer to help determine the cause of poor pupal viability as an opportunistic research extension project.

Conclusion: This is an important first step of a proof-of-concept test for heat-shock as a method of virus protection for queens. Although antiviral heat-shock proteins remain upregulated in queens for at least 4 d, we would like to extend this time course for up to 7 d, which would be a more practical time frame during which mating can occur in a queen rearing operation. Furthermore, while the results of the IAPV challenge are certainly promising, more data must be acquired before we can confidently conclude that heat-shock is an effective means of virus protection. We aim to fill these gaps during the upcoming summer before moving into a field trial. ■

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Identification of genetic determinants of antimicrobial resistance and virulence in Canadian isolates of *Melissococcus plutonius*

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European foulbrood (EFB), a bacterial brood disease of honey bees caused by *Melissococcus plutonius*, continues to be a management challenge for Canadian beekeepers, resulting in weak colonies and reduced honey yields. As an opportunistic pathogen, *M. plutonius* infection is more common in colonies experiencing environmental stress, such as poor weather or suboptimal nutrition. Integrated pest management techniques, as well as antimicrobial treatment, continue to be mainstays of EFB control in Canada; however, the frequency and severity of EFB outbreaks appears to be on the rise. To investigate whether new genetic variants of *M. plutonius* may be responsible for the increased prevalence of EFB, we aim to (1) perform whole genome sequencing of 50 Canadian isolates of *M. plutonius*, (2) characterize the genetic diversity of these isolates by multi-locus sequence typing, and (3) investigate for the presence of antimicrobial resistance (AMR) genes and genetic determinants of virulence. Thus far, we have analyzed the genomes of six Canadian *M. plutonius* isolates, including two isolates from British Columbia, three from Alberta, and one from Saskatchewan. Together, these isolates represent three different genetic sequence types, including a previously unreported sequence type in Saskatchewan. All *M. plutonius* isolates carried the virulence plasmid pMP19, which encodes a putative cellular toxin, melissotoxin A. To date, no AMR genes have been identified in the sequenced isolates. Genomic sequencing and analysis of 44 additional *M. plutonius* isolates from British Columbia, Alberta, Saskatchewan, and Quebec are in progress. The results of this genomic survey will provide a genetic understanding of the mechanisms of pathogenicity and spread of *M. plutonius* in Canada, which, in turn, may inform and improve EFB management practices in the future. ■



Brood frame with EFB



Culture plate of *Melissococcus plutonius*



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Research bulletin: Keeping nucs cool in a heatwave

Alison McAfee and Emily Huxter

In June of 2021, western Canada and the Pacific Northwest experienced a heatwave unlike any that had come before it. Record-breaking temperatures were recorded, with the hottest clocking in at 49.6 °C in Lytton, BC, shortly before a wildfire devastated the village. But humans are not the only ones who suffered in the heat-wave; honey bees, too, struggle to keep cool.

Although honey bees can cool down their hives by bringing home water and fanning their wings to speed up evaporation,¹ the extreme temperatures in BC's interior were overwhelming. Some beekeepers reported death of approximately half of the nucs they produced shortly before or during the heatwave, while others observed queen loss and an abundance of dead drones in their apiaries.

What can we, as beekeepers, do to help keep nucs cool? During another round of hot weather that was forecasted for July and August, 2021, we tested two different methods for heat protection – insulating lids and feeding light syrup – and evaluated their efficacy over a twelve-day period. We expected that insulating the lids with a polystyrene foam cover would prevent intense, top-down solar radiation from heating up the nucs, whereas feeding light syrup may facilitate cooling by providing a convenient water source and encouraging evaporative cooling.

Methods:

We placed temperature loggers under the lids of eighteen five-frame, wooden nucs and recorded temperatures every ten minutes from July 28th to August 9th, 2021. Six of the nucs were covered with a sheet of 2" thick polystyrene foam, six nucs received a 2 L feeder pail of 1:1 sugar syrup, and six nucs were left untreated (see photographs). All nucs were spaced 1.5" apart, had the same entrance size (which was about half the width of the bottom board – the other half was occupied by empty boardman feeders), and loggers were placed off-centre toward the back of the lid to avoid obstructing the top feeding hole. Half way through the experiment (August 3rd) feeder pails were refilled. Nucs alternated in orientation, facing either North or South, and ambient temperatures were recorded with another temperature logger placed inside a solar shield fastened to the side of a nearby house.



Photo 1 (left): Experimental nucs received either a polystyrene foam cover (back row) or were fed light syrup (front row). Photo 2 (right): Control nucs received no treatment. Photos by Emily Huxter.

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Results:

Over the observation period, the lowest and highest recorded ambient temperatures were 9.5 °C and 35.5 °C respectively. In the control hives, internal temperatures ranged from 14.5 °C to 41.5 °C, syrup-fed hives ranged from 16 °C to 40.5 °C and polystyrene-covered hives ranged from 25.5 °C to 39 °C (Figure 1). The polystyrene cover clearly had a temperature-stabilizing effect, reducing the maximum temperatures while increasing the nightly low temperatures. The temperature fluctuations in the syrup-fed hives, however, followed similar patterns as the untreated controls, although slightly less extreme. There was no effect of north- versus south-facing entrances.

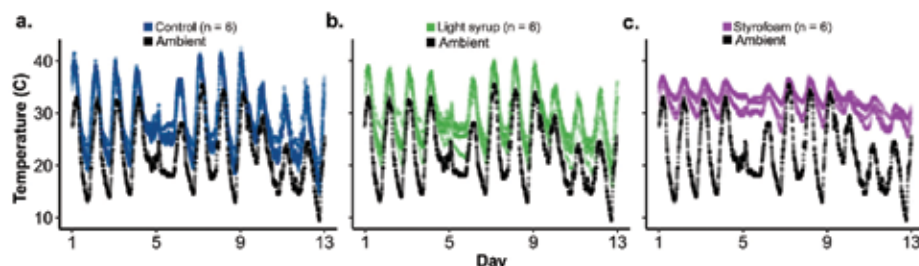


Figure 1. Ambient and internal temperature data for control (a), syrup (b), and polystyrene foam (c) nuc treatments. Day 1 corresponds to July 28th, 2021.

Since we were most concerned about temperature extremes, we calculated the average daily high and low temperatures experienced by each colony. We also extracted the absolute maximum and minimum temperatures recorded during the monitoring period. These data show that feeding syrup reduced the average daily high temperature by 1.1 °C, but this effect was marginally not significant (Figure 2a). The polystyrene foam cover, however, reduced the average daily high temperature by 3.8 °C and this effect was highly significant. The foam also significantly increased the average daily low temperatures by 4.6 °C. The absolute maximum temperatures experienced by these colonies mirrors these trends (Figure 2b).

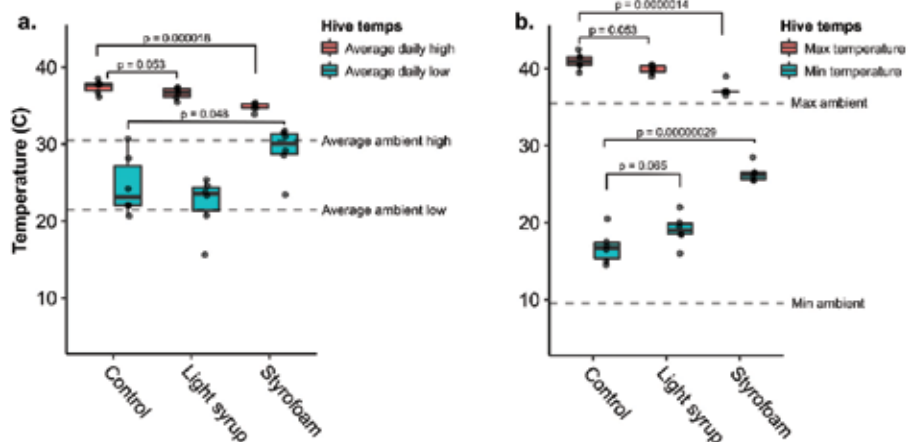


Figure 2. Temperature extremes. Average daily high and low temperatures (a) and absolute maximum and minimum temperatures (b) experienced by the colonies are shown. Statistics were performed using a one-way ANOVA for high and low temperatures separately.

Recommendations:

Radiant heat can be a significant source of stress for honey bees, especially for nucs and mating nucs, whose small size reduce their ability to thermoregulate. Although the ambient temperature did not exceed 35.5 °C during our monitoring period, the temperature under the lids of control nucs climbed up to 41.5 °C, highlighting that the temperature outside is not a good indicator of the conditions inside a hive. Care should be taken when managing hives at high temperatures, especially when introducing new queens, which are often placed near the top bars where the hive is the hottest.

Our data clearly show that an external, 2" polystyrene foam cover can significantly reduce the temperature radiating from the lid during hot weather. In this experiment, the simple insulation method reduced the average daily high temperature inside the nuc by 3.8 °C, which likely reduces the risk of temperature stress for the queen and developing brood, which are both sensitive to temperature fluctuations.^{2,3}

Such a cover is easy to apply; if all hives are leveled at the same angle, a single sheet can rest across multiple hives, avoiding the need to cut the foam to size. We recommend using foam covers or insulated lids throughout the year, since it protects against the heat during the summer, while retaining heat and preventing condensation during the winter.

The syrup treatment tended to lower the temperature under the lid, and although the difference was not quite significant, it might still be a good idea to feed light syrup during a heatwave. We did not measure core nest temperatures in this experiment, which might benefit more from syrup evaporation than lid insulation. This is because the bees can deposit water or syrup on comb and into cells throughout the nest, which then evaporates, to target areas that may need more cooling than others.

Exceptionally extreme conditions, like those experienced during the June 2021 heatwave, may require more elaborate methods to protect hives from heat. Additional factors remain to be tested, such as combinations of polystyrene foam, syrup feeding, shade nets, the size of the entrance, and effects on internal versus peripheral nest temperatures. However, this work already shows that the simple, inexpensive approach of lid insulation offers some protection during a mild heatwave.

References:

- Ostwald MM et al. (2016). The behavioral regulation of thirst, water collection and water storage in honey bee colonies. *Journal of Experimental Biology*. 219 (14): 2156-65.
- McAfee A et al. (2020). Vulnerability of honey bee queens to heat-induced loss of fertility. *Nature Sustainability*. 3: 367-76.
- Becher MA et al. (2009). Pupal developmental temperature and behavioral specialization of honeybee workers (*Apis mellifera* L.). *J Comp Physiol A Neuroethol Sens Neural Behav Physiol*. 195(7): 673-9.

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Willie Baumgartner Memorial Award

Pierre Giovenazzo - For outstanding contributions in improving the Canadian beekeeping industry

Pierre Giovenazzo received a Bachelor's degree in science and an M.Sc. in animal physiology at Laval University in Québec City. In 2011, he completed his Ph.D. in veterinary sciences at the University of Montréal, specializing in Varroa IPM strategies. He is currently a professor in the Department of Biology of Laval University's Faculty of Science and Engineering and holds a newly instituted Chair in Educational Leadership in Apicultural Science. His recent research focuses on: probiotics/honeybee nutrition, queen breeding/selection, colony population dynamics, optimizing pollination services and the recent invasion of the small hive beetle in southern Québec. Winner of seven awards for excellence in teaching (Star Professor of the Faculty of Science and Engineering), his teaching and communication skills are recognized not only in academia, but throughout the beekeeping community. He was Vice President of the Canadian Association of Professional Apiculturists from 2014-2018 and a member of various beekeeping stakeholder groups in Quebec, Canada and internationally. In 2012 he co-chaired, in cooperation with the Canadian Honey Council, a very successful Apimondia Research Symposium on bee pathology and Queen Breeding in Quebec City.

As a result of that success he urged the CHC to consider hosting an Apimondia Congress.

Pierre was instrumental in chairing a team that won the bid to host



a congress in 2015 in Daejeon, South Korea.

Two years later, in Istanbul, Turkey, the honor of hosting the next Apimondia Congress was bestowed and the hard work began. Pierre served as President of the Apimondia 2019 Montreal Congress Committee and worked closely with the CHC in all aspects of the Congress including administration, public relations, workshops, tours, programming, and finances.

His dedication and hard work was a major contributor to a very successful event. ■

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Forthcoming Border Measure Adjustments for Temporary Foreign Workers

*The Temporary Foreign Worker Program
Employment and Social Development Canada*

The purpose of this communication is to share with you an update announced November 19, 2021, by the Public Health Agency of Canada regarding changes to requirements for travellers entering Canada, including Temporary Foreign Workers (TFWs).

Effective November 30, 2021, the Government of Canada will expand its list of accepted vaccines, for the purposes of entry into Canada and exemption from some testing and quarantine requirements, to include Sinopharm, Sinovac, and COVAXIN. The expanded list of COVID-19 vaccines and the definition of what is considered fully vaccinated will also be applied to the national vaccination requirements for the federally regulated transportation sectors.

Requirements for Domestic Travel within Canada

As of November 30, a valid COVID-19 test will no longer be accepted as an alternative to vaccination for travel within Canada.

However, please note that until January 15, 2022, all TFWs arriving in Canada who are not fully vaccinated, will be allowed to travel domestically to their final destination within 24 hours of their initial departure time for Canada. After January 15, 2022, this will be restricted to TFWs working in agriculture and food processing or to TFWs that are foreign marine crew members. TFWs will not be permitted to do any further domestic travel beyond this initial 24-hour period if they are unvaccinated.

Foreign nationals, including all TFWs, exiting Canada before February 28, 2022, who need to take a domestic flight to connect to an outbound flight will be allowed to board without a National Interest exemption so long as they can demonstrate an itinerary that is exiting Canada. Additionally, please note that there are also provincial and territorial rules and restrictions regarding travel within Canada. Visit the province or territory website of final destination for information on restrictions and quarantine requirements.

ESDC will continue to request that employers are to notify Service Canada when workers arrive at the work location and to confirm for each TFW whether they declared that CBSA has determined they are exempt from quarantine. This information will facilitate efficient communication with Service Canada with respect to compliance activities.

Requirements for International Travel to and from Canada

Effective January 15, 2022, the Government of Canada will reduce the number of entry exemptions for unvaccinated/partially vaccinated foreign nationals, including most TFWs. **However, exemptions from entry prohibitions for unvaccinated TFWs in agriculture and food-processing, as well as foreign marine crew members, will continue.**

Employers are also reminded that they will be expected to support quarantine plans for all unvaccinated TFWs in agriculture and food processing, and that any individuals who do not qualify as a fully vaccinated traveller must be prepared to quarantine for 14 days.

Foreign nationals in the following categories, who currently benefit from entry exemptions, will no longer be allowed into Canada as of January 15, 2022, unless they are fully vaccinated with the full series of a vaccine—or combination of vaccines—accepted by the Government of Canada at least 14 days prior to entering Canada and meet other existing entry criteria:

- o Individuals travelling to reunite with family (unless they are under 18 years of age);
- o Professional and amateur athletes;
- o International students (18 years of age and over);
- o All temporary foreign workers, outside of agricultural and marine categories; and
- o Essential service providers and cross-border essential workers (including truck drivers, emergency service providers and marine researchers).

Foreign nationals who reside in Canada temporarily, and who entered Canada as unvaccinated or partially vaccinated, will be allowed to leave the country without being fully vaccinated up until February 28, 2022.

Additional Measures Affecting Travel

As of November 30, 2021, all exempt essential service providers will be requested to identify their vaccination status in ArriveCAN, regardless of whether they are vaccinated. If vaccinated, they will also be requested to provide details on their vaccine(s), including manufacturer, country received and date received. The traveller will have the option to upload a file(s) or image(s) of their proof of vaccination. As of January 15, 2022, this will become a mandatory requirement.

Finally, on November 30, 2021, fully vaccinated individuals who re-enter Canada by land or air within 72 hours of leaving the country are exempt from providing a pre-entry COVID-19 molecular test result. Please note that this exemption is only for trips originating in Canada taken by fully vaccinated Canadian citizens, permanent residents or individuals registered under the Indian Act.

For more information on travel, testing and border measures, please visit COVID-19 vaccinated travellers entering Canada - Travel restrictions in Canada – Travel.gc.ca

If you have any questions, please do not hesitate to email NC-TFW-WP_PTET-INBOX@hrsdcrrhcc.gc.ca

Additional information will be shared as it becomes available.



HelpWanted

Interlake Honey Producers Ltd. PO Box 328, Fisher Branch, MB R0C 0Z0 has the following positions:

Apiary Technician 5 Positions Available

Required for the 2022 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: September 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 honeybees, 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@ifsltd.ca

Help Wanted: East Selkirk (MB)

Waldbee Honey Farms Inc. - East Selkirk (MB)

Apiary Technician/Workers 2 positions (NOC 8431)
\$12.43-15.00 per hour.

Employment from November 1/2021 to November 1/2023. Minimum 2 years experience required.

Apiary Technician/Workers 2 positions (NOC 8431)
\$12.43-\$13.50 per hour.

Employment from March 1/2022 to October 31 2022.
Minimum 1 year experience required.

Seasonal full time, days, evenings, Saturdays. Language is English.

Duties would be to handle, feed and care for bees; help in replacement of hives and production of nucs; move hives; collect honey; process honey; maintain and drive vehicles; maintain bee yard; manufacture, assemble and maintain beehive equipment; maintain and operate other apiary related equipment; Must be able to handle heavy loads, and work is physically demanding. Must work well with others, as well as the ability to maintain basic production records. Report to Supervisor. Would require steel toed safety boots.

Contact Philip Waldbee

Send resume by email to philip@waldbee.com

Address: Waldbee Honey Farms Inc., Box 9 Group 19 RRI, East Selkirk, MB. ROE OMO

Help Wanted: Souris (MB)

HARLTON APIARIES has 4 Seasonal positions available for the 2022 Season

4 Apiary Workers (NOC 8431) for March or April to end of October 2022

Wages \$13 - \$15.50 per hour depending on experience. 1-2 years experience preferred. Operating a forklift is an asset. A valid driver's license and the ability to speak English is an asset.

Duties include assisting with feeding, bee hive maintenance and treatments, moving hives, harvesting and extracting honey, and winter preparation and some building of new hive equipment.

Contact Irwin Harlton, Harlton Apiaries

Box 644 Souris (MB) R0K 2C0 204-483-2382

iharlton@mymts.net

Help Wanted: Fort Macleod (AB)

POELMAN APIARIES LTD. located near Fort Macleod, AB (102007A Range Rd 254) has the following positions available for the 2022 season: 6 SUPERVISORS (SKILLED WORKER, NOC 8252) with a minimum of 5 years(seasons) experience working at a Canadian apiary. Employment needed from

March through October 2021; wage starting at \$15.50 - \$17.50 (depending on exp. with possible bonus) (40 + hrs/week). Duties will include: caring for honeybee colonies in the appropriate manner; coordinating the production of replacement bees and equipment; recognizing, reporting, monitoring hive health issues and applying appropriate treatment/controls; harvest and fill honey barrels and containers; supervise small teams of workers; driving of vehicles; operate and maintain other apiary equipment; conduct bee yard maintenance.

18 TECHNICIAN/WORKERS (LOW SKILL WORKER, NOC 8431) with a minimum of 1-2 years experience. Employment needed from April through November 2022; wage starting at \$15.50- \$16.50 (depending on exp. with a possible bonus) (40 + hrs/week). Duties will include: caring for honeybee colonies in the appropriate manner; assisting Technicians with bees and equipment; assisting with harvesting honey; assisting with the bee yard and equipment maintenance.

3 GENERAL FARM LABOURERS (LOW SKILL WORKER, NOC 8431) experience is an asset but will be trained. Employment needed for April through November 2022; wage starting at \$15.50 per/hour (with possible bonus) (40 + hrs/week). Duties will include: Supering and harvesting honey, cleaning honey extraction and storage equipment, barrel moving prep, filling and storage, manufacture and assemble and maintain hive equipment, and bee yard maintenance.

All wages are negotiable based on experience and productivity. Housing is available. Applicants must be able to work in the presence of honey bees. All positions may require some evening, night & weekend work. All applicants must be in good physical condition and able to work in a team environment. Ability to speak English is an asset.

Contact Breanne Poelman

Email resumes to pollenpal@gmail.com attention Poelman Apiaries or fax to 403-687-2410 or mail to Box 1887 Fort Macleod, AB T0L 0Z0.

Help Wanted: Pitt Meadows (BC)

Wanted 2021/2022 - Beekeeper

We are looking for a Beekeeper (NOC 8431 – Apiary Technician) to join our Dr. Bee Beekeeping team at our Pitt Meadows, British Columbia farm. This full-time seasonal position works from March 15th to October 15th. We are looking for applicants to start immediately for the 2021 season and/or the 2022 season

on March 15th.

Responsibilities

-Transporting bee hives

-Bee colony observation and maintenance

-Harvesting and extracting honey

-Assist in queen rearing

-Assist in royal jelly production

-Clean, maintain, and assemble beekeeping equipment

-Miscellaneous general farming work

Requirements

-Minimum 3 years of commercial beekeeping experience

-Familiar with brood nest management, livestock production, honey production, and disease and pest control

-Any experience with queen rearing and/or royal jelly production is highly preferred

-Be able to operate small engine equipment

-In good physical condition

-Be able to work well with others and be able to understand instructions in English

-Valid Class 5 Driver's Licence or equivalent

Compensation/Benefits

-Starting wage \$18-20 based on experience

-Eligible for comprehensive benefit program following 3 months of work

-Accommodations available, you are responsible for your own food and luxuries

Contact: Richard, Phone: 604-460-8889

If you are interested in this opportunity, you can apply by emailing your resume to careers@drbee.ca with the subject line "Beekeeper".

Help Wanted: Mission, (BC)

Apiary Workers

Golden Ears Apiaries Inc., in Mission, BC, is seeking 11 Apiary Supervisors at \$15.21/hr, starting Feb 1, 2022 until Oct. 31/2022, working 40+ hrs/week. Apiary Supervisors must have a minimum of 3 seasons working full time (40+hr/wk) in a Canadian style commercial beekeeping operation, and must have a good understanding of honeybee management and have the ability to independently assess hive health and make decisions regarding individual hive management.

All positions do require some evening, night and weekend work. All applicants should be able to work in a team environment. English is an asset as well as a valid driving license. Work will be in southern BC (Fraser Valley).

Contact Carolyn Shipley at jmcshipley@shaw.ca.

Help Wanted: Nipawin, (SK)

Yves Garex Honey Inc, P.O Box 2016, Nipawin, SK, S0E 1E0 seeks employees for the March 2022 to October 2022 season at facilities located 10 km North-East of Nipawin, Saskatchewan.

Good work ethics, health and stamina essential, for hard work, heavy lifting, long days including some weekends. Those allergic to bee stings and work need not apply.

-8 Apiary Technicians (NOC 8252) with experience in handling bee hives including unpacking and packing, checking, feeding, medicating, cleaning, moving, splitting, supering, raising queens, as well as harvesting and extracting honey. Wages \$ 15.00 to \$ 20.00 per hour, depending on experience.

-8 Apiary Workers (NOC 8431) We will train successful applicants in bee yard maintenance and hive manipulations. Wages \$ 13.00 to \$ 15.00 per hour.

-4 Apiary Laborers (NOC 8431) No experience required. Wage start at \$ 12.00 per hour.

email: y.garez@sasktel.net

► pag. 28

Help Wanted: Roblin (MB) - positions available for 2022

3012352 Manitoba Ltd. o/a Wendell Honey Box 1439 Roblin MB. R0L 1P0. Reporting to work at Wendell Honey, one mile east of MacNutt, Saskatchewan. Transportation provided from there to various bee yards.

15 full-time positions available at Wendell Honey in 2022

- Apiarist Technician (NOC 8252)

- o help with Spring check, hive assessment and manipulation

- o help with pest and disease control

- o help with grafting, making nucs and raising queens

- o assemble equipment

- o help super hives

- o help harvest honey

- o help keep field production records

- o help maintain beeyards

- o help with Fall feeding, assessment and treatments

- o help to wrap bees

- o team lead/supervise as required

- o other duties as assigned

- Positions available from April 6, 2022 to mid-October 2022

- Min. 2 years of experience working with bees necessary

- Work is physically demanding

- Wages \$15.00 - \$25.00 per hour depending on experience with Wendell Honey

- Possible production bonus

Email Isabel Wendell at isy@wendell.ca for fax 204-564-2568 or phone 204-564-2599

15 full-time seasonal positions available at Wendell Honey in 2022

- Apiary Worker (NOC 8431) to

- o assemble equipment

- o help super hives

- o help harvest honey

- o help maintain beeyards

- o help with Fall feeding

- o help to wrap bees

- Positions available from May 10, 2022 to mid October 2022

- No experience necessary

- Work is physically demanding

- Wages \$12.50 - \$17.00 per hour depending on experience with Wendell Honey

- Possible production bonus

Email Isabel Wendell at isy@wendell.ca for fax 204-564-2568 or phone 204-564-2599

Help Wanted: Tees (AB)

TEES BEES INC. requires: Three APIARY TECHNICIANS (NOC 8431) with a minimum of 2-3 years (seasons) experience working on a Canadian style commercial apiary in the min. capacity of Apiary Worker or General Farm Worker with employment March thru October 2022 (\$15.42-\$19/hr depending on exp. with possible bonus) (40+ hrs/wk); Duties include: caring for honeybee colonies in the appropriate manner; coordinating the production of replacement bees and equipment; recognizing, reporting, monitoring hive health issues and applying appropriate treatment/controls; harvest and fill honey barrels and containers; supervise small teams of workers; driving and daily maintenance of vehicles; operate and maintain other apiary equipment; conduct bee yard maintenance; keep some field production records. A motor vehicle operator's licence with no serious infractions, recognized by the Province of Alberta and major insurance companies is required.

Five APIARY WORKERS (NOC 8431) with a mini-

um of 1 year (season) experience and with employment March thru October 2022 (\$15.42-\$17/hr depending on exp. with possible bonus) (40+ hrs/wk); Duties include caring for honeybee colonies in the appropriate manner; assisting Technicians with bees and equipment; assisting with harvesting honey; assisting with the bee yard and equipment maintenance.

All wages are negotiable based on experience and productivity. Applicants must be able to work in the presence of honey bees. All positions may require some evening, night & weekend work. All applicants must be in good physical condition and able to work in a team environment. Ability to speak English is an asset. Contact Jeremy Olthof at 23318-Hwy 50, Tees, AB; mail to RR1, Tees, AB T0C 2N0; or email at tees-beesinc@gmail.com.

Help Wanted: Austin (MB)

New Rutherford Apiaries (4647204 Manitoba Ltd) RR#1, Austin, MB R0H0C0

Apiary Technician/Worker 4 Positions

Located north-west of Austin, MB in the RM of North Norfolk (69033), New Rutherford Apiaries requires four full time, seasonal, Apiary Technician/Workers for the 2022 season. The positions start: March 05 - June 05, 2022. End date: September 15 - November 05, 2022.

Duties include helping with: honey harvesting and extracting, feeding and medicating hives, moving hives, making hive increases, queen rearing, building hive equipment, bee yard maintenance and clean-up. Must have at least one season of beekeeping experience. Work is physically demanding, often in a very hot environment with weekend and evening hours required. Wage rate of \$11.95 - \$15.00/hour depending on experience.

Apply to Mike Lewis at: mike-beehive@hotmail.com ph: (204)466-2551 or by mail to above address

Help Wanted: Ridgedale (SK)

Silver Fern Honey Farms Ltd is currently taking applications for the 2022 bee season. SFHF has openings for Beekeepers and Beekeeper Assistants. These positions are seasonal fulltime, \$12.50-\$15/hr, 30-50 hrs/week from March 1-Nov 5 2022. Must have a valid drivers license. Some of the duties are....helping with feeding bees, making nucs, supering beehives, harvesting honey, preparing bees for winter.

SFHF are also taking applications for the 2022 extracting season. These positions are a seasonal full-time position from July 1-Sept 10 2022, \$12-\$14/hr, 30-50hrs/week. The duties are extracting honey and gathering the honey from the beehives. Contact Joe Edwards, Phone: 306-873-1463

The jobs are located at 101 Railway Ave, Ridgedale, Saskatchewan.

Applicants can apply by email or send applications to Box 104, Ridgedale, SK, S0E 1L0

Help Wanted: Argyle (MB)

Grysiuk Apiary Inc. requires 7 full time seasonal apiarists in Argyle, MB. wages are \$14.00 - \$16.00 per hour depending on experience. Job is physically demanding, must help with wrapping, feeding, making nucs, supering, pulling honey, honey extraction, medicating hives and winter preparation. Start date is February 1, 2022 - November 15, 2022. Please apply by email: acgrysiuk@shaw.ca, Ph.204-831-7838, or mail: 83 Acheson Dr., Winnipeg, MB. R2Y 2E8.

Help Wanted: Ardmore (AB)

T'N'T Apiaries require:

5 APIARY TECHNICIANS (NOC 8431) for year

round and seasonal (January thru November 2022). full time (40+ hrs/wk) employment (\$17.00-\$22/hr depending on experience. Bonuses possible). Must have a minimum of 2 years (seasons) working full time on a Canadian style commercial apiary in the min. capacity of Apiary Assistant or General Farm Worker.

Duties include:

- Caring for honeybee colonies in the appropriate manner.

- Co-ordinating the production of replacement bees and equipment.

- Recognizing, reporting, monitoring hive health issues and applying appropriate treatment/controls.

- Harvest and package honey, pollen and beeswax.

- Supervise small teams of workers.

- Drive (including std transmission and medium duty trucks) and daily maintain vehicles.

- Operate and maintain other apiary equipment (including forklifts, chainsaws and pumps).

- Conduct bee yard maintenance.

- Keep some field and/or production records.

6 APIARY WORKERS (NOC 8431) for full time (40+ hrs/wk) employment (\$15.00-\$19.00/hr. depending on experience. Bonuses Possible) January thru November 2022. Applicants must be able to work in the presence of honey bees.

Duties include:

- Caring for honeybee colonies in the appropriate manner

- Assisting Technicians with bees and equipment.

- Assisting with harvesting honey, pollen and beeswax.

- Assisting with the bee yard and equipment maintenance.

Some evening, night and weekend work is required of all positions. All applicants must be in good physical condition and able to work in a team environment. Preference will be given to those Technicians and Worker applicants holding a motor vehicle Operator's license with no serious infractions, recognized by the Province of Alberta and major insurance companies. Contact Dave Tharle, 44116 - Hwy 659, Ardmore, AB or Box 80, Ardmore, AB. (Fax 780-826-6013). Email: tntapi@mcsnet.ca

Help Wanted: Big River (SK)

West Cowan Apiaries is hiring for the 2022 Apiary Season.

Start Dates: April 4- October 28, 2022

1 Supervisor in Apiary-Minimum of 3-4 full seasons of apiary experience required.

Wage: \$15.50-\$22.00 per hour depending upon experience.

Job includes: to work in the presence of honey bees and will assist with colony management; honey extraction and processing; queen-rearing. Recognize and report beehive health issues and apply appropriate disease cures or controls. Supervise and give direction to other employees. Keep field and production records and any other apiary jobs that are required.

4 Apiary Technicians/Workers- Minimum of 1-2 full seasons of apiary experience required.

Wage: \$12.80-15.20 per hour depending upon experience

Job includes: Wrapping and unwrapping hives; spring and fall maintenance; feeding hives; creating nucs; queen-rearing; supering; pulling honey (80+lbs) and carry & stack on the truck deck; extracting honey; moving bees; maintain bee yards; and any other assorted apiary jobs that are required.

Requirements for both jobs: No formal education required but with at least a Grade 12 education would be an asset. Have a valid driver's license and have a vehicle

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Pallet puller



Tony Lalonde Sales Prt.
Box 42, Clayton Sk,
Canada S0K 0Y0
Ph: 306-931-0155
fax: 931-1646

to get back and forth to work. Experience driving a standard truck is an asset; be in good physical condition and to work in a team environment. Please do not apply if you are allergic to bees.

Employment Details: Seasonal and full time; minimum of 40+ hours per week.

Training is provided on an ongoing basis.

Most tasks are performed outdoors in all kinds of weather, work is repetitive and physically demanding. Location of work: SE 14-56-8 W3 -our bee yards are located in RM's of Big River, Shellbrook, and Canwood.

Mail or deliver in person your resume with references to: West Cowan Apiaries, PO Box 425, Big River, SK. S0J 0E0 Fax to: 306-469-5779 or email to: c.warriner@sasktel.net Apply by - December 31, 2021

Help Wanted: East of Saskatoon (SK)

Meadow Ridge Enterprises Ltd requires 5 Seasonal Apiary Harvest Labourers for the 2022 beekeeping season. Meadow Ridge Enterprises Ltd is a commercial beekeeping and queen rearing operation. Full-time seasonal positions are needed commencing in April and ending in October. Minimum one-year beekeeping experience with wage starting at \$12.45 to \$15.00 per hour for laborers depending on experience. Potential to earn bonuses. Duties include spring feeding, hive maintenance, grafting, raising new queens, and building nucs. Supering hives, harvesting honey, extraction of honey, fall feeding, wrapping of colonies, equipment cleaning, repairing, and yard maintenance. Must be able to work long hours, weekends, and holidays in all weather environments. Job requires heavy lifting, a valid driver's license, a reliable vehicle to arrive at the worksite is an asset. Meadow Ridge Enterprises is located 10 minutes east of Saskatoon, NW 33 TP 36 RG3 W3rd. Please email resumes to a.j.robertson@sasktel.net

Help Wanted (MB)

Grysiuk Apiary Inc. requires 7 full time seasonal apiarists in Argyle, MB. wages are \$14.00 - \$16.00 per hour depending on experience. Job is physically demanding, must help with wrapping, feeding, making nucs, supering, pulling honey, honey extraction, medicating hives and winter preparation. Start date is February 1, 2022 - November 15, 2022. Please apply by email: acgrysiuk@shaw.ca Ph.204-831-7838, or mail: 83 Acheson Dr., Winnipeg, MB. R2Y 2E8.

Help Wanted: Ridgedale (SK)

Silver Fern Honey Farms is currently taking applications for the 2022 bee season. SFHF has openings for Beekeepers and Beekeeper Assistants. These positions are seasonal fulltime, \$12.50-\$15/hr, 30-50 hrs/week from March 1-Nov 5 2022. Must have a valid drivers license. Some of the duties are....helping with feeding bees, making nucs, supering beehives, harvesting honey, preparing bees for winter.

SFHF are also taking applications for the 2022 extracting season. These positions are a seasonal full-time position from July 1-Sept 10 2022, \$12-\$14/hr, 30-50hrs/week. The duties are extracting honey and gathering the honey from the beehives.

The jobs are located at 101 Railway Ave, Ridgedale, Saskatchewan.

Applicants can apply by email or send applications to Box 104, Ridgedale, Sk, S0E1L0

Help Wanted: Kinistino (SK)

Contact Corey Bacon for B's Bee Ranch Inc.

Apiary Harvest Labourers and Apiary Harvest Workers required for seasonal work in a commercial honey

production and bee rearing operation for the 2022 season in rural SK.

Two Apiary Harvest Labourer positions available for 5-8.5 months (starting no earlier than February). Labourers perform (but are not limited to) tasks such as supering hives, harvesting honey, cleaning honey extraction and storage equipment; barrel filling and moving; repair, assemble and maintain hive equipment and bee equipment; bee yard maintenance. Knowledge of the industry, a valid drivers licence and English speaking skills an asset but not mandatory. Wage starts at \$11.85/hr plus subsidized housing option, transportation and potential for bonuses based on performance, attitude, character and production targets.

Three Apiary Harvest worker positions available for up to 8.5 months (Feb to November). Apiary Harvest Workers perform (but are not limited to) tasks such as supering hives, harvesting honey, cleaning honey extraction and storage equipment; barrel filling and moving; repair, assemble and maintain hive equipment and bee equipment; bee yard maintenance; assist with colony manipulation; assist with colony treatments; assist with moving colonies; assist with feeding colonies. Canadian beekeeping industry knowledge, minimum 18 months Canadian commercial experience required, valid drivers licence and English skills required. Wage starts at \$12.75/hr+ plus subsidized housing option, transportation and potential for bonuses based on performance, attitude, character and production targets.

For these positions, availability to work long hours, evenings/nights, holidays and weekends is required. Work can be fast paced and physically demanding with heavy lifting. Must be able to work in all weather conditions, accept and implement construction education and performance evaluations from Supervisors/management while maintaining an excellent attitude. Email resume and cover letter with references to B's Bee Ranch Inc at beeranch@sasktel.net

Help Wanted: Kinistino (SK)

Position 1 Bacon Apiaries Ltd, located in Kinistino, Saskatchewan, is looking for an Apiary worker for the 2022 honey crop season. The job will commence approximately on March 15, 2022 to Oct 31, 2022. 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 \$12.65/hr to \$ 14.00/hr depending on experience.

Position 2 Bacon Apiaries Ltd, located in Kinistino, Saskatchewan, is looking for 6 Honey harvester labourers for the upcoming 2022 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 12.65/hr to \$14.50/hr depending on experience. Employment from July to September 24th 2022.

Send resume to rbacon@sasktel.net

Help Wanted: Prince, SK (RM of Meota)

2022 Seasonal Help Wanted - Farmer Brown's Honey, Located at Prince, SK, RM of Meota #468

-1 Apiary Technician (NOC 8431) with experience in handling beehives including unwrapping and wrapping, checking, feeding, medicating, cleaning, moving, splitting, supering, raising queens, as well as harvesting and extracting honey. Wages \$ 15.00 to \$ 17.50 per hour, depending on experience.

-2 Apiary Workers (NOC 8431) We will train successful applicants in bee yard maintenance and hive manipulations, and other tasks as required. Wages \$ 13.00 to \$ 15.00 per hour.

-2 Bee farm worker/harvesters (NOC 8431) No experience required. Wage starts at \$12.00 per hour.

Possible bonuses. These jobs are physically demanding, and applicants must be in good physical condition. Able to lift 35+ kg. Comfortable working around bees. No bee allergies. The ability to communicate effectively in English is strongly preferred. Drivers License required.

Apply to: Cameron Brown, Farmer Brown's Honey, Site 4 Box 54 RR#3, North Battleford, SK S9A 2X4, 306-386-7953,

Email: farmerbrownshoney@gmail.com

Help Wanted: Aylsham (SK)

Valleau Apiaries Ltd @ Aylsham, SK requires Apiary Workers for 2022

2 Apiary Technicians (at least one year beekeeping experience) May to September

Duties to include assisting to prepare the bees for honey production, harvesting and extracting honey, preparing bees for winter and any related duties. Wages starting at \$12.25 based on experience.

On the job training provided. Manual labour, heavy lifting. Some evenings and weekends required.

Located in a rural area NW33-48-12-W2.

Please do not apply if you have a bee sting allergy.

Mail resumes to Valleau Apiaries Ltd @ Box 7, Aylsham, SK S0E 0C0 or

email to: valleau.apiaries@sasktel.net

Help Wanted: Granum (AB)

SUPERNUC APIARIES located near Granum, AB (251032 TWP RD 104) has the following positions for the 2021 season:

APIARY WORKERS (Technician/worker NOC 8431) 4 positions; wage starting at \$15.20 - \$18.00/hr, needed full time (45+ hrs/wk) from Mar 1, 2021 through October 31, 2021. Some evening, night and weekend work will be required.

Accommodations are available. 1 year experience required. No educational requirements.

Duties include assisting with beehive maintenance and treatments, building and repairing bee equipment, moving hives, harvesting and extracting honey, and winter preparation.

All wages are negotiable based on experience and productivity. A valid driver's license and the ability to speak English is an asset. Must be physically fit and accustomed to working with honeybees.

Email resumes to aovinge@gmail.com or fax to 403-687-2154 [1].

Help Wanted: Creston (BC)

Honey Bee Zen Apiaries Ltd. is seeking 2 Apiary Technicians, (NOC 8431) for full time (40+hrs/ wk) employment from at least March 15 - October 31, 2022 Salary range: \$17-25/hr depending on experience and ability.

We are looking for qualified apiary workers for the 2022 season that may lead to an offer of permanent full-time employment. You must have a minimum of one year/season working full-time on a Canadian style commercial apiary, have a valid driver's license

and not be allergic to bee stings. A criminal records check may be required.

We are a dynamically growing regional retail honey producer and pollination services provider; as such your duties are diverse and include caring for honeybees in the appropriate manner, coordinating the production of replacement bees & equipment; recognizing, reporting, monitoring hive health issues and applying appropriate treatment/controls; harvesting honey, pollen and beeswax.

You must be a self-starter who can work with minimal supervision. You may supervise a small team of workers, operate and maintain apiary equipment (including forklifts, trucks and pumps) and conduct bee yard maintenance. You will also be required to operate extractors and other honey house equipment and perform production duties for the products we make, including honey, wax and bodycare products. Recognized forklift operator's certificate an asset.

Applicants must be in good physical condition and able to bend, crouch, kneel and withstand heavy lifting. Positions do require some evening, night and weekend work.

Email Amanda, info@honeybeezen.com with a copy of your resume, or send it to:

Honey Bee Zen Apiaries Ltd, 220 Placsko Rd., Creston, B.C. V0B 1G8. No phone calls accepted.

Help Wanted: Langenburg & Esterhazy (SK)

Job Openings For Glory Bee Honey Farms (101034244 SK LTD)

Located in Langenburg and Esterhazy, SK Glory Bee Honey has job openings for Apiary Technicians, Apiary Technician Assistants These positions are available for fulltime (35+hrs/week) from April-October for the 2022 season. Also available is Honey Harvest labourer/General farm worker positions which is 2-3 months starting July-Sept for 2022.

8 Apiary Technicians (6 month position)

2-3 yrs experience necessary to apply.

Jobs include: Help with spring check, do hive assessment and manipulation.

Help with pest and disease control, Help with grafting, building and looking after nucs

Help queens raise, Help with harvest, Help to apply medication and treatments

*Lifting is required. Wages- \$20.00-\$24.00/hr depending on experience

14 Apiary Technician Assistants (6 month position)

Jobs Include: Help apiary technicians, Assemble equipment, Help super hives, Help harvest honey Help keep field production records, Help maintain bee yards, Help with fall feeding, assessment and treatments., Help to wrap bees. *Lifting is required. Wages \$15.00-\$19.00 depending on experience

10 Honey Harvest Labourers (2-3 month position)

To help with harvest and extraction of honey, Work in the bee yards pulling honey

Work in the extraction plant, Clean honey harvest equipment, No experience necessary will train on the job. *Lifting is required, Wages starting at \$15.00-19.00/hr depending on experience

Positions available from April 15, 2022 to October 31st 2022.

Applicants must be physically and mentally fit to work outdoors and with bees.

To apply please email resume and references to: glorybeehoneyfarms@gmail.com for more information.

Help Wanted: Shellbrook (SK)

Sand Hills Honey, PO Box 247, Shellbrook, SK. S0J

2E0

April 1 to November 15, 2022 Dates may vary according to weather

Beekeeper Labourers \$11.81/hr, Beekeeper Technicians \$12.63/hr(min 2yrs exp.)

Apiary Supervisor \$15.24/hr (Min 4 yrs exp.) Bonuses may be awarded

Primary work place is Sand Hills Honey, located 14.5 km South of Shellbrook.

No previous work experience required for labourers, no education required, drivers license not required but an asset.

Job duties include but not limited to: assist with honey extraction, cleaning and maintaining hive equipment, unwrapping and wrapping hives, all training will be provided.

email: jasonrinas@hotmail.com

Help Wanted: Apiary Worker

Contact Chris Boyse. Salary: \$16.25 / Hour for 35 to 60 Hours / Week, Vacancies:

2 Terms of employment: Seasonal, Full time. Start date: 2022-03-14

Job requirements: Languages – English Education -

No degree, certificate or diploma

Experience - Experience an asset, Work Conditions and Physical Capabilities

Repetitive tasks, Combination of sitting, standing, walking, Standing for extended periods, Walking, Bending, crouching, kneeling

Work Location Information - Rural area, Work Site Environment - Outdoors, Hot

Personal Suitability - Organized, Flexibility, Effective interpersonal skills, Team player

Apiary and Honey Harvesting Specific Skills - Detection and treatment of bee diseases, Honey farm, Honey bees, Harvesting honey. See CHC web site for information.

Help Wanted: Shellbrook (SK)

Beekeeper Help

April 1 to November 15, 2022 Dates may vary according to weather.

Beekeeper Labourers \$11.81/hr. Beekeeper Technicians \$12.63/hr (min 2yrs exp.)

Apiary Supervisor \$15.24/hr (Min 4 yrs exp.). Bonuses may be awarded

Primary workplace is Sand Hills Honey, located 14.5 km South of Shellbrook. No previous work experience required for labourers, no education required, drivers license not required but an asset. Job duties include but not limited to: assist with honey extraction, cleaning and maintaining hive equipment, unwrapping and wrapping hives, all training will be provided. Contact Jason: Phone: 306-747-7220

email: jasonrinas@hotmail.com

Help Wanted: Parkland County (AB)

TPLR Honey Farms Ltd. requires four Apiary Technicians \$16.50-\$18.50/hr, five Apiary Workers \$16.00-\$17.50/hr needed full time (45+ hours/week) April-October 2022. Four Apiary Workers, \$15.50-\$16.50/hr needed full time, 45+ hours/week July-September 2022 in Parkland County, Alberta at TPLR Honey Farms Ltd. Accommodations provided. Some evening, night and weekend work. All applicants must be in good physical condition and able to work in a team environment. The Apiary Technicians must have a minimum of 2+ years (seasons) full time in a Canadian style commercial apiary with a minimum of 1 year (season) working as an Apiary Worker or Apiary Technician. The Apiary Workers must be able to work in the presence of honey bees

and will assist with honey bee colony management and honey extraction/processing. The Apiary Workers must have a minimum of 1+ years (seasons) of working in a Canadian style commercial apiary as an Apiary Harvester or Apiary Worker. TPLR Honey Farms Ltd., Tim Townsend, Parkland County, Alberta. Tim@tplrhoneyfarms.com

HELP WANTED: Apiary Technician

Contact Jared Reimer

DUTIES - Spring work including hive checks and medication; Feed and care for honeybee colonies; Assist in the production of nucs and replacement beehives and Queens; Supering beehives; Harvesting honey; Cleaning honey extraction and storage equipment; Honey extraction; Preparation, filling and storage of all honey and wax containers; Move beehives; Collect and package honey, pollen and/or beeswax; Manufacture, assemble and maintain beehive equipment; Operate and maintain other apiary related equipment. Minimum 1 year experience. See CHC web site for information.

HELP WANTED: Rocanville (SK)

2022 season, B. Strong Apiaries Ltd. require the following:

APIARY TECHNICIAN

5 seasonal positions available from April 21 - October 21 (2022).

Reporting to work at B. Strong Apiaries Ltd. 1 mile south west of Rocanville, Sk. (NE 17-16-31 W1)

Wages dependent on experience (\$17.00 - \$20.00) Possible production bonus at end of the season.

Duties include but are not limited to; Unwrapping/wrapping hives, colony manipulation, application of honey bee treatments, making nucs, supering, maintaining equipment and a clean shop, pulling and extraction of honey, moving and feeding hives, keeping accurate and up to date yard records, etc.

Requirements;

-Minimum of 2 years beekeeping experience.

-Must not be allergic to honey bee stings.

-The work is physically demanding, applicants must be in strong and active physical condition to maintain the safe work environment.

-Required long hours and occasional weekend/holiday work (minimum 40 hours a week).

-Must work well with others, and able to work long hours in the heat.

-Ability to speak English is an asset but not a requirement.

APIARY WORKER

5 seasonal positions available from April 21 - October 21 (2022).

Reporting to work at B. Strong Apiaries Ltd. 1 mile south west of Rocanville, Sk. (NE 17-16-31 W1)

Wages dependent on experience (\$15.00 - \$17.50) Possible production bonus at end of the season.

Duties include but are not limited to; Assisting apiary technicians in the unwrapping/wrapping of hives, colony manipulation, application of honey bee treatments, making nucs, supering, maintaining equipment and a clean shop, pulling and extraction of honey, moving and feeding hives, safely securing truckloads of honey/equipment, etc.

Requirements;

-Must not be allergic to honey bee stings.

-The work is physically demanding, applicants must be in strong and active physical condition to maintain the safe work environment.

-Required long hours and occasional weekend/holiday

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work (minimum 40 hours a week).

-Must work well with others, and able to work long hours in the heat.

-Ability to speak English is an asset but not a requirement.

APIARY WORKER

5 seasonal positions available from July 3rd - September 15 (2022).

Reporting to work at B. Strong Apiaries Ltd. 1 mile south west of Rocanville, Sk. (NE 17-16-31 W1)

Wages dependent on experience (\$15.00 - \$17.50) Possible production bonus at end of the season.

Duties include but are not limited to; Cleaning warehouse at start of season. Daily upkeep and maintenance of extracting area/honey house, extraction of honey, cleanup after extraction season, painting of honey supers, painting and other general upkeep of the honeyhouse. etc.

Requirements;

-Must not be allergic to honey bee stings.

-Required long hours and occasional weekend/holiday work (minimum 40 hours a week).

-Must work well with others, and able to work long hours in the heat.

-Ability to speak English is an asset but not a requirement.

Contact Brian Strong @ bdstrong@sasktel.net or fax resume to (306) 645-4591

Help Wanted: Austin (MB)

Busy Bee Apiaries Ltd requires the following:

Full time seasonal Apiary/Farm Foreman (NOC 8252) and Apiary Laborers or Workers (NOC 8431) positions available at Busy Bee Apiaries Ltd. honey farm near rural Austin, MB., Lane #63074 on RD. 64N for the 2022 season.

Supervisor Apiarist/Farm Foreman (1 position) and Apiary Laborers or Technician/Workers (4 positions). Apiarist /Farm Foreman: April 1 - Oct.31/2022.

Duties: supervisory duties, all apiary management like checking, medicating, feeding bee hives, queen and nuc production, harvesting/extracting honey, maintenance of all kinds, transporting bee colonies, woodworking, organizing, clean-up, other duties as assigned. Must have valid driver's license and English writing and speaking skills. Wages: \$15-\$20.00/hour based on qualifications. Looking for a minimum of 5 years beekeeping experience.

Apiary Laborers or Technician/Workers: 2 position, April 1-Oct.31/2022, 2 positions, June 1-Oct.15/2022.

Duties: all supervised hive management like checking, medicating, feeding bee hives, queen and nuc production, harvesting/extracting honey, woodworking, clean-up, other duties as assigned. Wages: \$12.50-\$15.00/hour based on position title, experience/ability. Drivers licence an asset, No education requirements.

Free on site accommodation if needed. Hours and times of work for all positions are generally Monday-Friday and Saturdays as required and 08:00-18:00 but longer if required.

Send resume to Busy Bee Apiaries Ltd. Box 358, Austin MB., ROH 0C0, or email: pilotman1977@gmail.com

Help Wanted: Bluffton (AB)

Apiary worker (NOC 8431)

Dewar Apiaries, located at 442072 RR40, Bluffton, AB, is currently accepting applications for 4 Apiary Workers. English speaking workplace. Rural area, remote location.

Prefer a minimum of 1 year experience. Wages will be

negotiated depending on experience. Must be physically fit, comfortable working with bees and able to work well in a team setting. Applicants should be willing to commit to the whole season.

Duties:

*Hive management *Building and repair of equipment for hives

*Harvesting honey *Winter colony preparations

Basic English communication. Alberta or International Drivers License would be an asset. Hours will be between 32-72 hours weekly. Contact Mark Dewar Job availability will be between February 1 and November 1, 2022 - depending on weather.

Help Wanted: Aylsham (SK)

Valleau Apiaries Ltd at Aylsham, Saskatchewan requires Apiary Workers for 2022

7 Apiary Technicians (at least one year beekeeping experience) April to October

Duties to include preparing bees for honey production, harvesting and extracting honey, preparing bees for winter and any related duties. Wages starting at \$14.50 based on experience

12 Apiary laborers (no experience) July to September Duties to include harvesting and extracting honey, preparing bees for winter and any related duties. Wages starting at \$12.00

On the job training provided. Manual labour, heavy lifting. Some evenings and weekends required.

Located in a rural area NW33-48-12-W2.

Please do not apply if you have a bee sting allergy.

Mail resumes to Valleau Apiaries Ltd @ Box 7, Aylsham, Sk S0E 0C0 or email to: valleau.apiaries@sasktel.net

Help Wanted: Falkland (BC)

General Farm Worker -Apiary, Honey Onyx Apiary Inc. 3265 97 Highway

Falkland, British Columbia, V0E 1W1 Canada

With beehives in Falkland, Kamloops, Westwood and Lake Country areas

Salary: \$15.20/Hourly

Job Type: Full-Time with 45 hours/week- Seasonal/temporary

Worker starts: March 15, 2022 until October 15, 2022 Vacation: 4% in lieu of paid vacation days

Language: English Minimum Education: None. Positions Available: 2

Other benefits: Housing is provided by employer

JOB DUTIES. The following duties will be performed in this position:

-Frames and beehives assembly

-Cleaning and maintenance of the working areas (including the bee yard)

-Nucs reception and insertion in brood boxes

-Queens reception and introduction to nucs -Nucs/ Beehives feeding

-Add suppers on crop season

-Suppers loading and downloading -Beehives movement

-Honey Crop -Honey Extraction

-Frames cleaning/melting -Wax melting

-Beehives Sanitary Treatments -Winter preparation

REQUIREMENTS.

The successful applicant will possess, at a minimum, the following skills and experience:

Proven beehives and honey extraction experience (from 7 months to less than 1 year on apiary type of farm, letter of experience must be provided), Driving license, Criminal record check will be administered We would like to thank you for your interest in this position. However, only those selected for an interview will be contacted.

How to Apply: Contact: Please send your Cover Letter and Resume to attention of Daniela

Email: honeyonyxapiary@gmail.com

Help Wanted: Hannigan Honey Inc. - Shellbrook (SK)

Hannigan Honey Inc. requires the following helpers for the 2022 season:

2 Apiary Supervisors (NOC 8252) for full time (40+ Hrs/wk) seasonal employment (\$16.00 - \$17.25/ hr) experience pending, March through October 2022.

Applicants must have a minimum of 10 years experience in Canadian commercial beekeeping and have worked at least 3 years as an apiary technician. Duties will include supervising and training workers to care for bee colonies, recognizing, reporting, monitoring and controlling hive health issues, including assessing feed requirements. Harvesting and packaging honey. They must be able to drive (incl. Standard transmission and medium duty trucks, and maintain vehicles daily). Operate and maintain other apiary equipment such as forklifts, chainsaws and pumps. Keep field and production records. Must be able to interact with local farmers and land owners.

11 Apiary technicians (NOC 8431) for full time (40+ Hrs/wk) seasonal employment (\$12.63 - \$16.00 /hr experience pending), March through October 2022.

Must have a minimum of 1yr (season) working full time on a Canadian style commercial apiary. Duties will include unpacking and repacking winterized hives; caring for the colonies; recognizing, reporting and monitoring hive health issues and applying appropriate treatment/ prevention methods; harvesting honey; build and repair bee equipment; must have valid driver's license; conduct bee yard maintenance; fill out record keeping sheets, must be physically fit and able to reach, bend, crouch, kneel and withstand heavy lifting.

4 Apiary labourers (NOC 8431) for full time (40+ Hrs/wk) seasonal employment (\$11.81 - \$12.62/hr) from March through October 2022.

Applicants must be able to work in the presence of Honey bees; be mentally and physically fit; work well with others; able to follow instructions. Duties include unpacking and repacking winterized colonies; caring for honey colonies; assisting with harvest; assisting with bee yard maintenance; assist in building and repair of bee equipment; it is preferred if you have a valid drivers license. Must be physically fit and able to reach, bend, crouch, kneel and withstand heavy lifting.

Location: Hannigan Honey #9 Shell River Road, Shellbrook, SK - 1 km N. of Shellbrook

Contact: Murray Hannigan by email: Hanniganhoney@sasktel.net or

send resume to Box 367 Shellbrook, Sask. S0J 2E0

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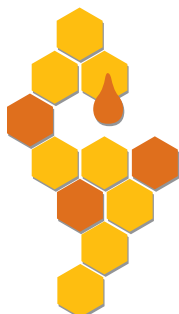
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The Canadian Honey Council is the national association of beekeepers representing apiculturists across Canada. The CHC provides a forum where producers, packers, professionals, provincial associations and officials from different levels of government can talk and recommend action in the best interests of the Canadian honey bee industry. Currently, the CHC membership consists of representatives of provincial associations with the total number of beekeepers at approximately 10,000 managing over 750,000 colonies.