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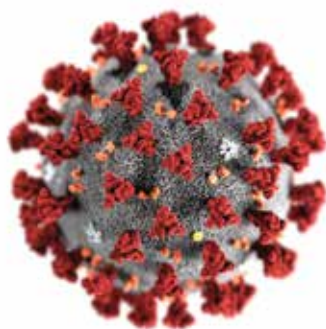


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Winter 2021 | Vol 34 # 1

The Official Magazine of the Canadian Honey Council, The Canadian Beekeeper and The Canadian Honey Packer

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– December 18, 2020**

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MADE IN FINLAND

Canadian Honey Council Report



Rod Scarlett, Executive Director, CHC

With 2020 thankfully in the rear view mirror, we can look forward to 2021 with some degree of optimism. The CHC will be working hard to ensure normalized importation of bee stock in the spring, and with current strong honey price, there is reason to be hopeful. Access to labour may be an issue as we have yet to learn about the criteria provinces will set in order to have these essential workers return from their various international destinations. With Covid 19 vaccinations likely to be an ongoing issue well into the summer, the necessary protocols could be a contentious issue.

This year promises to be a busy one for the CHC. Our involvement could include research projects in potentially new miticides, background information on foulbrood, and honey traceability. Labour consultations will no doubt continue as more and more focus is being put on the temporary foreign worker program. Since many trade shows were cancelled last year, one can expect renewed interest and participation in international shows looking at ways to diversify and add value to

honey sales. Federal Roundtables will once again begin to meet and the restructuring will mean a different type of involvement. Hopefully, the ability to work, and collaborate with, other commodity groups will enhance bee-keeping initiatives.

When the federal government announced the formation of a food fraud program in 2019, honey has proven to be one of the primary beneficiaries. Following up on testing conducted in 2018-19, the CFIA once again tested 275 samples of domestic and imported honey from retail and packer facilities. Combined about 87% of the samples tested were

not adulterated, a marked improvement over the previous year. While certainly not perfect, the CFIA has proven to be a world leader in using modern technology in the testing of honey. The CHC will continue to press the CFIA to expand its testing capacity to ensure that Canadian consumers are getting the product they demand.

As always, do not hesitate to contact your provincial representative on the Board or the myself directly if there are issues that you feel the CHC should address. Your input and support are what helps make a truly successful organization. ■

Surveys, Surveys, and more Surveys

Please quickly respond to the overwintering survey sent in spring by your Provincial Apiculturalist.

People in the agricultural sector are often singled out for surveys, surveys needed to gather information about their diverse operations. Beekeepers are certainly not exempt from this. Federal and provincial government surveys seek information on such things as labour, input costs, safety net programs, and crop production. All of these are important and all relevant. On top of that, you have provincial and national associations also asking for your input and opinion. No doubt it seems the information being provided is often repetitious and producers hardly ever see the results of the survey.

During your busiest times I understand how it may feel that responding to surveys is time consuming and seemingly fruitless. However I want to emphasize the importance of a timely response to the Provincial Apiculturalists' overwintering survey. Getting the results of winter losses as early as possible allows your provincial association and the Canadian Honey Council to lobby for fast and effective programs, prepare for changes in the supply chain, and work on rectifying issues. It is critical that your Provincial Apiculturalist is able to quickly provide accurate data on winter loss in the spring, and to do this they need responses from a large number of beekeepers. Without enough beekeepers responding, as an industry we risk making decisions based on the experiences of only a small subset of beekeepers, who may not be representative of the bigger picture.

This spring, despite being deluged by work, please quickly respond to the overwintering survey put out by your Provincial Apiculturalist



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Regional Reports



Maritimes



Chris Lockhart

Winter has officially begun. Honey sales both bulk and retail have been through the roof. After such a difficult season for so many producers, it is nice to see the industry being rewarded with fair honey prices and high demand. Most producers are completely sold out of bulk honey.

With meeting season in full swing, it's safe to say for at least the next few months they will all be online. While I personally prefer face to face meetings, I must admit online meetings have made things somewhat more efficient for me. I am able to take part in more committees, board meetings, government meetings and national meetings than I ever have. With people unable to leave their Atlantic Province without mandatory quarantines upon return, the online world has become incredibly important. With that being said I'm ready to kick 2020 out the door and hopefully get to see some of beautiful people in 2021!

organisation les «Apiculteurs et Apicultrices du Québec» continu de faire cheminer bien des dossiers de grande importance à l'apiculture québécoise. En voici quelques-uns, l'assurance hivernage pour les nucléi, la mise à jour de l'assurance hivernage pour les ruches, la décontamination du matériel apicole, le suivi du dossier concernant l'importation de nucléi en provenance de l'Ontario, l'identification de quelque cas de PCR au Québec, les empoisonnements aux pesticides constatés dans plusieurs ruchers au Québec, le dossier de la pollinisation des bleuets et canneberges, l'étude technico-économique visant l'évaluation des coûts de revient en pollinisation et en production de miel, le plan d'action sur 5 ans de la table filière apicole québécoise, les projets de recherches en partenariat avec la chaire de recherche apicole de l'Université Laval, l'arrivée des travailleurs étrangers et bien d'autres encore.

Je reviendrais plus en détail sur ces dossiers en constante évolution au cours des prochaines publications. Si vous avez des questions, n'hésitez pas à contacter notre association qui se fera un plaisir de vous répondre. Sur ce, je vous souhaite une merveilleuse année 2021, que l'hiver soit clément pour vos ruches.

What an incredible year!

We tend to see 2020 as a year of negative upheaval, but with this little text, I would like to bring to your attention some of the positive points caused by the pandemic on our society and especially in agriculture and beekeeping.

First, the general public has become aware of the importance of Quebec and Canadian agriculture. In the past, despite all the efforts to promote local products, we have never been able to achieve as much growth in demand as that caused by this year's pandemic. We are currently running low on honey stocks and the last barrels available sell at high prices.

Second, the government has recognized the importance of agricultural self-sufficiency as well as that of both Canadian and foreign workers in our businesses. Indeed, when it decreed the closure of the borders in March, the UPA (Union of Agricultural Producers) took the necessary steps to make the government understand its mistake in this area. Financial aid was then granted to encourage Quebecers to come and work in agricultural enterprises.

Third, society had to make a big shift to remote work. In some cases, this shift has been beneficial to employees and/or students who no longer have to travel daily to perform certain tasks saving both time and energy. Agricultural unions have also adapted to this shift by conducting their meetings remotely which brought new members to participate in the meetings.

There are many other positive impacts and I keep believing our society will grow positively from the current situation. In the meantime, our union "Les Apiculteurs et Apicultrices du Québec" continues to take care of many important issues to Quebec beekeeping. Here are a few, wintering insurance for nuclei, updating hive wintering insurance, decontamination of beekeeping equipment, monitoring the case concerning the import of nuclei from Ontario, monitoring the few SHB (small hive beetle) cases in Quebec, pesticide poisonings found in several apiaries in Quebec, the pollination of blueberries and cranberries, the technical-economic study for the assessment of costs in pollination and honey production, the 5-year action plan of the Quebec beekeeping table, research projects in partnership with the bee research chair of University Laval, arrival of foreign workers and many more.

Québec



Maggie Lamothe Boudreau

Quelle année incroyable!

Nous avons tendance considérer 2020 comme une année de bouleversements négatifs, mais par ce petit texte, j'aimerais ramener à votre attention quelques points positifs occasionnés par la pandémie sur notre société et plus particulièrement en agriculture et apiculture.

Premièrement, la population en général a pris conscience de l'importance de l'agriculture Québécoise et canadienne. Par le passé, malgré tous les efforts de promotions des produits locaux, nous n'avons jamais réussi à obtenir une aussi grande croissance de la demande que celle occasionné par la pandémie cette année. Nous sommes actuellement à court de miel et les derniers barils disponible se vendent à fort prix.

Deuxièmement, le gouvernement a pris conscience de l'importance de l'autosuffisance agricole ainsi que celle des travailleurs autant canadiens qu'étrangers au sein de nos entreprises. En effet, lorsqu'il a décrété la fermeture des frontières en mars, l'UPA (L'Union des Producteurs Agricoles) a pris les mesures nécessaires pour faire comprendre au gouvernement son erreur magistrale en la matière. Des aides financières ont alors été octroyées afin d'inciter les Québécois à venir travailler au sein des entreprises agricoles.

Troisièmement, la société a dû prendre un grand virage vers le travail à distance. Dans certains cas, ce virage a été bénéfique aux employés et/ou étudiants qui n'ont plus à se déplacer journalièrement pour effectuer certaines tâches. Les organisations syndicales agricoles se sont aussi adaptées à ce virage en effectuant leur réunion à distance amenant par le fait même de nouveau visage à participer aux réunions.

J'oublie certainement bien d'autres points positifs, mais je crois qu'en tant que société nous sortirons grandis de la situation actuelle. Entre temps, notre



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I will offer more details on these ever-changing issues in future issues of Hivelight. In the meantime, if you have any questions, please contact our association, we will be happy to answer your questions. To conclude, I wish you a wonderful year 2021. Hope winter will be kind for your hives.

Ontario



Albert Devries

Winter has yet to fully arrive in Southwestern Ontario. The temperature has been around zero for most of the past month. There had been a couple of snowfalls that have melted away leaving bare ground. We could be in for another mild winter.

Most areas of Ontario saw an above average honey crop this past season. The OBA held their fall meeting online with Ian Stepler being the keynote speaker this past November. Discussing resolutions and voting for new board members seemed to go well as meeting online was a new experience to most of us. I would like to thank our out-going president Andre Flys and welcome our new president Bernie Wiehle. I look forward to a time when we can all meet in person again.

Interest in OBA memberships is strong. It seems likely that we will continue to grow as more people take up beekeeping during this pandemic. This season has had its share of new challenges related to the pandemic. We, in Ontario, look forward to the new season and wish everyone safety and good health.

Manitoba



Osee Podolsky

I think we can all agree that 2020 has been a roller-coaster of a beekeeping season filled with new challenges and obstacles to overcome. It makes me happy to see just how tight knit and helpful our industry is in times of need. Seeing beekeepers and representatives Canada wide work together to overcome obstacles such as, restrictions of TFW's into Canada due to Covid-19, working together to get flights chartered for TFW's this season, doing our best to help our fellow beekeepers recuperate losses from poor

overwinter success, and struggles importing replacement bees due to flight cancellations. I am glad to be a part of our industry and know we are all in this together.

The winter in Manitoba has been a mild one so far for the most part, unusually warm weather and low snowfall, a nice change from shoveling snow in -40 weather. Hopefully we will all be seeing good strong hives in the spring for the 2021 season, even though hive numbers going into winter are down in most operations.

Despite the honey crop not being the greatest this year it is comforting to see the rise in honey prices, due to the rise in demand and increased honey sales in Canada this year, with prices as high as \$2.65 CAD/lb by the end of 2020. Everyone was expecting to see the demand taper off and reduce after the jump in the spring, but it is holding steady which is a good thing for our industry, increased consumption of Canadian honey by Canadian consumers is never a bad thing.

I hope everyone had a Merry Christmas and a Happy New Year. I am excited to see what 2021 will bring for all of us.

Saskatchewan



Now that the great dumpster fire of 2020 is complete, it is my hope that 2021 will bring somewhat of a return to normal. Covid-19 brought huge hurdles to the Temporary Foreign Worker Program. From a labour perspective going into the first part of January, it looks like there will be some ongoing issues getting Temporary Foreign Workers into the country. Covid-19 testing prior to entry into Canada and other such hiccups will be expected with more information about Covid-19 requirements and protocols to be forwarded to



Jake Berg

the provincial organizations as they come available.

In late November, Saskatchewan had our first ever virtual AGM. It did work quite well but I do believe all who participated would like to go back to an in-person meeting as soon as possible. The AGM went smoothly, lots of question and issues addressed throughout the Zoom meeting. Hopefully in 2021, we will be able to have an in-person meeting so that the members can enjoy the socializing and connection once again.

The shortage of white honey in the North American market has developed quite an uptick in the price of honey. At the time of writing this article, I've heard of some honey moving for \$2.80 Canadian. Hopefully this upswing in honey prices will stay around for the foreseeable future. We will see what the next year brings.

Alberta



Curtis Miedema

Alberta Had their first ever Virtual AGM at the end of November, considering it was our first shot at it I felt like it went very well and had a good number of members attend.

Through our resolutions we got the feeling from our membership that getting more information on our sugar analysis in honey is important as that has been an issue for some farms this year in Alberta.

Also, our monthly news magazine will be changed to have every other month distributed digitally.

Another topic that Alberta has always felt strong about is the access to replacement bees from mainland USA. A resolution was passed to continue to pursue this as this spring was definitely a challenge to get package bees from Australia and New Zealand.

Sounds like most beekeepers across Alberta are sold out of the 2020 crop with prices continuing to climb which is encouraging to see.

I hope everyone had a great holiday season and enjoys some relaxation before the coming beekeeping

British Columbia



Stan Reist

Well looks like 2020 is behind us. To some it was the year from hell, to others it wasn't bad and to others it was good to above average. What we have seen is well above average in honey sales, people are just buying local honey. Yes, we have seen hoarding but in most cases we have just seen people looking to eat better food and because of the limitations on movement a lot more home cooking and baking, which translates into increased sales. Some small companies that we do business with have experienced the same occurrence's.

Earlier on, the outlook was totally dismal with limits on customers, social distancing, sanitizing and it was not going well. Then things started to change with some relaxing of rules and then the leveling out of concerns. One of our customers said it went from slow death, to actually possibility of coming out of this at a break even for the year and they could live with that. The farmers that usually had a Halloween market business every year was another one that, in most cases, went far beyond expectations and they were not severely impacted. While there are some that were severely impacted, there were some silver linings.

As it stands now it is shaping up to be a bigger bee loss year, from the Island and also in the southern interior and that's not good. Package orders are above normal for this time of the year, we generally don't see orders until the middle of January. Good news is that so far everything is on track for the packages. Air Canada has committed two aircraft to three flights a week from Vancouver to Australia, New Zealand and back to Canada. This configuration allows the movement of bee stock from New Zealand without

► pag. 8

landing in Australia, which does not allow for transfer of bees from New Zealand through Australia to Canada.

In the last Year give or take, I have been hearing quips about the Importation of Queens from California. I am responsible for this and we are responsible for that, Alberta spearheaded the importation etc. etc. so it is past time to put pen to paper and explain how the Queens from the Continental U.S. were approved for importation into Canada.

In 2004 there was a lot of friction about packages and Queens in western Canada especially from Alberta. At that time Heather Clay was the CEO of the CHC and I was a Member of the Executive. We had a discussion on the stock issue and between Heather and I were certain that we stood a better than average chance of getting an agreement on the importation of Queens, then we would have on both Queens and Packages from the US. B.C. had a motion on the books to allow for the importation of Queens from the Continental U.S. and Alberta had a motion to allow for both Queens and packages.

A plan was put into motion each Province would have their PA, the President of their Association and CHC rep at the meeting and that was it. I received a phone call one evening from a very angry Dale Hansen demanding to know why Derrick Johnson from the Coop was not allowed to attend the meeting. I explained that the Coop was a member, therefore, whoever they decided to send was their choice and was there a problem? He said he was told that was not happening. I told him that was not true and that Derrick, was welcome to attend. I called all the Presidents for the associations and Heather contacted the PAs and all were told they would have to pay their way as the CHC did not have the money to cover expenses. To our surprise, there was great support for this initiative, however, there were a few hold outs. Then there was a request to have the meeting mediated, if there was no mediator then they were not willing to participate.

Heather went to work looking for mediators and we had a price of \$10,000 to do this but where to get the money? B.C. had received Approx. \$60,000 from the Government in previous years and it was sitting in an account - THE chain attached to spending this money, was, IT had to benefit THE INDUSTRY. This fell in line with the strings attached to the money. I asked the BCHPA for the funds and explained what it was for. Jacquie Bunsie was the president at the time and the request was granted, so we now had \$5,000 from B.C. to put towards the cause. I then approached the Alberta beekeepers and asked for the same amount and again they kicked in the \$5,000 requested. The decision of who paid for the meeting was done between Heather and myself solely the two provinces who wanted the Queens and stood most to benefit from it were B.C. and Alberta and the only Provinces to have motions in favor of the openings. Now we had the money to hire the Mediator and we informed the participants that a mediator would chair the meeting. We still had some hold outs but gradually they agreed. Heather asked me which of the mediators to hire, your choice, Green Span out of Victoria or? The meeting place was decided to be in Kelowna, starting the week before the BCHPA convention at the end of October. Money issues again arose because we couldn't pay for meeting rooms. As most people know if you're planning a convention, the first questions from the facility are how many room nights and how many meals and then, that determined what else was thrown in. The BCHPA convention at the end of the week meant, if we tagged on to that we upped the room numbers, the meal count and got the meeting rooms for nothing. That was good for us seeing that we didn't have the funds to do otherwise.

We had holdouts until the very last moment and then they agreed to participate. The meeting was held in Kelowna and the Mediators were from Victoria. Both Alberta and British Columbia five thousand dollars each and the rest is history. At the start of the BCHPA meeting on Friday morning, I announced that we had reached an agreement and it was now just working out the final details.

So who is responsible for the importation of Queens from the Continental US? Heather Clay did most of the ground work in arranging the meeting. I was the person inviting participants and requesting money to host it. Does that make us responsible?

So this is my take on it and you can agree or disagree as you wish. While Heather and I worked to pull the meeting together, B.C. and Alberta both contributed \$5,000 to hire the Mediators and without those contributions, we could not have done it. IF ANY or ALL HAD SAID NO TO PARTICIPATING,

then it would not have happened. The reason it did happen was because the people in the positions at the time, Provincial Apiarists, Presidents and CHC reps from all the provinces put aside their fears and concerns and agreed to cooperate with each other to improve the import conditions in Canadian beekeeping operations in allowing the Queens from the U.S. So who's responsible? If you were part of the above then you had a hand in the process and as individuals, we are only responsible as part of the group. As to the statement that Alberta spearheading the importation of Queens from the continental U.S. that's not true. As you can read their contribution is listed and they are a part of the process the same as the rest of the participants.

The CHC, even when we were financially embarrassed was still able to pull Canadians together to make a better industry for all. Some say the CHC is controlled by hobbyists and does not represent commercial interests is completely false. The CHC made a modest profit in hosting Apimondia and we now have a cushion to work with. In this year of upheaval, again the CHC has demonstrated it works for all beekeepers. The Chartering of flights for foreign workers and the unexpected return of those foreign workers from Canadian beekeeping operations, is just another example of what the CHC is about.

Heather Clay was one of the first steps in the improvement of the CHC. To start down the road of a paid executive officer. Heather was responsible for the collection of dues and if she didn't put the arm on you we didn't have the funds to operate and she didn't get paid. Heather carried us as far as she could and then we moved on. I do not know anyone who could have predicted where we would evolve to or what was coming. Since then, we have gone through more changes. We now have Mr. Scarlett. From what we started out as and where we are now there is almost no comparison. Provinces are assessed dues, assessed hive levees, are billed and sent in.(some on time, not so others) The CHC put together a bid for Apimondia and we got it, then, we had to deliver. Our main man behind that was Rod and we did it, although, I have no idea how many years of life he contributed. This past year, he has graduated from plane chartering courses, to manage our farm supply of foreign workers. If anyone were to review Rod's duties and expectations, I know you're not going to find that either in small or large print. The CHC will continue to grow and evolve and we will stumble along the way but we are not going away.

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Potential Varroacides for Varroa control in honey bee colonies

Nature Scientific Reports Publication

Submitted from Medhat Nasr

Currently, populations of Varroa mites globally have developed resistance to pyrethroid and organophosphate miticides. More recently, resistance has been emerging to the only remaining viable synthetic miticide, Apivar. Since Apivar registration in 2008 in Canada, I have recognized the need for active ingredients (AIs) with different modes of action to support developing alternative miticides to control varroa and keeping healthy bees.

I am so proud of the research that was done by the Alberta Agriculture Bee Team, led by Rassol Bahreini and I has been published in Nature Scientific Reports Today. This research report is now available

for you to access by using the following link: <https://rdcu.be/cbT9b>

Over all 16 active ingredients and 9 of their formulated products belong to 12 different families screened under lab conditions against varroa mites and bee safety. So far 5 products showed significant toxicity to varroa mites, but two out of them were safer to bees at tested concentrations. These active ingredients are recommended for further testing at the colony level and can be developed to become potential varroacides for use by beekeepers.

I am very proud of this study, and all the hard work and contributions of all team members. This is a good day to lead the way for having new alternative miticides in our toolbox for varroa control. We thank our funding agents Alberta Crop Industry Development Fund (ACIDF), Alberta Beekeepers Commission, Growing Forward2 (a federal-provincial, territorial initiative) and Canadian Bee Research Fund (CBRF) and Government of Alberta for their support. ■



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Government of Canada protects Canadians against food fraud in honey and other products

From: Canadian Food Inspection Agency

The Canadian Food Inspection Agency (CFIA) is working to identify and mitigate risks in the food supply chain so that Canadians are protected from food misrepresentation, which is a common form of food fraud.

As part of the CFIA's food fraud program, between April 2019 and March 2020, the CFIA sampled and tested domestic and imported honey intended for sale in Canada. The agency has now published its honey authenticity surveillance results (2019 to 2020).

Under Canadian law, honey cannot contain added sugars; otherwise it is considered adulterated and is not allowed to be sold as authentic honey in Canada.

Testing found 87% of the targeted honey samples were authentic, compared to 78% the previous fiscal year. In addition to the targeted sampling by the CFIA, samples were also collected by an independent third-party as part of the agency's marketplace monitoring activity, and CFIA testing showed 98% of those to be authentic.

The CFIA took appropriate enforcement action on the honey that contained added sugars, preventing more than 83,000 kg of adulterated honey from being sold in the Canadian market.

Under the Food Policy for Canada, launched in June 2019, the Government of Canada invested \$24.4 million over 5 years to the CFIA to crack down on food fraud in order to protect consumers from deception and companies from unfair competition. With this funding, the CFIA is conducting inspections, collecting samples, testing foods for authenticity, and gathering intelligence to better target its oversight activities.

The CFIA is also proactively monitoring any increased risk of food fraud that may have arisen from the uncertainties in the global food trade environment as a result of the COVID-19 pandemic, and finding effective solutions to mitigate them.

By addressing food fraud, Canadians can be confident that the foods they purchase are properly labelled and safe to consume. It also helps Canadian businesses compete more fairly in the Canadian and global marketplace. ■

Quotes

"When food is not properly labelled, Canadians aren't able to make informed decisions on what to buy and feed their families. Ensuring accurately represented food is even more critical when food safety risks arise such as allergens not being declared. In the context of this ongoing pandemic, the government is aware of increased risks of food fraud and tackling this complex issue head-on."

— *The Honourable Patty Hajdu, Minister of Health*

"Tackling food fraud is a key priority of the Food Policy for Canada which our government launched last year. It will not only protect consumers from buying deliberately mislabelled products, but also Canadian food businesses who must compete with inauthentic products. That's why we are taking action and cracking down on incidents of food fraud in Canada."

— *The Honourable Marie-Claude Bibeau, Minister of Agriculture and Agri-Food*

"The CFIA's work to test for honey adulteration in Canada gives us a better idea of how much of an issue this is here in Canada. Honey adulteration is known to occur globally and is something we must continue to tackle. While the CFIA's most recent results indicate fewer fraudulent cases, the elimination of adulterated honey from the marketplace is a world-wide objective and critical for honest honey producers."

— *Rod Scarlett, Executive Director, Canadian Honey Council*

"Trust between retailers and their customers is essential. Consumers should never wonder if the label they are looking at accurately reflects what's inside. That's why grocery retailers in Canada are doing their part to mitigate the risks by working closely with their suppliers, investing heavily in food fraud prevention programs, and having safeguards in place to ensure the food they sell is authentic and real."

— *Diane J. Brisebois, President & CEO, Retail Council of Canada*

Quick facts

- Funding through the Food Policy of Canada includes \$3.1 million for Health Canada over 5 years to support the CFIA's work through research, intelligence gathering and risk assessment related to potential human health risks.
- The funding allowed the CFIA to add an additional 14 employees to work on the food fraud initiative in 2019 to 2020. By 2024, a total of 29 employees are expected to be dedicated to tackling food fraud, with an additional of 3 employees for Health Canada.
- In 2019, Canada produced 80 million pounds of honey, worth \$173 million. Canadian honey exports totaled nearly \$54 million, down 31% from 2018.
- As part of its sampling and testing strategy, the CFIA tested a total of 275 samples of honey in 2019 to 2020: 127 from importers and domestic processors and 148 from retailers across Canada.
- The CFIA tested honey for sugar cane and corn syrup (known as C4 sugars) using Stable Isotope Ratio Analysis and for rice syrup and beet sugar syrup (known as C3 sugars) using Nuclear Magnetic Resonance technique.

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APV-88US-N01-1223

Breeding bees for *Varroa destructor* resistance: using the gene *neurexin* as a molecular marker

Nuria Morfin¹, Brock Harpur², Alvaro de la Mora¹, Berna Emsen¹, Ernesto Guzman-Novoa¹
¹University of Guelph, ON, Canada, ²Purdue University, IN, USA

Self-grooming behavior in honey bees, the use of legs and mandibles to remove irritant particles from their bodies, is associated with higher levels of *Varroa destructor* mite damage and lower mite population growth in honey bee colonies (Guzman-Novoa et al., 2012). Bee breeders have incorporated grooming, mite damage, and lower mite population growth into breeding programs to increase mite resistance and hopefully breed for mite-resistant honey bees (Hunt et al., 2016; Morfin et al., 2020; Emsen et al., 2020). One challenge faced by bee breeders in screening for these traits is the labor associated. Molecular tools could be used to reduce some of this effort by allowing one to find chemical signals (a sequence of DNA or an elevated level of RNA or protein, for example) associated with these resistant traits (Soller, 1994). Recently, the gene *neurexin* has been associated with grooming behavior and with the intensity with which bees groom themselves (Arechavaleta-Velasco et al., 2012; Hamiduzzaman et al. 2017). In a recent study, *neurexin* was found to be more highly expressed in honey bees from colonies selected for increased mite mutilation (Morfin et al. 2020). While this result suggests that *neurexin* could be a molecular marker for bee breeding there is still some work to be done before incorporating it into a breeding program and before it can be reliably associated with lower levels of *Varroa* mites in a colony.

One major challenge with this finding was the high variability in *neurexin* expression within stocks. It suggests that more data is needed before we can pin down specific molecular markers for grooming behavior and more broadly to mite resistance. At the Honey Bee Research Centre at University of Guelph we have been selecting on honey bees that have very high *Varroa* growth rates (HVG) and have low *Varroa* growth rates (LVG) through funding from the Ontario Ministry of Agriculture, Food and Rural Affairs. After three generations of selection, we have partnered with Purdue University to analyze the genomes of each line to identify variations in the DNA sequence that might contribute to differences in mite levels between each and to see if those differences

fall within or near to *neurexin*.

This study would shed new information on the role of *neurexin* in the ability of the bees to restrain *V. destructor* population growth by grooming, and will provide more information on the potential use of *neurexin* as a molecular marker for breeding programs. The aim of breeding bees for LVG is to incorporate the selected stock into an Integrated Pest Management strategy in beekeeping operations to restrain *V. destructor* populations, decrease the damage caused by the mite, and reduce overwinter colony mortality.

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Honey, ah sugar sugar...

Shelley Hoover, University of Lethbridge

The adulteration of honey with sugar syrups is a sensitive topic, and for good reason. Low cost adulterated honey, when brought to market, can damage the reputation of the product and greatly reduce the price beekeepers are able to get for legitimate honey. In an era when information (and misinformation) spreads quickly over social media, branding and reputation management have never been more important. It is for this reason that large-scale honey buyers test the honey they purchase for a number of characteristics, including the presence of sugars that would be indicative of adulteration.

Beekeepers can intentionally adulterate honey either by feeding colonies and extracting the syrup from the comb, or by adding syrup to genuine honey after it is extracted. Targeted testing by the Canadian Food Inspection Agency in 2018 found that 22% of honey samples from across Canada contained added sugars. It is a testament to Canadian beekeepers, however, that 100% of the samples of Canadian origin were authentic honey.

It is important for Canadian beekeepers to remember that they can also unintentionally introduce non-honey sugars to their product through feeding. It is for this reason beekeepers should not feed sugar syrup when honey supers are on the colonies. Beekeepers also need to be aware of what tests their honey will be subjected to, *what* sugars they are feeding their bees, and a few key facts about sugar production.

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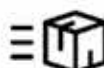
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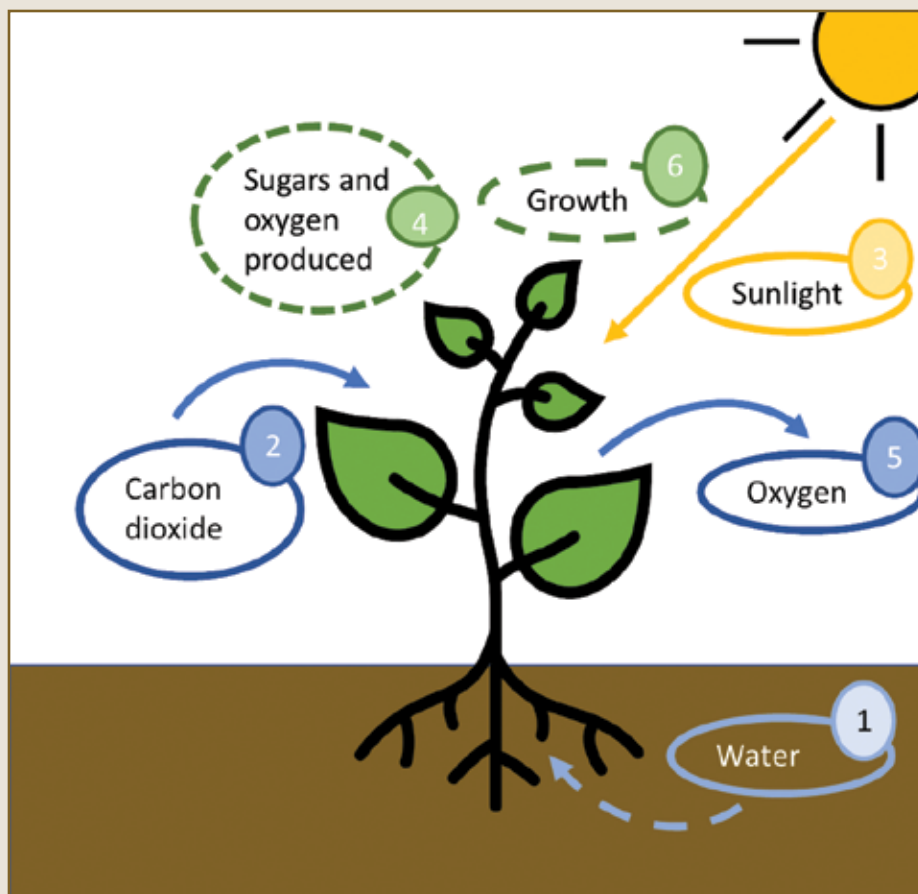
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How do plants produce sugar?

Photosynthesis is the process by which plants transform energy from the sun into chemical energy they can use as fuel. During photosynthesis, green plants use energy from sunlight to convert water, carbon dioxide, and minerals into oxygen and energy rich organic compounds. However, there are different chemical pathways by which this can occur.



The basic steps of photosynthesis: 1. The plant takes up water through its roots. 2. The leaves take in CO₂ from the air. 3. The leaves collect energy from the sun. 4. The plant uses the energy from the sun to convert water and CO₂ into oxygen and sugars. 5. The plant releases the oxygen into the air. 6. The plant uses the sugars for growth and maintenance

C₃ carbon fixation is the most common of the three main metabolic pathways plants use in photosynthesis. It is called C₃ because the first carbon compound produced contains three carbon atoms. Plants that use this pathway are called C₃ plants, and they tend to grow in regions with moderate sunlight and temperature, carbon dioxide levels 200 ppm or higher, and plentiful water. C₃ plants predate the appearance of C₄ plants on earth, and still represent 95% of the plant biomass on earth. However, C₃ plants cannot grow well in very hot areas as elevated temperatures cause them to lose carbon, nitrogen, and water from the plant, thus limiting their growth. It is for this reason that all Brassica species (the family that includes canola, kale, cauliflower, and cabbage) have C₃ carbon fixation except the violet cabbage, which is native to the warm Mediterranean. **Examples of C₃ Plant Sources:** many crops including: canola, sugar beets, rice, soybeans, alfalfa, clover, oats, barley, wheat, sunflowers, and most flowering plants and trees.

C₄ plants (in which a four-carbon compound is the first produced) have adaptations that allow them to survive in hot and dry areas. About 8,100 plant species use **C₄ carbon fixation**, which represents only 3% of all terrestrial plants. C₄ carbon fixation is more common in monocots (grasses and grass-like flowering plants that are wind-pol-

inated) compared with dicots (other flowering plants), with 40% of monocots using the C₄ pathway, compared with only 4.5% of dicots. **Examples of C₄ crops include:** corn, sugar cane, sorghum, and some kinds of millet.

The third photosynthetic pathway, **Crassulacean acid metabolism**, also known as **CAM photosynthesis**, is a carbon fixation pathway that evolved in some plants as an adaptation to very dry conditions. The majority of CAM plants are epiphytes (e.g. orchids) or succulents. Some plants have the ability to switch between photosynthetic pathways, while others have the ability to use only the C₃, C₄, or CAM pathway. While bees *can* collect nectar or other exudates from C₄ plants, most plants, including all major honey source plants, use the C₃ nitrogen pathway.

By definition, honey is made from the nectar of flowers, or from substances secreted by nectaries outside of flowers. Many definitions also include the excretions of plant sucking insects (honey-dew honey). No definitions include syrups made from corn or sugar cane, which are C₄ plants (i.e. they use the C₄ photosynthetic pathway). Because the vast majority of authentic nectar sources are C₃ plants, the presence of C₄ sugars in honey is indicative of adulteration.

Laboratories use isotope profiles to distinguish between C₃ and C₄ sugars. That is, C₃ and C₄ sugars have different ratios of the isotopes carbon-12 and carbon-13. Carbon-12 and -13 have different numbers of neutrons, which can easily be detected, and are stable over long time periods. By measuring the ratio of these isotopes and comparing them to the ratio found in an internal control such as the protein component of honey, C₄ sugars such as those found in sugar cane or corn syrup can be detected.

Sugar beets and rice, in contrast, are C₃ plants. They have the same ratio of carbon isotopes as the majority of nectar-producing plants. Honey contaminated with sugar beet or rice syrup is not detectable by the above method of analysis. Let's be clear however, C₃ sugar sources such as syrups made from beets or rice are detectable by other methods.

Beekeepers in Western Canada typically buy sugar syrup feed from the Rogers & Lantic Sugar plant in Taber. While this factory commonly uses locally grown sugar beets (C₃) as a source, if the sugar beet crop is insufficient to meet demand (as in 2019), they switch to imported sugar cane (C₄) as a plant source. This happened this spring, 2020, after the 2019 sugar beet crop failure. In the spring, beekeepers received syrup made from sugar cane rather than sugar beets, as usual.

What is detected in your honey sample depends both on what is in the sample, and what analyses are conducted. Whether it is the presence of C₄ or C₃ sugars, pesticides, AFB spores, or heavy metals, it is clear that as detection methods become more sensitive, increasingly small levels of contaminants will be detectable. Beekeepers need to be aware of what they may unwittingly or intentionally introduce into their colonies, as well as the specific residue requirements of individual honey customers. The reputation of Canadian honey is on the line. ■

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Zombee Illustration submitted from Veto-pharma.
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Zombee Night Flight – Food for Thought

By Freddy Proni, Veto-pharma North America Area Manager

The never-ending saga of Covid-19 restrictions, the approach of this year's unique holiday season, and the isolation some of us experience during this "pandemic" can be mind numbing. With the onset of the winter months, many of us have already treated our bees during the low to broodless state and others will treat shortly based on their region. Thankfully the winter solstice will mark an increase in day light hours, and we will undertake the winter tasks associated with beekeeping equipment building, maintenance, and preparation in anticipation of the 2021 bee year. As for 2020, it has memorable to say the least, mind boggling and profane at times, and for some of us, gave us a glimpse or a comatose existence of what it is like to be a zombie.

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Each and every year recently, the media runs a story about Zombees (Zombie honey bees) as it alluringly mystifies the Halloween and the Day of the Dead experience. Many of us see the headline and the catch phrase passively; but do they really exist? Well to alter a famous holiday editorial phrase from a renowned 1897 editorial; “Yes, Virgina, there are zombees.”

As beekeepers, we are curious beings. Apiculture broadens our horizons and sparks an interest in nature, the things around us, and brings forth a refreshing curiosity which leads to observance. Many times, during the warm summer months after choking down our smokers we arrive home late in the evening. Tired, sweaty, and perfumed in smoke we often pass a nocturnally lit exterior light whose luminescence entices creatures of the insect world. We expect to see moths and a variety of other dancing insects bouncing off and diving into our human made artificial light but sometimes we may see honey bees. This is strange, as our nectar gathering friends should be in their hives, resting and performing duties awaiting the next day's dawn and outside temperature rise. Without knowing it, you may have witnessed honey bees dancing in the evening flood lights, and never thought, that the night of the living dead was closer to home than those comic books, movies, or TV shows.

The Discovery

It was in 2008 at San Francisco State University, that entomologist Dr. John Hafernik collected some stumbling bees on the ground near a light source to use as feed for a praying mantis. The bees were collected and placed in a glass vial and later stored in his desk and forgotten – the vial of dead bees was later found to contain small brown colored pupae leading him to the hypothesis that the collected bees were victims of a parasite.

The Phorid Fly

The term “zombees” refers to honey bees who have been parasitized by a tiny phorid fly (family Phoridae) known as *Apocephalus borealis*. Native to North America, this fly is not exclusive to honey bees, but has also been found to host on bumble bees and wasps. Very small in stature, the adult phorid fly measures between 2-2.9 mm in length and is said to resemble a small fruit fly. Thankfully this minute insect is not interested in humans as a host, nor our pets.



© Zombeewatch.org

The Lifecycle

A mated female fly oviposits (lays eggs) into the abdomen of the honey bee where the eggs hatch inside the host. The resulting larvae then feed upon the bee's flight muscles in the thorax and hemolymph. Eventually larvae emerge in about a week's time from the sector between the thorax and the head of the honey bee. Pupation usually takes place for about 28 days with the pupa measuring less than 5/64" (2mm) in length resembling a slightly flattened piece of miniaturized amber to brown colored rice. Upon maturation, the adult emerges and takes flight eventually looking for a host to hijack and start the reproductive cycle again.

Location

Although native to North America, zombees have not been found in all states. Reports have been confined to the coastal states spanning in the east from Nova Scotia Canada down to North Carolina and on the western coast from B.C. Canada through central California. Currently, *A. borealis* does not appear to be a threat to the honey bee industry, but through citizen science, beekeepers and the general public can take a stance to participate in documenting the spread of this parasite.



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Testing Bees – It's Easy

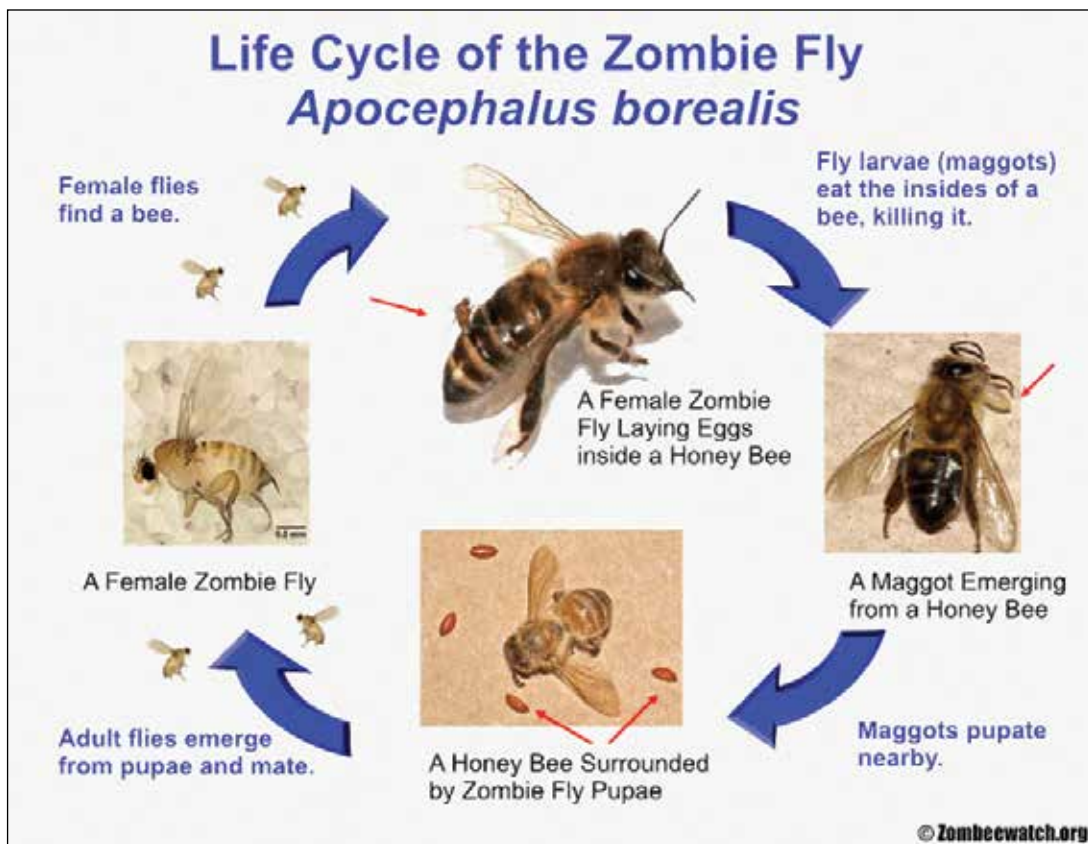
- Look for light sources such as porch, street parking lot, or flood lights
- Search for honey bee flying around or crawling on the ground or dead under the light in a disoriented state
- Carefully collect some bees with forceps or tweezers that are on the ground or easily accessible (dead or alive)
- Place your sample in a container such as a glass or plastic jar and store in a cool shaded place (no direct sunlight)
- Remember the bees you collected are not healthy and will perish
- Check your samples for fly maggots (larvae) in the next few days and look for pupae expected from 5-14 days after you collected your sample
- Adult flies may be seen up to an additional 28 days – storage temperature may slightly alter the numbers of days of maggot or adult emergence
- If you do not see fly larvae or pupae, then the sample most likely does not contain *A. borealis*
- Report your findings!



You can be a “Zombie Hunter”

To learn more or become a citizen scientist participant, please visit <https://www.zombeewatch.org/>. This website offers an interactive map, sample collection information, presentations, FAQ, and how you can participate and become an active part in this cause!

Phorid flies are indeed fascinating and they exemplify that our world of apiculture is ever evolving offering new discoveries and constantly raising questions. Be it serendipity, observance, or just persistence, there are always new facets of this industry to be dis-



covered and brought forward. For those who enjoy the macabre you may wish to spend one of these isolated evenings and check out the sarcophagus like fluid filled prepupal encasing virus, sac-brood; and the respective fungal soft and hard mummies of chalk and stone brood!

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Nosema epidemiology in untreated colonies and its effect on colony size and survival under indoor and outdoor wintering in the Canadian Prairies

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³Alberta Agriculture and Forestry, Government of Alberta (retired), ⁴Department of Biological Sciences, University of Lethbridge, AB

Nosema *ceranae* has become predominant over *Nosema apis* in honey bee colonies throughout Canada (Currie et al. 2010; Williams et al. 2010; Copley et al. 2012; Emsen et al. 2016). The few studies on *N. ceranae* have found it to be highly variable seasonally (Higes et al. 2008; Copley et al. 2012; Traver et al. 2012). Data on *Nosema* seasonality in Canada's prairies are lacking and needed to inform the management of this pathogen in this region. Furthermore, it is unclear how *Nosema* epidemiology may be affected by winter. Cold Prairie temperatures and different wintering methods (indoor and outdoor) provide variable temperature stress and defecation flight opportunities. For example, during indoor wintering, bees cannot perform cleansing flights, resulting in spores accumulating in the gut and exacerbating *Nosema* conditions (Retschnig et al. 2017). However, the stable, cool temperatures of wintering buildings maintain optimal cluster conditions, which could reduce the stress associated with confinement. Conversely, outdoor-wintered colonies can be exposed to extreme temperature fluctuations, which may increase stress, but can take occasional cleansing flights during warm periods. Lengthy Alberta winters could potentially cause increased spore build-up within the bees, forcing them to defecate within the hive, which could increase the spread of infection and lengthen the period of stress. Regional variation could also affect *Nosema* infection. For example, the intermittent short periods of warm weather brought to southern Alberta by Chinook winds could provide more opportunities for winter defecation events than in Northern Alberta, which typically has consistently cold temperatures throughout the winter.



Rosanna evaluating the health of a honey bee colony.

The objectives of this study were to: (1) assess the seasonal pattern of *Nosema* abundance in different locations within Alberta and using different wintering management methods (indoors versus outdoors), and (2) characterize the impact of *Nosema* in these environments on honey bee colony population size, mortality, and economic viability.

The study ran continuously from June 2017 to April 2019 and spanned two winters. Honey bee colonies belonging to local beekeepers were located in two apiaries near Edmonton, Alberta and two apiaries near Rainier, Alberta. Hereafter we will refer to the apiaries near Edmonton as "North" and the Rainier apiaries as "South." In each apiary, eight colonies were selected for this longitudinal study,

for a total of 32 colonies. At each location, half the colonies were wintered outdoors, and the other half wintered indoors. Colonies were wintered as double-chambers and not treated with fumagillin for the entirety of the study.

Nosema samples were collected every two weeks except during the winter. *Nosema* abundance (spores/bee) was determined using standard methods (30 bees per sample). Composite apiary samples from June 2017 and April 2018 were analyzed for *N. apis* and *N. ceranae* separately using qPCR. *Varroa* populations were monitored and controlled each September to minimize the effect of *Varroa* on the colonies. The population of adult bees was estimated approximately once each month through the active season, with cluster size used to approximate bee population during inclement weather. Colony mortality and viability were recorded in the spring. Non-viable colonies had less than four frames of bees in the colony (Canadian Association of Professional Apiculturists 2019).

In this study, most apiaries were infected solely with *N. ceranae*, but a co-infection of *N. ceranae* and *N. apis* was confirmed in one apiary. Therefore, *N. ceranae* was the species primarily responsible for causing the seasonal patterns observed in this study. Our two-year study showed that *N. ceranae* abundance (spores/bee) had a consistent spring peak and low summer and fall levels in the Canadian Prairie region, supporting previous North American studies (Figure 1)(Pernal et al. 2010; Traver et al. 2012; Emsen et al. 2020). Unlike *N. apis*, *N. ceranae* did not have a prominent fall peak. However, it should be noted that our sampling would have missed a potential late fall peak as sampling ended in September in both years. The different patterns of fall *Nosema* levels for *N. ceranae* and *N. apis* may impact control decisions, as late summer/ early fall sampling may not accurately predict the colony's past or future exposure to *Nosema*.

This study found no consistent pattern for differences in *Nosema* abundance observed by location (North versus South) within Alberta. At most sampling dates, there was no difference in *Nosema* abundance between the North and South locations. When differences in spore levels did occur in this study (4 dates), the North colonies typically had higher *Nosema* than the South, except for one date.

Nosema abundance increased in both locations over the duration of winter 2017-18, but in the winter of 2018-19, *Nosema* increased only in the North apiaries. The winters in the South varied substantially between the two years, and abnormal temperatures late in the first winter may explain the relatively high winter *Nosema* levels. March 2018 had no days above 10°C, whereas March 2019 had 11 days, which is more typical. Bees performing cleansing flights during warm periods near the end of the second winter may have allowed them to reduce their spore load. It should be noted that the small number of sites in this study may not adequately represent Alberta's full climatic variation.

Wintering method did not influence *Nosema* abundance in colonies sampled after winter, supporting a past Canadian study (Williams et al. 2010). However, we did find that indoor-wintered colonies were less likely to die at similar *Nosema* infection levels (Figure 2) and had larger bee populations in the following summer than outdoor-wintered colonies. The difference in colony mortality between wintering methods at the same *Nosema* level suggests that the threshold for damage tolerated by beekeepers from *Nosema* infection should be lower for colonies that will be wintered outdoors

than those wintered indoors. The reduced population growth of outdoor-wintered colonies may also be due to *Nosema*. Although not significantly different, *Nosema* abundance in outdoor-wintered colonies trended higher than indoor-wintered colonies from May to mid-July. *N. ceranae* infection has been shown to reduce colony population growth in other studies (Higes et al. 2008; Emsen et al. 2020). Indoor wintering is an attractive option for beekeepers looking to reduce mortality due to *Nosema* and potentially increase summer colony population size.

We predicted that temperature stress and cleansing flight opportunities could impact *Nosema* levels, but their relative importance was unknown. Indoor-wintered colonies experience lower temperature stress and no cleansing flights, whereas outdoor-wintered colonies would have greater temperature stress with cleansing flight opportunities. Our results show that the wintering method (indoor versus outdoor) affected the impact of *Nosema* on colony performance. We found that colonies with similar *Nosema* levels performed better when wintered indoors than wintered outdoors in both locations. These results suggest that mitigation of temperature stress during indoor wintering affected the impact of *Nosema* infections on colonies more than any benefits associated with the availability of late winter cleansing flights. This may be due to cleansing flight opportunities being unpredictable and short-lived, while reduced temperature stress can occur all winter.

This study also showed that not treating colonies for *Nosema* had significant negative effects on long-term colony longevity. When averaged over the two years, *Nosema* abundance in the spring (June 2017, April-June 2018) was a significant predictor of end-of-study colony mortality. While previous Canadian studies have found that *N. ceranae* was not correlated with mortality (Guzmán-Novoa et al. 2010; Williams et al. 2010, 2011; Desai and Currie 2016), these studies restricted sampling to the fall through to the spring as it was assumed that fall *Nosema* levels were most likely to predict winter mortality. Perhaps these studies would have found associations between *Nosema* level and colony mortality if sampling had been carried out in spring to early summer. Our study has shown that spring *Nosema* levels are a better predictor of mortality when colonies were not treated than early fall levels. Coupled with the lack of a fall peak, this suggests that spring fumagillin treatments may be more important than fall fumagillin treatments in managing this species of *Nosema* in Alberta.

Conclusions

1. The seasonal pattern of *N. ceranae* abundance in Canada's Prairie region showed the highest levels in the spring. The lack of an early fall peak may mean that fall sampling does not accurately predict the level of exposure to make informed late summer/early fall treatment decisions.
2. Spring *Nosema* abundance (spores/bee; 30 bees per sample) predicted long-term colony mortality, highlighting the importance of spring fumagillin treatment to mitigate this disease in colonies with high *Nosema* levels in the spring.
3. Indoor-wintered colonies were less likely to die at similar *Nosema* levels than outdoor-wintered colonies. The *Nosema* threshold should be lower for colonies being wintered outdoors than those wintered indoors.

4. *Nosema* was not a greater threat even in Alberta's colder 'North' region than in the South in this study when wintering double-chamber colonies.

Acknowledgements

This research was funded by the Alberta Crop Industry Development Fund (ACIDF), Alberta Beekeepers Commission, Growing Forward 2 (GF2), University of Manitoba, and Canadian Bee Research Fund (CBRF). We thank Rassol Bahreini for his advice in the early planning of this project. The Government of Alberta Bee Health Surveillance Section – Bee Team greatly assisted with sample collection and processing. We thank Zoe Rempel for providing technical support for the qPCR analysis. Honey bee colonies for this research were borrowed from Alberta beekeepers: Scandia Honey Corporation and Apiaries of Alberta Pride.

Figure 1. Average *Nosema* abundance over 23 months across all apiaries and wintering methods. Standard error is represented by the light grey area around the mean line. Dashed line shows the 1 million spores/bee nominal threshold. Drop lines indicate sample date.

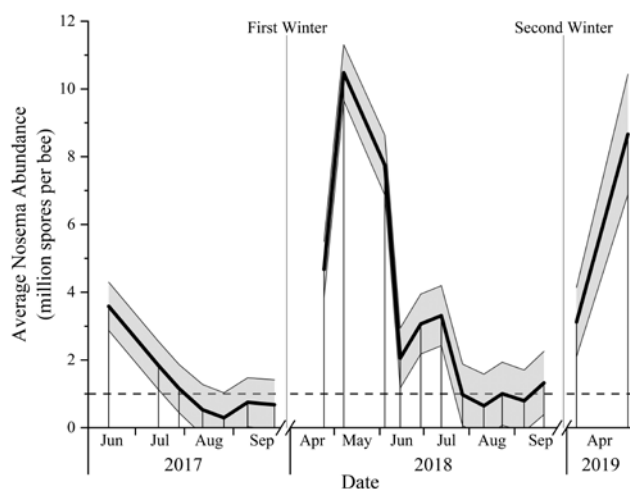
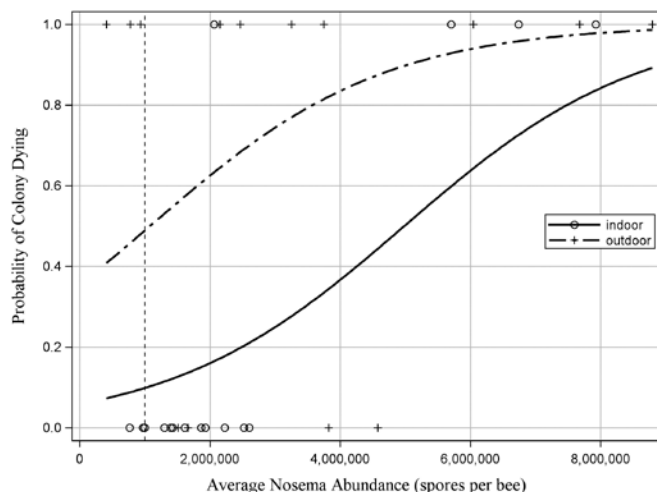


Figure 2. The predicted probability of having dead colonies (vertical axis) at the end of the study as influenced by the average *Nosema* abundance (horizontal axis) over the study (June 2017 – September 2018) and split by wintering method. On the vertical axis, 1.0 is guaranteed to die, whereas 0.0 is guaranteed to survive. The dashed line shows the 1 million spores/bee nominal threshold.



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Rosanna Punko - I would like to thank the CBRF for their support.

Hive Lights Help Wanted

Interlake Honey Producers Ltd. PO Box 328, Fisher Branch, MB R0C 0Z0 has the following positions: Apiary Technician 5 Positions Available Required for the 2021 Honey season. Seasonal, full time, days, evenings and some Saturdays. Work is mostly outdoors, so must be able to work under hot conditions. The job starts April 1st – July 1st. End date: Sept 10th- October 31st. Wages: \$13.00 - \$16.00/hour. Minimum 2 years experience preferred. No education required. Performance and /or production bonus may be available.

Duties: Include but not limited to, feed and care for bees, replacement of hives and production of nucs; moving hives, supering hives, detect and report hive health and apply correct disease cures and/or controls; keep field and/or production records; harvest honey; work on extracting line; cleaning extracting equipment and honey house; raise queens, assemble and maintenance of bee equipment; drive and maintain vehicles; other duties as assigned. Work is very physically demanding, with long days and heavy lifting. The job is located 2 hours north of Winnipeg in the RM of Fisher NE 33-23-1W in Fisher Branch, MB. Send resume by mail to Box 328 Fisher Branch, MB R0C 0Z0 or email anita@interlakeforageeds.com

Help Wanted: Granum, Alberta

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 bee-hive 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.

Help Wanted: Ardmore, Alberta

TNT Apiaries require:

An APIARY FOREPERSON (NOC 8252) for fulltime (40+ hrs/wk) year round employment (\$19.00-\$25/hr depending on experience. Bonuses possible). Applicant must have a minimum of 5 years (seasons) fulltime in a Canadian style commercial apiary environment with a minimum of 3 years (seasons) working as an Apiary Technician.

Duties include:

- Caring for honeybee colonies in the appropriate manner.
- Co-ordinating the production of replacement bees & equipment.
- Recognizing, reporting, monitoring and controlling hive health issues.
- Harvest & package honey, pollen & beeswax.
- Supervise & train workers.

- Drive (including std transmission & medium duty trucks) & daily maintenance of vehicles.
- Operate & maintain other apiary equipment (including forklifts, chainsaws & pumps).
- Conduct bee yard maintenance.
- Keep field and/or production records.
- Interact with external farm personnel.

5 APIARY TECHNICIANS (NOC 8431) for full time (40+ hrs/wk) employment (\$17.00-\$22/hr depending on experience. Bonuses possible) Two (2) positions year-round. Three (3) positions March 1st - October 31st. Must have a minimum of 2 years (seasons) working fulltime 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 & equipment.
- Recognizing, reporting, monitoring hive health issues and applying appropriate treatment/controls.

- Harvest & package honey, pollen & beeswax.
- Supervise small teams of workers.
- Drive (including std transmission & medium duty trucks) & daily maintenance of vehicles.
- Operate & maintain other apiary equipment (including forklifts, chainsaws & 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 2021. 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 & equipment.
- Assisting with harvesting honey, pollen & beeswax.
- Assisting with the bee yard and equipment maintenance.

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. A motor vehicle Operator's license with no serious infractions, recognized by the Province of Alberta & major insurance companies, is required for the Foreperson position and preference will be given to those Technician & Worker applicants holding one.

Contact Dave Tharle, 44116 - Hwy 659, Ardmore, AB or Box 80, Ardmore, AB. (Fax 780-826-6013) Email: tnapi@mcscnet.ca

Help Wanted: East Selkirk (MB)

Apiary Supervisor 1 position (NOC 8252) Minimum 3 years beekeeping experience preferred. Wage range \$14.00-\$17.00 per hour. Employment from November 2/2020 to November 30/2022

Apiary Technician/ Workers 3 positions (NOC 8431) \$12.09 - \$13.50

per hour. Employment from March 30/2021 to October 31/2021.

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; 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.

Send resume by email to philip@waldbee.com. Address: Wald-bee Honey Farms Inc. Box 9 Group 19 RRI, East Selkirk, MB. ROE OMO

Help Wanted East of Saskatoon (SK).

Meadow Ridge Enterprises Ltd requires 5 Seasonal Apiary Harvest Labourers for the 2021 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 \$12.30 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 aj.robertson@sasktel.net

Help Wanted: Austin, Manitoba

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 2021 season.

The positions start: March 05 - June 05, 2021.

End date: September 15 - November 05, 2021.

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 \$11.85 - \$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: Roblin (MB) - positions available for 2021

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.

12 full-time positions available at Wendell Honey in 2021

- 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, 2021 to mid-October 2021

- 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

12 full-time seasonal positions available at Wendell Honey in 2021

- 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, 2021 to mid October 2021

- 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 2021 (\$15.20-\$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 minimum of 1 year (season) experience and with employment March thru October 2021 (\$15.20-\$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 teesbeesinc@gmail.com.

Help Wanted: Fort Macleod (AB)

POELMAN APIARIES LTD. located near Fort Macleod, AB (102007A Range Rd 254) has the following positions available for the 2021 season: 6 SUPERVISORS (SKILLED WORKER, NOC 8253) with a minimum of 5 years (seasons) experience working at a Canadian apiary. Employment needed from March through October 2021; wage starting at \$15.20 - \$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 2021; wage starting at \$15.20 - \$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 2021; wage starting at \$15.20 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: Kinistino, (SK)

Position 1

Bacon Apiaries Ltd, located in Kinistino, Saskatchewan, is looking for an Apiary worker for the 2021 honey crop season. The job will commence approximately on March 15, 2021 to Oct 31, 2021. Primary duties (but may not be limited to) includes moving hives, feeding and medicating colonies, evaluating colonies, superring hives and harvesting honey, extracting and storing of honey and repairing bee equipment. Availability to work long hours, including week-ends and evenings is required. Salary starting from \$12.30/hr to \$14.00/hr depending on experience.

Position 2

Bacon Apiaries Ltd, located in Kinistino, Saskatchewan, is looking for 5 Honey harvester labourers for the upcoming 2021 honey season. Job duties include using an automatic lift to place full honey supers on a conveyor, running honey frames through an uncapper, moving frames into an extractor, removing empty frames and putting them into supers, stacking them away, making new honey equipment and repairing existing honey equipment. Employees hours will be 40-60 hours/week (5-6 days) with wages starting at 12.30/hr to \$14.00/hr depending on experience. Employment from July to September 24th 2021. Send resume to rbacon@sasktel.net

Apiary Worker

Contact Chris Boyse

Salary: \$15.00 / Hour for 35 to 60 Hours / Week

Vacancies: 2 Terms of employment: Seasonal, Full time

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.

Help Wanted: Austin (MB)

Busy Bee Apiaries Ltd.

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, Road Lane #63074 on RD. 64N for the 2021 season.

Supervisor Apiarist/Farm Foreman (1 position) and Apiary Laborers or Workers (7 positions).

Apiarist/Farm Foreman: April 1 - Oct.31/2021.

Duties: supervisory duties, all apiary management like checking, medicating, feeding bee hives, queen & nuc production, harvesting/extracting honey, maintenance of all kinds, transporting bee colonies, woodworking, organizing, clean-up, other duties as assigned.

Must have valid drivers license and English writing and speaking skills.

Wages: \$15.00-\$20.00/hour based on qualifications. Looking for a minimum of 5 years beekeeping experience.

Apiary Laborers or Technical/Workers: 2 positions, April 1-Oct 31/2021, 5 positions, June 1-Oct.15/2021.

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: \$11.90-\$15.00/hour based on position title, experience/ability.

Drivers license 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 OCO, or email: pilotman1977@gmail.com

Help Wanted: Kinistino (SK)

Apiary Harvest Labourers and Apiary Harvest Workers

Baconian Bee Farm Ltd., located at 102 Ruttle Avenue, is seeking up to two full-time employees to fill the seasonal positions of Apiary Harvest Labourer for the 2021 crop year. The position consists of work with honeybees. Duties primarily include, but are not limited to moving colonies out of and into the wintering facility, feeding and medicating colonies, evaluation and development of colony strength, building and repairing of equipment, harvesting of honey supers, extracting and storing honey, and colony location maintenance.

The successful applicants must be able to work outdoors, work well with other employees, work in a fast paced and physically demanding environment, and be able to work evenings and weekends when it is deemed necessary. The average work day is 6-12 hours or roughly 32-60 hours per week. Wages shall begin at \$11.75 to \$13.25 depending on experience in the industry. Housing is available. The position is for a term of approximately seven months beginning no earlier than March 25, 2021 and ending no later than October 25, 2021. No experience required to fill these positions.

To apply for this position, e-mail resume to:

dionebacon13@sasktel.net

Help Wanted: Kinistino (SK)

Apiary Harvest Worker

Baconian Bee Farm Ltd., located at 102 Ruttle Avenue, is seeking up to two full-time employees to fill the seasonal positions of Apiary Harvest Worker for the 2021 crop year. The position consists of work with honeybees. Duties primarily include, but are not limited to moving colonies out of and into the wintering facility, feeding and medicating colonies, evaluation and development of colony strength, building and repairing of equipment, harvesting of honey supers, extracting and storing honey, and colony location maintenance.

The successful applicants must Have a minimum of three years' experience in the industry, be able to work outdoors, work

well with other employees, work in a fast paced and physically demanding environment, and be able to work evenings and weekends when it is deemed necessary. The average work day is 6-12 hours or roughly 30-60 hours per week. Wages shall begin at \$13.75 to \$15.00 depending on experience in the industry. Housing is available. The position is for a term of approximately seven months beginning no earlier than March 25, 2021 and ending no later than October 25, 2021. To apply for this position, e-mail resume to dionebacon13@sasktel.net

Help Wanted Shellbrook (SK)

Sand Hills Honey PO Box 247, Shellbrook, SK. S0J 2E0

April 1 to November 15, 2021 Dates may vary according to weather Beekeeper Labourers \$11.52/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. email: jasonrinas@hotmail.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.

Help Wanted: Prince, (SK) (RM of Meota)

2021 Seasonal Help Wanted - Farmer Brown's Honey. Located at Prince, SK, RM of Meota

A: Full time seasonal apiary workers (NOC 8431) required for the 2021 seasons. (TBD - April through October.) - 2-3 positions. One or more seasons of beekeeping experience preferred. English speaking. Valid driver's license. Ability to drive standard transmission. 40+ hours per week.

B: Apiary honey harvesters (2-3) (TBD - July -August). - pulling and extracting honey using automated honey extractor. Working with a food product, so the ability to maintain a clean work environment is vital. Hours will vary as required.

Students may apply.

These jobs are physically demanding, and applicants must be in good physical condition. Able to lift 25+ kg. Comfortable working around bees. No bee allergies. Wages - \$13-\$16 per hour, adjusted for experience.

Apply to: Cameron Brown, Farmer Brown's Honey, Box 173, North Battleford, SK S9A 2Y1, 306-386-7953, Email: farmerbrownshoney@gmail.com

Help Wanted: Parkland County (AB)

TPLR Honey Farms Ltd. requires three Apiary Technicians \$15.00-\$18.00/hr, five Apiary Workers \$15.00-\$17.00/hr needed full time (45+ hours/week) April-October 2021. Four Apiary Workers, \$15.00-\$17.00/hr needed full time, 45+ hours/week July-September 2021 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: Rocanville (SK)

APIARY TECHNICIAN - 5 seasonal positions available from April 21 - October 21 (2021).

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

Wages dependent on experience (\$14.28 - \$17.00) 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 - 6 seasonal positions available from April 21 - October 21 (2021).

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

Wages dependent on experience (\$13.00 - \$15.00) 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 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 - 6 seasonal positions available from July 3rd - September 15 (2021).

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

Wages dependent on experience (\$13.00 - \$15.00) 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: Aylsham (SK)

Valleau Apiaries Ltd - Aylsham, Sk requires Apiary Workers for 2021

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 labourers (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 fax to 306-862-3682 or email to valleau.apiaries@sasktel.net

Help Wanted: Austin (MB)

Busy Bee Apiaries Ltd.

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 2020 season.

Supervisor Apiarist/Farm Foreman (1 position) and Apiary Laborers or Technician/Workers (7 positions).

Apiarist /Farm Foreman: April 1 - Oct.31/2020.

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.31/2020, 5 positions, June 1-Oct.15/2018.

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: \$11.76-\$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, R0H 0C0, or email: pilotman1977@gmail.com

Help Wanted: Apiary Worker (NOC 8431)

2 Apiary Workers (NOC 8431) with a minimum of 10 years experience working at a Canadian Apiary.

- Start date March 1st, 2021 to Oct 15th, 2021 (Full time seasonal position)

- Wage \$19 (Depending on experience) (40+hrs/week)

Job duties include but not limited to:

- Working outdoors in all Canadian climates. (Snow, Rain, Sun, Wind)

- Assist with the needs of a colony at every point of the season.

- Assist in recording apiary data and process data to organize equipment for the following apiary visits.

- Assist to apply colony treatments in an appropriate manner/timing.

- Assist making new colonies and care for new queens.

- Assist in raising queens

- Work to keep a clean work environment.

- Work in supering, harvesting honey, maintain old/new hive equipment, feeding, cutting grass, building bear fences, moving bees, and filling barrels.

2 Apiary Worker (NOC 8431) with a minimum of 5 years experience working at a Canadian Apiary.

- Start date March 1st, 2021 to Oct 15th, 2021 (Full time seasonal position)

- Wage \$18 (Depending on experience) (40+hrs/week)

Job duties include but not limited to:

- Working outdoors in all Canadian climates. (Snow, Rain, Sun, Wind)

- Assist with the needs of a colony at every point of the season.

- Assist in recording apiary data and process data to organize equipment for the following apiary visits.

- Assist to apply colony treatments in an appropriate manner/timing.

- Assist making new colonies and care for new queens.

- Assist in raising queens

- Work to keep a clean work environment.

- Work in supering, harvesting honey, maintain old/new hive equipment, feeding, cutting grass, building bear fences, moving bees, and filling barrels.

4 Apiary Worker (NOC 8431) with a minimum of 3 years experience working at a Canadian Apiary.

- Start date May 1st, 2021 to Oct 1st, 2021 (Full time seasonal position)

- Wage at 15\$ (Depending on experience) (40+hrs/week)

Job duties include but not limited to:

- Working outdoors in all Canadian climates. (Snow, Rain, Sun, Wind)

- Assist with the needs of a colony at every point of the season.

- Assist to apply colony treatments in an appropriate manner/timing.

- Assist making new colonies and care for new queens.

- Assist in raising queens

- Work to keep a clean work environment.

- Work in supering, harvesting honey, maintain old/new hive equipment, feeding, cutting grass, building bear fences, moving bees, and filling barrels.

4 Apiary Worker (NOC 8431) no experience required.

- Start date May 1st, 2021 to Oct 1st, 2021 (Full time seasonal position)

- Wage Starting at \$13 (40+hrs/week)

Job duties include but not limited to:

- Working outdoors in all Canadian climates. (Snow, Rain, Sun, Wind)

- Assist with the needs of a colony at every point of the season.

- Assist to apply colony treatments in an appropriate manner/

timing.

- Assist making new colonies and care for new queens.

- Assist in raising queens

- Work to keep a clean work environment.

- Work in supering, harvesting honey, maintain old/new hive equipment, feeding, cutting grass, building bear fences, moving bees, and filling barrels.

Applicants must be in good physical condition. Able to work with bees. Able to speak English is an asset.

Driver's license is also an asset. Weekend/evening work when required. Apply by Nov 15th, 2020

Please Contact send CV Derek Moyer @ moyenhoneyfarms@gmail.com or 306 281 8098

HELP WANTED: MacGregor (MB)

12 SEASONAL BEEKEEPERS (Applications are open to permanent residents or citizens of Canada)

1 Apiary Supervisor, wage range \$14.00-\$17.00/hr

6 Apiary Technicians, wage range \$13.00-\$16.00/hr

5 Apiary Workers, wage range \$12.25-\$13.75/hr

Expected employment duration is (Feb 1/21- Oct 1/21) with exception, Position of apiary supervisor (Jan 1/21-Dec 31/22), 2 positions of apiary technician (Jan 1/21-Dec 31/22)

Start/end dates are flexible due to the nature of the business. Valid driver's license an asset, previous work experience is necessary for supervisor (minimum 5 years) technicians and experience is recommended for apiary workers. Candidates must be willing to work flexible hours in a fast paced, repetitive & physically demanding environment. Duties include: assess, feed, and medicate honeybee colonies, remove/extract honey, split/balance/relocate colonies, clean/collect pollen, build/repair beehive equipment, and perform routine light maintenance on machinery/vehicles.

Contact: Nichol Honey Farm Ltd., Box 461, MacGregor, MB, R0H0R0. Phone (204) 252-2770, Fax (204) 252-2129, or e-mail nicholhoney@yahoo.ca

Help Wanted: Big River (SK)

West Cowan Apiaries- Big River, SK. S0J 0E0 (SE 14-56-8 W3) is looking to hire the following for the 2021 Apiary Season.

Start Dates: April 6- October 31, 2021

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

Wage: \$15.24 - \$20.00 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.

Three (3) Apiary Technicians/Workers- Minimum of 1-2 full seasons of apiary experience required.

Wage: \$12.63- \$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 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.

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

Help Wanted: Shellbrook (SK)

Hannigan Honey Inc. requires the following helpers for the 2021 season:

2 Apiary Supervisors (NOC 8252) for full time (40+ Hrs/wk) seasonal employment (\$15.75 - \$17.00/ hr) experience pending, March through October 2021.

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 (\$12.45 - \$15.50 /hr experience pending), March through October 2021.

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 (\$11.45 - \$12.44/hr) from March through October 2021.

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

Help Wanted: Souris (MB)

HARLTON APIARIES has 4 Seasonal positions available for the 2021 Season

2 Apiary Workers (8431) for April to October 2021 and

2 Apiary Workers (8431) for July to September 2021

Wages \$13 - \$15 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, Phone 204-483-2382, iharlton@mymts.net

Help Wanted: Langenburg and Esterhazy (SK)

Glory Bee Honey Farms (101034244 SK LTD) located in Langenburg and Esterhazy, SK has job openings for Apiary Technicians, Apiary Technician Assistants. These positions are available for fulltime (35+hrs/week) from April-October for the 2021 season. Also available is Honey Harvest labourer positions which is 2-3 months starting July-Sept for 2021.

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

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

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

*Lifting is required

Positions available from April 15, 2021 to October 31st 2021.

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

Wages \$11.45 - \$17.00 per hour depending on experience.

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

Help Wanted: Kinistino (SK)

B's Bee Ranch Inc.

Seeking skilled apiarist to take on Supervisor role while obtain-

ing on the job experience to advance to Manager of operation role, working directly under the CEO. Must have 8+ years commercial beekeeping experience (With at least 3 years in Canada) and management skills and/or education or on the job training. Experience and fluency in English a must. Valid drivers license with ability to maintain and drive truck/trailer. More details available via email. Wage negotiable based on experience and skills. Option of subsidized shared housing and transportation. Apiary Harvest Labourers and Apiary Harvest workers required for seasonal work in a commercial honey production and bee rearing operation for the 2021 season.

Three Apiary Harvest Labourer positions available for 5-8 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 \$11.45/hr with subsidized housing option, transportation and potential for bonuses based on performance, attitude and character.

Two 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, 1 year experience, valid drivers licence and English skills required. Wage starts at \$12.45/hr+ with subsidized housing option, transportation and potential for bonuses based on performance, attitude and character. For these positions, availability to work long hours, evenings/ nights, holidays and weekends is required. Work is faced paced and physically demanding with heavy lifting. Must be able to work in all weather conditions. Email resume and cover letter with references to B's Bee Ranch Inc at beeranch@sasktel.net

Help Wanted : Shellbrook (SK)

Hannigan Honey Inc. Located at #9 Shell River Road, Shellbrook, SK. is now accepting applications for 12 Apiary Harvest Labourers (NOC 8431).

These positions are available on a seasonal basis (45+ hrs./week), running from July to October 2020. Duties include honey extraction, cleaning extraction equipment, filling containers, cleaning and maintaining hive equipment. Workers are required to be mentally and physically fit and must be able to work in the presence of bees. Wages start at \$11.32/per hour. Please send resume to Dave Philip, Box 367 Shellbrook, SK. S0J 2E0 or email hanniganhoney@sasktel.net.

Help Wanted: Ridgedale (SK)

Silver Fern Honey Farms is currently taking applications for the 2021 bee season. SFHF has openings for Beekeepers and Beekeeper Assistants. These positions are seasonal fulltime from April 1-Oct 30 2021. 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 2021 extracting season. These positions are a seasonal fulltime position from July 1-Sept 10 2021. The duties are extracting honey and gathering the honey from the beehives.

The job is located at 101 Railway Ave, Ridgedale, Saskatchewan. Wages are dependant on experience but will range from \$12-\$16/hr. Contact: Joe Edwards. Applicants can apply by email or send applications to Box 104, Ridgedale,SK, S0E1L0

Help Wanted: Nipawin (SK)

Wanted Apiary Workers

Yves Garex Honey Inc, P.O Box 2016, Nipawin, SK, S0E 1E0 seeks employees for the March 2020 to October 2020 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 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. We will train successful applicants in bee yard maintenance and hive manipulations.

Wages \$ 12.45 to \$ 15.00 per hour depending on experience.

4 Apiary Laborers. No experience required. Wage: Start at

\$12.00 per hour. email: y.garez@sasktel.net

Help Wanted: Prince (SK) (NW of North Battleford)

Farmer Brown's Honey, of Prince, SK, requires the services of:

- 2 Apiary Technicians/Workers (NOC 8431) with 1-3 years of beekeeping experience working in Canadian style apiaries.

- Duration of employment - depending on weather and availability of work. Approximately May - October 2020, 40+ hours per week, weekends and/or holidays.

- Wages \$13-\$16 per hour, depending on experience, with a production bonus possible at the end of the season.

Preference will be given to applicants who have:

- the ability to work independently in the field.

- are comfortable communicating in the English language.

- have the ability to follow written and verbal instructions and keep records and notes.

- A valid Drivers License is required.

- 1-2 Apiary Workers/General Laborers (NOC 8431)- no experience required, but preferred.

- Wages: \$11.50 - \$13.00 per hour, with a production bonus possible at the end of the season.

- Duration of employment - approximately mid-June - end of August, 2020.

- 40+ hours per week. May include weekends and holidays.

- An ability to speak and understand English is preferred.

General duties of each position include, but are not limited to:

- unwrapping, wrapping, and medicating hives. - Making nucs, splitting hives, assisting in queen rearing.

- Checking hives, supering hives, pulling honey and extracting honey. - Cleaning and organizing work areas and equipment.

- cleaning and sanitizing extraction facility and equipment. - maintaining old and new hive equipment.

- Mowing, trimming, and maintaining bee yards. - equipment maintenance.

- Workers must be mentally and physically fit. Hard work, heavy lifting, working in the heat, and bee stings are a part of the job. Good health and stamina are required. -All applicants must not be allergic to bee stings.

Workspace is located in Prince, SK, with outyards generally within a half hours drive.

Help Wanted: Calgary (AB)

Contact Chris Boyse

Apiary worker Salary: \$15.00 / Hour for 35 to 60 Hours / Week
Vacancies: 2 Terms of employment: Seasonal, Full time Start date: 2020-03-31

Job requirements: Languages - English, Education - No degree, certificate or diploma

Experience - Experience an asset, Work Conditions and Physical Capabilities

Help Wanted: Bluffton (AB)

Contact Mark Dewar

Apiary Workers (5)

Dewar Apiaries, located at 442072 RR40, Bluffton, AB, is currently accepting applications for 5 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. Job availability will be between March 1 and November 1, 2021 - depending on weather.

How to apply: Please include a complete, up to date resume with references. Please apply DIRECTLY to employer.

EMAIL: dewarhoney@gmail.com

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. How to apply By email: beeboyse@gmail.com By fax: 403-217-6860 By Phone: 4035122123



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