Red River Apiarists' Association

The Bee Cause

56 Years

2019 Issue 2 **February 2019**

Next meeting:

February 12th, 2018

Elmwood Legion
920 Nairn Ave. Wpg, Mb

Novice Group meets at 6:45 pm UPSTAIRS

Main Meeting: starts at 7:30 pm

Event:

Rhéal Lafrenière

- Provincial Apiarist-

What New in the World of Bees: A Review of 2018 and a Look Forward to 2019"

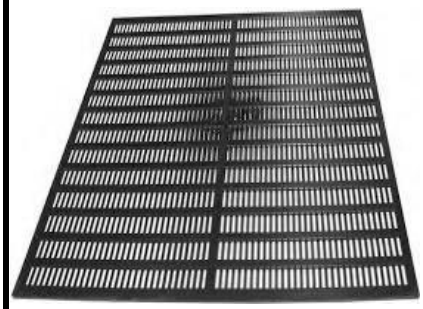
Inside This Issue:

Understanding Propolis: In and Outside of the Hive

You run into it all of the time. This gummy resin-like paste that bees use as cement to fix everything in place. It covers your gloves, and your hive tool and your steering wheel. It never seems to come off, and it more often then not leaves a permanent stain.

Propolis is a resinous mixture. Collected by the bees from tree buds, sap flows, or other plant sources. They mix the sap with some saliva, nectar and possibly wax and create a wonderful construction material and sealant.

It was once believed bees used propolis to seal the beehive to protect the colony from the elements. This theory has now been challenged, but they do use it to seal alternate entrances from ants or other robbing insects, and to reinforce the structural stability of the hive. The side benefit of propolis being antifungal and bacterial prevent or slow decay to the surrounding structure whether it be a cavity, hive body, or your neighbors soffits. The Chinese have used it in medicine for thousands of years. Even Hippocrates touted the value of propolis for healing wounds. In addition, propolis has been used for centuries as the basis for fine wood varnishes.



Propolis traps are available at Bee Supply for about $13.00

Beekeepers can encourage the bees to make lots of propolis. Special propolis traps are designed just for this purpose. The traps usually consist of a perforated screen that is laid across the top bars. (See pictures above…) The spaces are too narrow for bees to pass through. Instinctively, bees fill all these little holes with propolis. Eventually, the entire trap becomes thickly coated with the sticky, gummy stuff. Remove the trap from the hive (gloves help keep you clean) and place it in the freezer overnight so that the propolis becomes hard and brittle. Like candy, a sharp whack shatters the cold propolis, separating it from the trap. It then can be used to make a variety of products.

There are many recipes online and there are many RRAA members who have excellent unique and time tested ones, however here are a few samples to get you started : (See page #2)

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(propolis recipes, continued from page 1)

PROPOLIS TINCTURE

Here's a homemade and all-natural alternative to iodine.
Like iodine, it stains. Use it on minor cuts, rashes, and abrasions. Some folks even use a few drops in a glass of drinking water to relieve sore throats.

Measure the crumbled propolis and add an equal measure of 100-proof vodka or grain alcohol (for example, one cup propolis and one cup alcohol). Place in an ovenproof bottle with a lid.

Heat the closed bottle in a 200-degree (Fahrenheit) oven. Shake the bottle every 30 minutes. Continue until the propolis has completely dissolved in the alcohol.

Strain the mixture through a paper coffee filter or a nylon stocking.

Bottle the tincture into dropper bottles, which you can get from your pharmacist, or online.

PROPOLIS OINTMENT

This ointment can be applied to minor cuts, bruises, and abrasions. Melt the ingredients in a microwave or in a double boiler.

1 teaspoon of beeswax

4 teaspoons of liquid paraffin

1 teaspoon of finely chopped propolis granules

1 teaspoon of honey

Remove from heat and stir continuously until it cools and thickens.

Pour into suitable jars.

PROPOLIS VARNISH

If you happen to have a multi-million-dollar violin made by Stradivarius, you already know that the finest string instruments ever made had a varnish made from propolis. But this superior lacquer need not be reserved for such exclusive uses. Propolis varnish provides a warm, durable finish for any wood project. Here's a recipe from a friend of mine who refinishes museum-quality violins.

Combine all ingredients in the following list in a glass jar at room temperature. Cover the jar with a lid. Allow mixture to stand for a week or more while shaking at regular intervals.

4 parts blond shellac

1 part manila copal (a soft resin)

1 part propolis

Filter solution through cheesecloth or a nylon stocking before using.

Newsletter Editor: John R. Badiuk
Email: honeyb@mymts.net

<><><><> Presidents Message <><><>

Are you busy? At minus 30 it's easy to forget how close spring can be. This time of the beekeeping calendar is one of the few windows of flexible downtime where all of the little jobs and preparation can be done to make your upcoming season more efficient and less demanding. It's important to review those hassles and bottlenecks from last year to come up with solutions, and even more so to plan what your beekeeping goals are and prepare accordingly.

Did you run out of frames? Drawn comb? Did you manage to paint those supers you bought 3 years ago? Planning on making spilts? Do you have enough woodenware? Have permission for a new yard? Did you register with the province? One does not want to be wiring a few dozen frames at 1am in July. Review your notes, make a plan, and get it done before you need it done. Your bees, and your schedule will thank you later.

I want to thank Jeff at Bee Supply (again!) for letting us tag along to the Brandon Area Beekeepers Association meeting last month. Healthy and vigorous discussion on what they wish to see in a revised bee inspection program that's being negotiated between the MBA and the province. Concerns of lack of inspection and the impact of selling bees outside of the province loomed large, as a lot of their members are in the Nuc business. With honey prices being depressed, protecting other income streams is a priority. I was asked to address our membership on what our wants and expectations were on a provincial inspection program. This will be posed to the membership at the February meeting, so please give it some thought and come prepared with questions and suggestions. Frustration was evident as well towards the CFIA as the new Safe Food for Canadians Regulation came into effect on January 15th, with the common opinion of those that it affects that is was poorly launched and communicated with garbled and missing supports causing lots of unanswered questions, and not many clear answers. Non regulated honey houses can't ship inter-provincially in quantity, which cuts down on some beekeepers viable markets.

I'll give an overview of the process and new regulation when I myself have them clearly understood. The CFIA continues to offer webinars and updated guidance documents to clarify the minutia of their new policies, and we urge them to continue doing so and perhaps learn from this roll out for future industry overhauls. This is how some of us make a living and although we pessimistically expect a lack of support from our governing bodies, interference via a lack of foresight is unwelcome. If all accounts from those attending the open houses is true, then frankly they deserve all the hostility coming their way.

NEW TIME and NEW PLACE for the novice beekeepers session this month. We are trying out a new room at the legion so please meet UPSTAIRS in the back lounge, not downstairs. We are starting EARLY at 6:45 as discussed to see if we cant offer more time for questions and answers. Regular meeting starts at 7:30 Downstairs as usual.

I was very pleased with the response and the discussion at the last meeting on examining a position on neonics. It feels a bit like kicking a hornets nest, as it's a difficult, complicated, and passionate topic. We have a few articles in this edition of the Bee Cause further examining the topic on both sides. It is important as an organization that we continue exploring, reading, debating, and learning about this major factor in honeybee health. You can expect to see a balance articles and topics in 2019 as we walk down this path. It is important to note that on January 2015 the RRAA agreed to by a vote of the general membership to support the Ontario Beekeepers Associations stand to protect bee health as an act of solidarity as they engaged in a lawsuit against manufactures of neonicotinoids. So this isn't our first rodeo, and although our membership is composed primarily of hobbyist, sideline, and novice beekeepers, we will continue to address any issue that affect honeybee health though continuing education and discussion.

We will be restarting our mentorship program this spring, and a signup sheet will be passed around at the meeting. Even though you may have a mentor, or are being mentored, it's important to resign as we can keep track of who is all participating. Feedback on how last season went for everyone is much appreciated. If you would like to take on another or additional student, or be assigned another mentor, this can be easily accommodated. **See more of my ramblings on page 4 ——>**

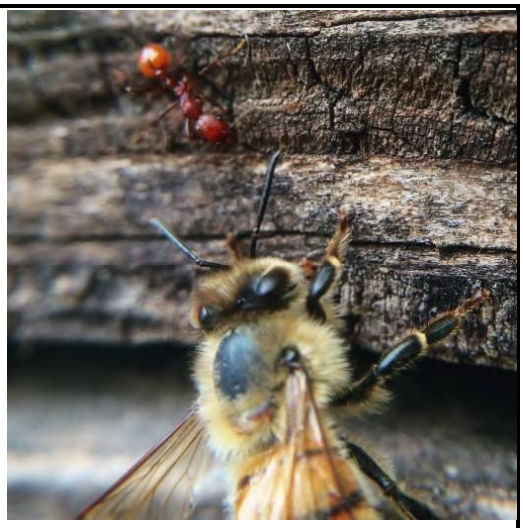
<><><><> Presidents Message <><><>

(Continued from page 3)

Depressed honey prices are continuing to hamper the industry despite lower crop yields in many countries in 2018. The usual suspects of price fixing, price gouging, counterfeit honey, illegal imports and blending are all up for scrutiny. The perseverance of two tier pricing of Canadian honey by some American packers on the fabricated myth that most of our honey is adulterated is a huge frustration.
A possible solution? Nuclear Magnetic Resonance (NMR) testing. Adopting this as a global honey industry standard has the potential to give honest beekeepers, packers, importers and exporters the tools to market pure vs adulterated honey, with true honest country of origin verification. For more on this, see page 18 .

The Red River Apiarists' are examining the viability of starting a collective of beekeepers wishing to market significant numbers of Nucs to the membership and open market for guaranteed sales. One of the challenge of selling Nucs is not knowing exactly how many to prepare for. A year starting with an early warm spring with low winter losses can find you stuck with more bees unsold than your operation can deal with, which wastes a lot of time and effort reincorporating those numbers back into the fold. On the other hand, overall high winter loses can create an opportunity to sell as many nucs as you can raise and wishing you had more available. For some, having a guaranteed number pre-sold gives you a dependable spring income stream, and allows you to expand the Nuc side of your operation without major risk of unsold stock. I'm looking for any RRAA members who might be interested in a round table discussion to build a framework of standards, pricing ,and protocol.
Email or call me if you are interested or would like to know more. (honeyb@mymts.net 204-612-2337)

HOW TO PROTECT YOUR BEES FROM ANTS



- By Hilary Kearney, Co-Authored by Sara Everett

(Abridged from her blog: Beekeeping Like A Girl, by Girl Next Door Honey)

Ant season is coming! So, what can you do to stop ants from invading your beehive? If ants are a problem in your area, read on to find out the best strategies for keeping them out of your hives.

Stands With Legs: If ants are a problem in your area, all you can do is stay vigilant and approach the problem from as many angles as possible. It's important to know when your bees are most vulnerable too. Large, strong colonies have the resources to keep ants out, but weakened colonies can become overwhelmed by them. If you are nurturing a recently caught swarm or a new package of bees, you have to be on guard: in our experience, bees will
often abscond because of an ant invasion. Sometimes an ant invasion can be a sign that your previously strong colony has weakened. A strong colony can unexpectedly crash and find itself once again susceptible. For this reason, it's best to have always have any protection in place.
You may see photos of hives on cinderblocks or just plopped on the ground, but if you want to properly protect your bees from ants, you need to put them on stands with actual legs. There are various methods for protecting from ants, but most of them involve fortifying the legs of your hive stand. If you are using a Langstroth or a Warre hive, remember that the hive is going to grow vertically over time, so don't make your stand too tall! Four to Five inch legs are sufficient for ant protection and will make lifting those top boxes much easier when your colony expands. You should also consider the thickness of your stand legs. Of course, you want something sturdy to support the weight of your hive, but bulky legs, make ant control more challenging.

Make observation for Ants Routine: Keep this list of questions in the back of your mind for things to regularly look out for. Yes answers mean action needs to be taken. Do you see trails of ants going up the hive stand or boxes? Are ants on the inside of your roof, on top of your inner cover, or crawling on the top of frames or inside walls of the hive? If a colony recently absconded — do you see ants inside the abandoned box?

Continued on page: 17

RRAA Meeting (AGM and Election) Minutes for January 8th 2019 - Recorded by Monica Wiebe

7:00 - Newbees session, with Waldemar Damert.

7:30 -Introduction, and evenings agenda.

7:30- 7:45 Housekeeping : Newsletter Received? Approval of minutes, call for corrections or inaccuracies.

Correction of minutes, Laura Wiens was on the panel not Lisa.

Treasury report. December $2058 balance and about half of the memberships are in.

MBA report.

A inspection program will be happening, clarification as to when was requested. -Convention will be Feb. 22-23 Hilton on Wellington. A block of rooms is being held until for attendees. Speakers Randy Oliver, Les Eccles and updated research on Nosema from UofM team. Strategic planning document meeting – John Badiuk attended and represented us well. Document's purpose is to communicate with government. -Agriculture Literacy Month in March, training, activity, book to read, about 1 hour commitment. Contact Marg Smith if you would like to volunteer in your area. American Bee journal has a good article on bee sting allergies.

7:45 to 8:15- RRAA Elections.

Call for nomination for the Newspaper Editor. Motion for John Badiuk to continue Moved by Jim Campbell second Marg Smith - carried

Call for nominations from the floor for Technology and Communications Director (Website Admin). Motion for Duane Versluis to remain for another term, Moved by Armand St. Hilaire second by Ken Rowes - carried

Call for nominations from the floor for MBA Delegate. Motion for Marg Smith to remain for another term, Moved by Jim Campbell. Second Ken Rowe - carried

Call for nominations from the floor for Treasurer. Motion for John Speer to remain for another term, Moved by Chris Agiriou seconded by Jim Campbell - carried

Call for nominations from the floor for Secretary. Motion for Monica Wiebe to remain for another term, Moved by Jim Campbell seconded Keith Bamford -carried

Call for nominations from the floor for Second V.P. Paul Faurschou Nominated by Tim Kennedy Seconded Waldamar Damert - carried

Call for nominations from the floor for First V.P. Tim Kennedy Nominated by Paul Faurschou seconded by Ken Rowe - carried

Call for nominations from the floor for President. John Badiuk Nomination by Chris Argiriou seconded by Jim Campbell - carried

Moment of Silence for Charles Polcyn

COFFEE

AGM Topics for discussion:

Budget Overview; Explanation and breakdown of the executives decision on allocation of funds for 2019. Full documentation available upon request, please email request to honeyb@mymts.net

What about a field day? Last year by MBA. Should we do our own? Discussion in the next few months

Newbees Session Feedback : Proposal of earlier start time (From 7:00 pm to 6:45) Changing location to upstairs – To be held in lounge area upstairs . Some like short sessions to retain information An alternate day of the week once a month was discussed, but concern for cost and executive time and energy was given as the reason for having it on the same day

Sessions outside – bee yard, queen rearing

Monthly meeting length: Some have voiced that meetings are way too long and needs shut down by 9:00 – 9:30 – The goal is to be sensitive to the speakers and to the members so that all needs are met. Short discussion on alternate time and place possibly a weekend, but it was felt that the day was OK.

Main Speaker Topics : Call for suggestions for topics and speakers. Cease putting two speakers in in one evening

Continued on next page:

RRAA Meeting (AGM and Election) Minutes for January 8th 2019 - Recorded by Monica Wiebe

....Continued from previoius page:

Newsletter: Feedback, suggestions, Discussion, call for assistance and contributions from the general membership. Elimination of mail outs was discussed with the suggestion the Newsletters to be picked up. – Executive should check by-laws or policy considering the announcement of votes. Concern expressed for those who do not have email. Move to send a paper copy to be sent to people who cannot receive
the Bee Cause electronically Moved by Chris Agiriou seconded by Justin Kolano More nays then Yays
Executive will check with the 21 people receiving the newsletter to determine if a change can be made.

Neo Nics: -Discussion on whether or not the RRAA will take a position on Neonicotinoids. Why is this a topic? President has been asked about it when interviewed by reporters and would like a statement that he could give at that time. Both pros and cons of such a statement were discussed. The president gave examples of three possible statements all with increasing controversy

Strength of statement (If Any) as suggested by the president

Mild: "We believe Neonics need more study and evaluation in conjunction with the development of alternatives for Canadian Farmers.

Moderate: We believe Neonics have a detrimental impact on honeybee health. We support the federal governments ban on neonics and encourage our government to research safe alternatives for Canadian farmers.

Controversial: The negative impact neonics have had on the honeybee has been proven in numerous studies. We support the Canadian Governments band on Neonicotinoids and call on it to expand the ban to all pesticides in this class. We also encourage our government to fund research on a safer alternative for Canadian Farmers.

Discussion:

Only France totally banned. In other countries there are exceptions, and eastern part of Europe still uses them.
We are doing a disservice to the pollinators if we don't talk about it . Government ban discussed ground water not pollinators.
Discussion was varied and lively. Members options varied as to importance and strength of a statement. Call
for more information and education before a statement can be made. The executive will explore this further.

9:40 meeting adjourned

Thanks for all the goodies that were brought in and for help with cleanup

PLEASE NOTE Due to the length of the minuets this is an condensed and / or amended version. A more detailed copy is available upon request by emailing:
honeyb@mymts.net

We are on the Web!
www.beekeepingmanitoba.com

YOU ARE NEEDED!!

What makes a great association great? Involvement, and contribution! If everyone does one small task, gives up one HOUR a month to help the RRAA, then we all benefit! (Call 204-612-2337 to lend a hand.)

WAYS TO CONTRIBUTE: *Mentoring- a novice beekeeper, join a RRAA committee, bring a toonie draw prize, submit an article or a book review for the newsletter, bring cookies for our coffee break, share experiences and advice with new beekeepers, help at the Honey Show, or Day of The Honeybee, network with novices to source Manitoba bred bees and equipment, Teach a class!* ***TALK TO AN EXECUTIVE MEMBER FOR MORE DETAILS***

Having Trouble Finding A Good Parking Spot? Norshel Inc. at 890 Nairn

(Two doors west of the Legion) Has generously given the R.R.A.A. members permission to park on the property when the legion lot is full. Please do not block lanes or building exits, or park in the Midland Foods parking lot.

Melissa's Musings -Mary Chown

Bees, bees everywhere.....but not a drop of Tinct?

A friend of mine whose husband is a beekeeper recently told me that she had made a tincture of dead bees. It started me musing about unusual honey products. Today I'll tell you all about dead and dried bees.

Apparently the tincture of dead bees has healing properties. My friend simply collects dead bees anytime she finds them in the bee yard and keeps them in a jar until she has enough for a tincture.
A word of caution: first of all make sure your bees have died naturally, and are disease free.
A tincture is traditionally made using pure alcohol (vodka will do). In a glass bottle/jar put 30 g (one cup) of powdered dead bees and cover with 0.5 liter of vodka or alcohol. Keep it for 2 weeks in a cool, dark place. Filter and store the liquid in a dark glass container. Take as drops of 10 to 15 at a time. A tincture of dead bees contains chitin, glucosamine, and melanin and this is effective in the treatment of many ailments such as: obesity, Crohn's disease, anemia, and trouble sleeping.

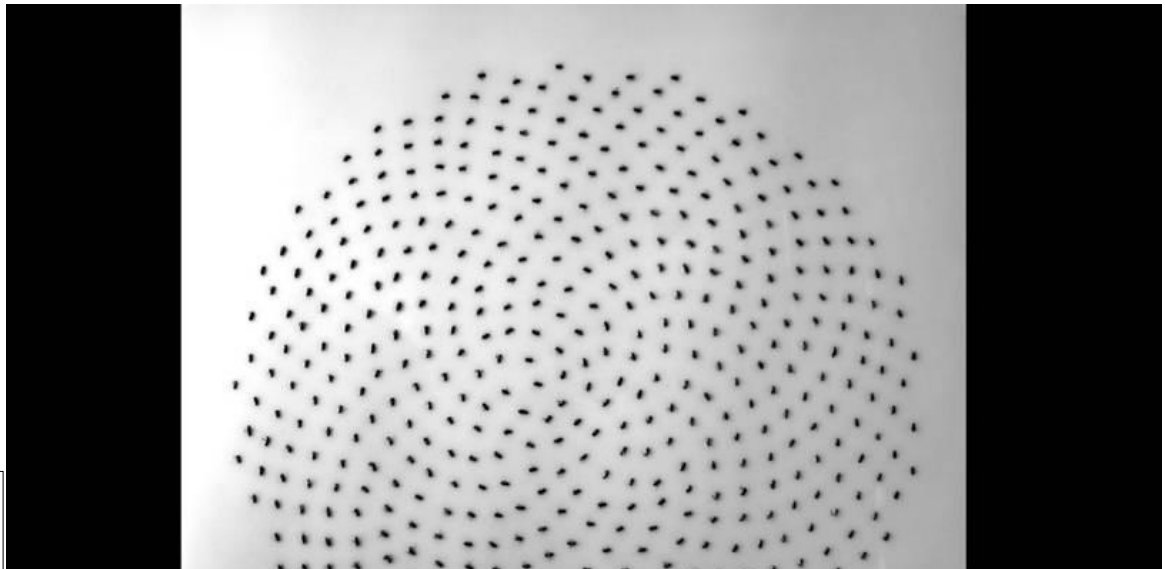
Galen, the famous Roman physician, used crushed honey bees for carbuncles, gum disease, to restore hair growth and to relieve tooth aches in infants. The Roman philosopher Pliny pointed out that the ash of burnt bees, mixed with oil made a good remedy for many ailments. Ash mixed with honey should be consumed in eye diseases, to grow and strengthen hair.

British medical books from the XVII century encourage us to take dried bees with milk and wine for dropsy, rheumatism, urinary stones, cramps and abdominal pain, bloody diarrhea, ulcers and weeping herpes.

Dead bees can be also be fed to chicken or pigs or added to your compost. Again, these must be disease and pesticide free

On a more whimsical note, Canadian artist Sara Hatton has taken thousands of dead honeybees and arranged them onto canvasses in mathematical patterns such as the Fibonacci spiral found in sunflowers. Hatton -- who is also a beekeeper -- decided to use bees in her work to spread awareness of bee colony collapse disorder to a broad audience in a conceptual way. "Life often finds its way into one's art, and I had long been thinking of an artistic way to talk about the global decline of bees. I decided to use dead bees as the most direct visual way to represent this message, with the most emotional impact." - M.C.

Sarah Hatton
– Visual Artist, Beekeeper



See more of her work at:

sarahhattonartist.com

Editors Note:

Any published medical advice or opinions is that of the author and not necessarily of the R.R.A.A.

See your doctor if you feel you may suffer from any of the above listed ailments.

On Neonicotinoids (neonics) **A Letter to the RRAA Editor - by Ken D. Rowes**

Through the chaff of coffee chatter and meetings, media impingement occasionally on the RRAA's association view points, specifically to case in text- towards these Agro-chemicals. I felt as past RRAA editor who published many research articles concerning Agro-chemicals and more specifically the Neonicotinoids (neonics). For part of my federal occupation managed a national contaminants data base concerning the research conducted on fish, mammals and whales. Although not a chemist I have completed university studies in the chemistries physical and biological including toxicology leaning towards the basics to internal medicine.

That intro is to give credibility to the response I have to the RRAA president's quest 8 January 2019, for a RRAA point-ofview to the subject concerning neonics.

It is unfair for a Hobby association with limited knowledge, especially knowledge gained by media, to be asked. For the record on my part: The Red River Apiarists Association is a hobby group with a mission to educate apiculture husbandry, "beekeeping" in a friendly and respectable manner. Keeping in mind that there are many ways and purposes an individual may approach the art of Beekeeping.

With all due respect, we all are given the respect to have an opinion, even contrary to others or the majority.
That opinion has roots. So, what is yours?

If one is a mixed farmer taking on a sideline in beekeeping, he will have a vested interest swaying his or her view. If you have apiaries or bee yards on a farmer's property who is using chemicals you have a vested interest in the farmer's practice, a view-point slant that way.

Now, for accepting the published research view, this is were the vested interest lies, plus what research can you trust? Megacorporations buy their view points – owning the researchers results and slanting them in favour of their personal vestments.

So, the common individual without the knowledge needs to read between the lines and rely on someone they can trust. Thus, the viewpoint relies on whom can you trust.

Some will listen to what they want to hear and disregard the rest.

MY VIEW: I have publicly stated that all chemicals can be dangerous, some more than others. The research studies I have weighed my views on are non-invested institutions who for me try to seek the truth. It always takes heated debates and legal action to sway what is realistic and a biologically safer way to Agri-grow, no matter the discipline: grain, cattle other animals or fish. They have all had to move toward safer practices because of DEATH to livestock or themselves / ourselves.

Our bodies are constantly in renewal, replacing cells and the mitochondria is a center of function that is easily disrupted, blocked or changed. The other system most critical is the neurological one. For me that is where the neonics target the pest, for that matter all insects. Some would like you to believe that they are target specific. Really! If you believe that, read the labels of caution and think: When does your quite mind game ask yourself why you think that? It will be your position of care. I will respect that but respect my position in view of where I have gained my knowledge – and it was at great effort, time, money, study and having the opportunity to be a regulator, signing off research implementing chemicals in their studies. Neonic's act in living things through ammonium salts via the primary component acetylcholine, a neurotransmitter. Thus the manufacture of pesticides focus targeting impediments of the choline system of nerve communications, altering their function in insects, amphibians, fish and mammals and other organisms. Those sites are the liver, kidneys and brain including transmission via the spinal chord.

I published in 2012 (Vol 9 March) - It is not new, that behavior is influenced by genes, the environment and the interactions between the two. Genes never act alone, acting in an environment where they code for proteins that participate in many

systems in an organism. Genes depend on many of the proteins for replicating DNA and linking together amino acids which are the fundamental units to proteins, building blocks of bio-bodies, including yours and mine.

-Continued on next page

On Neonicotinoids (neonics) A Letter to the RRAA Editor - by Ken D. Rowes (Cont..)

In 2015, the RRAA had general discussion as to its view on "Neonics" and felt that they were not an activist organization. That the association did not want to be pulled into supporting lobby groups. They wanted to stay respectful, wherein, the association, has membership with view points both sides. Their purpose has always been to support apiculture research. To BEE a beekeeping educational source publicly, a social group, and a mentor group in support to membership as a non-profit association.

A position that we wish the problem did not exist, yes, but it does. The position to take a side is a heart-felt split for those of both sides. So, we respect the view points and when asked to vote or write a letter it is the individual's position – its not a neutral view but a respectful one for the RRAA membership and if media or who else wants comments have them ask the membership individually**.** **- Respectfully Submitted Jenuary 11 / 2019 Ken D. Rowes**

Past R.R.A.A. Newsletter Editor

Past Articles published in the RRAA concerning chemicals:

2009 Vol 6 8 Nov: Pesticides – letter to BC Beekeepers - BCHPH executive – Health Canada's Pest management Regulatory agency

2010 Vol 7 4 April: High levels of miticides and Agri-chemicals in North American apiaries – Implications for honey bee health. C. A. Muller et al.

2011 Vol 8 1 Jan: EPA asked to pull pesticide – link to bee kills- coalition against Bayer – Germany -campaign on neonicotinoids.

2011 Vol 8 2 Feb: Do we have a pesticide "blowout". Thom Theobald

2011 Vol 8 3 Mar: EPA response to USA beekeeping industry regarding restriction regulation to pesticide clothianidin - transcribed by RRAA editor Ken D. Rowes

2011 Vol 8 4 April: Bees under bombardment - UNEP report - Geneva / Nairobi 10 March 2011

2012 Vol 9 2 Feb: Multiple routes of pesticide exposure following bees living near agricultural fields. C.H. Krupke, et al. Entomology – Purdue University, B. D. Eitzer – USA Analytical Chemistry -Connecticut Agricultural experimental Station

2012 Vol 9 3 Mar: Multiple routes of pesticide chemical exposure for honey bees – a follow up – A closer look at the interplay of colony impacts of pesticide exposure – the environment and chemical roots. RRAA editor Ken D. Rowes.

2012 Vol 9 6 Sept: Pesticide use seems to be up for 2012 crop pest management this summer – Rhéal Lafrenière – Manitoba Provincial Apiarist

2013 Vol 10 4 April: Bee-ing Smart: Regulators must distinguish activists bad- dreams from good evidence - H.I. Miller – physician and molecular biologist

2014 Vol 11 4 April: Chemicals beyond control by Marvin Baker (with my editorial comment)

2015 Vol 12 1 Jan: More bad news for bees – The New "F" word by David Suzaki The Norther Nov 2014

2015 Vol 12 3 Mar: Canadian Beekeepers Sue Bayer and Syngenta over neonicotinoid pesticides class action – CBC Sept. 2014

2015 Vol 12 4 Apr: Neonics, what's the plan Bee? Randy Oliver

2015 Vol 12 6 Sept: Pesticides and Human Health Ken D. Rowes

2016 Vol 13 2 Feb: Spry toxicity and risk potential of 42 commonly used formulation of row crop pesticides to adult honey bees Y. C. Zhu et al.

2016 Vol 13 8 Nov: Bayer and Monsanto and CRISP – Do bees have any role in their future – Fran Bach - Western Agriculture society - Washington Beekeepers

2017 Vol 14 6 Sept: What is killing our honeybees and can we stop it? Steve Volk - March 2017

Editorial Notes

CALL FOR SUBMISSIONS

Have you come across an interesting article? Would you like to share an observation? Share an anecdote or an observation form your own beekeeping experiences?

Do you have an opinion you want to voice to the beekeeping community? Seen a video you found informative or would like a topic researched?

Send it in to the Editor!

Taking all submissions at: honeyb@mymts.net

WE NEED COOKIES!!!!!

Our influx of new members are finding us running short at coffee break! Please consider bringing a little contribution to the next meeting!!

The RRAA , the Bee Cause, for you and through you:

The Bee Cause is the official publication of the Red River Apiarists' Association for distribution to its members and their colleagues in the beekeeping industry. It is published eight times a year on a monthly basis except December and the summer months of June, July, and August when membership meetings do not occur.

Articles can be best submitted in word documents as email attachments. Though they may be edited for spelling and basic grammar, no changes will be made to their contents, message and opinions without the authors written & expressed consent. They are those of their originator and not of the Red River Apiarists' Association.

Deadline for any submission to this newsletter is the second Sunday preceding the membership meeting to allow for publishing and mailing delays and the legal obligation to allow membership to review last meetings' minutes for errors or omissions before next meeting. Regular membership meetings are normally scheduled 7:30 on the second Tuesday of every month at the Elmwood Legion 920 Nairn Avenue in Winnipeg excepts months noted above.

The Red River Apiarists' Association, formed in 1963, represents the beekeepers of the Red River Valley and environs in southern Manitoba. The association provides a forum for the promotion of sound beekeeping practices through education, networking opportunities, meetings, field days, workshops, presentations by local apicultural experts, as well as the dissemination of this monthly newsletter.

RRAA Membership Commentary

Comments & Suggestions: The RRAA strives to provide information and presenters on current topics and at our meetings that would be most meaningful to all members. (Of all levels of skill and experience.) Your comments are valuable and appreciated! Email to: datamule@hotmail.com All submissions are confidential.

Your Committees Need Your Help!

We are currently soliciting members to help with some of the ongoing tasks that help the organization run behind the scenes.

We need members to contribute to the following:
Newsletter Committee: Contribute articles and write for the newsletter (2 hours or less a month) Social Committee: Set up / take down coffee before & after monthly meetings (Less than 1 hour/month) Honey Show Committee: Participate in planning and facilitating our off side annual events. **Donate Some Time To better Your Organization. Talk to an Executive Today!**

R.R.A.A. Classified Advertisements

Classified Advertisements are FREE for RRAA members. Non member rates as low a $20.00 per issue

<u>Early 2019 Bees for Sale J N'J Honey Farm</u>

Do you want get started in beekeeping?

As members of the R.R.A.A. we at JN'J Honey are proud to offer phone and email mentoring support with the purchase of our Nucs to fellow members. We also offer hands - on training and practical experience. As a bonus, any novice that buys a Nuc from JN'J Honey, we offer a start-up kit with all the essentials available at cost!

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R.R.A.A. Classifieds:

(continued.....)

Nucs for sale

5 frame $170, 4 frame $150, 3 frame $130.
All nucs with marked laying queens from 2018. Some single hives will be available.

Call Dennis Ross: 204 878-2924 or
Email: rosskr@mts.net

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Our easy to manage, and no minimum fundraising program offers a large line of pure Manitoba honeys and flavored honey blends, along with other products from the hive such as candles, bath products, pollen and honey comb. No money up front and 100% guaranteed, this fundraiser offers your supporters our products at below the store price to encourage participation and help you reach your fundraising goals. More information and a downloadable package can be found at honeyb.ca Or call John at 204-612-2337 for more information.

The bitter battle over the world's most popular insecticides.

-Daniel Cressey

(Abridged. Full Article: www.nature.com/news/the-bitter-battle-over-the-world-s-most-popular-insecticides-1.22972 published 11/17)

Maj Rundlöf remembers the moment she changed her mind about neonicotinoids. In December 2013, in her office at Lund University in Sweden, she and postdoc Georg Andersson were peering at data from their latest study. It was designed to test what would happen to bees if they fed on crops treated with neonicotinoids — the world's most widely used insecticides. "I didn't expect to see any effect at all, to be honest," says Rundlöf.

Hives of honeybees (Apis mellifera) weren't greatly affected by the chemicals in their pollen and nectar, the study suggested1. But the data on bumblebees (Bombus terrestris) told a different story. Bumblebee colonies that hadn't fed on the treated crops looked normal: they were packing on weight to survive the winter. But in the colonies exposed to neonicotinoids, the growth chart was a flat line.

When the Swedish study was published in April 2015, it made headlines around the world. It was the first to show that neonicotinoid chemicals — known as neonics — could harm bees in a real-world farming situation.

But industry groups and some scientists say the evidence still isn't conclusive. The picture is complicated: some studies show harm to some bees in some circumstances, whereas others find no harm. The results seem to be affected by many factors, including the species of bee and the kinds of crops involved. Scientists working on the question say the subject has become toxic: any new study is instantly and furiously picked at by entrenched advocates on both sides. Even the results of the largest study on the matter, funded by the agrochemical industry, failed to produce a consensus. Published this year, it launched another round of recriminations — including complaints from funders who criticized the paper that they had paid for. Ultimately, it's likely that political or regulatory decisions will settle the matter before opposing parties agree, says Sainath Suryanarayanan, an entomologist and sociologist at the University of Wisconsin–Madison who has studied the bee-health issue. "It is a common pattern for highly contentious and polarized debates," he says.

Scientists hurried to find those proofs — or evidence that the concern was overblown. Researchers quickly discovered that honeybees fed high doses of neonicotinoids died. And even sub-lethal doses triggered unusual behavior: exposed honeybees changed their dining habits, foraging less often but for longer periods. Other research showed that neonics act on parts of a bee's brain associated with memory and learning. Honeybees trained to respond to particular scents by sticking out their tongues, for example, performed worse — or failed to learn the task at all — when dosed with a neonic.

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In mid-2017, the largest field study yet — funded with some $3 million from industry — reported its long-awaited results. Scientists from the Centre for Ecology and Hydrology (CEH) near Wallingford, UK, had put honeybees, mason bees (Osmia bicornis) and bumblebees in 33 oilseed-rape fields in the United Kingdom, Germany and Hungary. This time, the seeds, sown in winter, were coated with either clothianidin or thiamethoxam, or with a neonicotinoid-free pesticide treatment.

The researchers, led by CEH entomologist Ben Woodcock, found that bumblebees and mason bees fared less well the more neonics they were exposed to. The honeybee picture was more complicated: in some cases, neonics seemed to affect bee health, but in others, they didn't. In the United Kingdom and Hungary, neonic compounds seemed to reduce worker-bee numbers in honeybee hives; in Hungary, researchers also saw fewer egg cells in these hives, an indication of reduced reproductive success. In Germany, however, the honeybee hives exposed to neonics had more egg cells — a puzzling result. Overall, the CEH study concluded that neonicotinoids reduced bees' ability to establish new colonies after winter. The journal editor's summary of the paper came under the headline: "Damage confirmed".

The agrochemical firms that funded the study don't agree. At a press conference in June, when CEH scientists presented their results — without Woodcock, who was overseas — spokespeople from Syngenta and Bayer told reporters that both the study's analysis and its conclusions were questionable. They noted that Woodcock's team had analysed more than 200 pieces of information about honeybees; nine showed a negative effect from neonicotinoids, whereas seven were positive. "The one-line simplistic summary conclusion published does not reflect the data presented in this paper," argued Peter Campbell, an environmental specialist at Syngenta in Reading, UK, in a separate statement released to the media.

Continued on next page:

The bitter battle over the world's most popular insecticides.

-Daniel Cressey

(Abridged. Full Article: www.nature.com/news/the-bitter-battle-over-the-world-s-most-popular-insecticides-1.22972 published 11/17)

Continued from previous page:

Woodcock was incensed by the criticism. In an interview with environmental group Greenpeace, he said that industry had accused him of being a liar. Now, he says, he regrets that choice of words, but he still thinks industry took a blinkered view of the results. "I do feel that the sentiment of what I implied, while inappropriate, was not an unreasonable reaction," he says. The negative effects were in key areas related to bee health, he says, adding that for industrial firms to deny that neonics are having an effect on bees is "probably naive".

Many of the academics Nature talked to agree. "I think the majority of researchers highlight that the weakening of bee populations caused by neonicotinoids is proved," says Decourtye. But not everyone is so certain. "The question of whether the damage to bees is translated to an effect in fields on whole populations of bees is much harder to show," says Linda Field, head of the department of Biointeractions and Crop Protection at Rothamsted Research in Harpenden, UK. Mature colonies may survive even if individual bees are impaired, because other worker bees compensate, notes Nigel Raine, a biologist at the University of Guelph in Canada. But solitary bees, such as wild bees and queen bumblebees emerging from hibernation, might be at greater risk.

Campbell thinks that many academics are "neutral" on the matter, but are not vocal about it. Studies showing harm to bees tend to garner media attention, and are published in widely read journals, whereas those showing no impact are relegated to less highly cited publications, he says. But Goulson and Woodcock say some of the studies that industry cites as showing no harm are statistically dubious, and more flawed than the headline-garnering trials that show harm.

Christian Maus, global lead scientist for bee care at Bayer in Monheim am Rhein, Germany, picks his words carefully. "I think it is clear and undebated that neonicotinoids do have some intrinsic toxicity to bees," he says. "But under realistic conditions, as prevailing in the field and agricultural practice, we have not seen any evidence that they would be harming honeybee colonies, for instance, when they are correctly applied."

Researchers are looking beyond simple relationships between a single pesticide and bee harm. In a 2012 paper8, Raine and his colleagues showed that exposing bumblebees to a neonicotinoid in combination with a pesticide called a pyrethroid hampered their ability to collect pollen. That work also suggested that neonic chemicals can migrate away from the plants that they are supposed to protect: by identifying the sources of pollen grains in the hives, the researchers showed that bees were exposed to neonics mainly through pollen from untreated plants. Neonicotinoids are water-soluble — which is how they move from seeds into growing plant tissues. "But that also means they can be washed off the seed, into the soil, and maybe into other plants," says Christian Krupke, an entomologist at Purdue University in West Lafayette, Indiana.

In one study10, Krupke found that just 1.34% of clothianidin applied as seed treatment to maize ended up in the crop's tissues. Neonics that get into the wider environment might cause other, more indirect problems. A 2014 study11 in the Netherlands, for instance, reported a fall in populations of insect-eating birds in areas with high concentrations of neonicotinoids in the water. It suggested that the chemicals might have depleted the birds' food resource.

Some researchers are now questioning whether there is any benefit to using neonicotinoids at all. In another study12, Krupke's group found no benefits on maize yield from the use of neonicotinoids in Indiana. In this crop, he says, the prophylactic use of neonicotinoids — which are often part of a bundle of pesticides sold pre-applied to seeds — is foolish.

"The way they're used doesn't make any sense," he says. "It only makes sense from one motive. That is the profit motive for the manufacturer."

Campbell insists that neonicotinoids do provide yield increases, but much of the evidence is proprietary and unpublished. Since the EU neonicotinoid restrictions, Maus says, research suggests there has been a 4% decline in oilseed-rape yield. Whether or not the restrictions have had any effect, farmers have furiously protested against losing the ability to use neonics. Anecdotal reports suggest many are attempting to compensate by applying increasing amounts of pyrethroids, which are sprayed over crops, rather than applied to seeds; these chemicals may bring their own health risks if used in large quantities, because they are toxic to fish and aquatic insects.

A lot of farmers do fundamentally rely on neonicotinoids," says Woodcock. And clamping down severely on one chemical might mean that greater amounts of other damaging substances are used. "If people can't use neonicotinoids and they go to other insecticides, is that any better? That concern points to wider doubts about the regulatory systems that allowed agrichemicals such as neonics onto the market in the first place.

Whatever regulators do, Goulson says, he is growing increasingly downbeat about the chances of any consensus forming between industry and academia on the issue. “I'm starting to come to the conclusion there will never be a game-changer,” he says. “There is nothing I think any scientist could do at this point to make people all sit down and have any answer.

Neonic pesticide Studies for personal review.

This is a sample of the studies available (a drop in the bucket compared to the amount of research out there….) for your personal review, if you are looking for more data and factors to help form, change, or solidify your opinion on the topic. We suggest you look at the funding source as it may impact how you feel the validity of the work published. If you come across any articles or studies that you seem insightful, please pass them on to us at honeyb@mts.net so we can compile them and share them with the other members who have an interest.

Studies that show a negative impact:

Declines in insectivorous birds with high neoniotiniod concentations:
www.ncbi.nlm.nih.gov/pubmed/25030173?dopt=Abstract&holding=npg

Seed coating with a neonicotinoid insecticide negatively affects wild bees
www.ncbi.nlm.nih.gov/pubmed/25901681?dopt=Abstract&holding=npg

Country-specific effects of neonicotinoid pesticides on honey bees and wild beeswww.ncbi.nlm.nih.gov/pubmed/28663502?dopt=Abstract&holding=npg

Neonicotinoids in bees: a review on concentrations, side-effects and risk assessment.
www.ncbi.nlm.nih.gov/pubmed/22350105?dopt=Abstract&holding=npg

Exposure to multiple cholinergic pesticides impairs olfactory learning and memory in honeybees.
https://www.ncbi.nlm.nih.gov/pubmed/23393272?dopt=Abstract&holding=npg

A common pesticide decreases foraging success and survival in honey bees
https://www.ncbi.nlm.nih.gov/pubmed/22461498?dopt=Abstract&holding=npg

Combined pesticide exposure severely affects individual- and colony-level traits in bees.
https://www.ncbi.nlm.nih.gov/pubmed/23086150?dopt=Abstract&holding=npg

Chronic exposure to neonicotinoids reduces honey bee health near corn crops.
https://www.ncbi.nlm.nih.gov/pubmed/28663503?dopt=Abstract&holding=npg

Studies that show a no, low, or inconsequential impact:

Sublethal Effects of Imidacloprid on Honey Bee Colony Growth and Activity at Three Sites in the U.S.
http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0168603

Large-scale Monitoring of Effects of Clohianidin-dressed Oilseed Rape Seeds on Pollinating Insects in N. Germany:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5093180/

Reconciling Laboratory and Field Assessments of Neonicotinoid Toxicity to Honeybees
https://royalsocietypublishing.org/doi/full/10.1098/rspb.2015.2110

Thiamethoxam: Assessing Flight Activity of Honeybees Foraging on Treated Oil Seed Rape Using RFID Technology
https://www.ncbi.nlm.nih.gov/pubmed/2622220

A Large-Scale Field Study Examining Effects of Exposure to Clothianidin-treated Canola on Honey Bee Colony Health, Development and Over-wintering Success
https://peerj.com/articles/652.pdf

A Four-year Program Investigating Long-Term Effects of Repeated Exposure of Honey Bee Colonies to Flowering Crops Treated with Thiamethoxam
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0077193

Exposure to Clothianidin Seed-Treated Canola Has No Long-term Impact on Honey Bees
https://academic.oup.com/jee/article-abstract/100/3/765/2198751?redirectedFrom=fulltext

Investigating the Impacts of Field-Realistic Exposure to a Neonicotinoid Pesticide on Bumblebee Foraging, Homing Ability and Colony Growth
https://besjournals.onlinelibrary.wiley.com/doi/full/10.1111/1365-2664.12689

If You Want To Tackle Big Problems, Try Thinking Like a Bee!

- Mary Halton

New month. New day. New leaf. So you've woken up and decided you're finally going to take on the big, big problem that's been weighing on you — perhaps it's shoring up your public libraries, helping homeless dogs and cats, or fighting climate change.

Yet as much as you'd like to act, you're stopped by some persistent, piping doubts: "Where do I start? And even if I do something, will it really matter?"

When it comes to climate change, for instance, the greatest minds in the world are struggling to come up with solutions. Meanwhile, you're someone who struggles to bring your reusable bags to the store.

But maybe it's time to look elsewhere for inspiration — like the humble honey bee.

They can show us that thinking small may be the best way to think big, according to beekeeper Marianne Gee, who lives in Ottawa, Canada.

The lifespan of a worker bee ranges from six weeks (in the summer) to twenty weeks (in the winter). Most of her brief existence is spent gathering nectar to make honey.

According to Gee, "a bee in her lifetime makes only 1/12th of a teaspoon of honey" — a tiny fraction of the hundred pounds of honey that a typical colony needs to survive. "The most remarkable thing isn't that she does the work; it's that she doesn't even do it for herself," she adds. A bee won't directly benefit from the honey she makes; instead, it will allow future generations to thrive after she is gone.

This too is how we can change the world — by not worrying about the size of our contributions and by letting our efforts join the actions of others.

Gee herself was distressed by the pesticides and diseases that were harming the world's honey bees and ruminated about what she and her husband could possibly do to fix the ailing agricultural system.

One day as she was tending her hives, she realized, "I am insignificant, but my 1/12 of a teaspoon counts." She found purpose in starting an urban farm, helping people plant garden plots on their rooftops and schoolyards, and teaching novice beekeepers.

So Keep making honey. Your 1/12th of a teaspoon counts!

The full, and entertainingly informative Ted Talks Video on How to Think Like a bee:
https://www.youtube.com/watch?time_continue=9&v=wyJp41VK6_k

WE NEED LOONY PRIZES! - One of our organizations means of paying it's bills come from proceeds from the Loony Draw. Bring a donation to the prize table, and buy a ticket yourself to help the R.R.A.A.!

<u>Suggestions</u>: Homemade preserves or baked goods. Bulbs, Seeds, or Garden Vegetables from your harvest. Bee books or other literature. Crafts, or other objects of interest. If you don't want it anymore, we have use for it!!

HOW TO PROTECT YOUR BEES FROM ANTS

Continued from page 4

- By Hilary Kearney, Co-Authored by Sara Everett

Keep the area around your hive free of tall weeds.

Be on the lookout for plants, branches, or weeds touching the stand or boxes. This includes scanning for seedlings that could grow tall and eventually touch too. These plants are thoroughfares that ants can and will use to get onto your hive. You may want to take preventative steps to suppress plants from growing near your hives by spreading DG or gravel below your stand.

Know your ant season and about the ant species living near you.

Do some light research about ants in your local area. Knowing just a little can go a long way. In Southern California, ants peak during certain seasons and with summer approaching that time is drawing near. Ant problems can also flare up during heat waves. So, what kind of ants are in your area? Do you have the dreaded Argentine ants? What patterns have you noticed? Asking yourself these questions may lead to strategies for protecting your bees from potential any invasions. You may also find out that ants in your area aren't a problem at all, lucky you!

Try Some DIY Ant Protection

We've tried pretty much everything when it comes to ant control and have found that none of these solutions are perfect. Here's a list of practical DIY techniques you can try and some of their pros and cons.

Raid, Borax, and other poisons may be effective, but have some strong cons. The obvious one is the worry that spraying or applying a pesticide so close to your hives is worrisome. The second is that these products are fighting a battle that cannot be won. You will never be able to kill all the ants or even dent their populations with these products so it's better to focus on deterring them in my opinion.

Diatomaceous Earth or Cinnamon can be used to create powder barriers around your stand legs and may be a solution that works for you. Their main advantage is that they are natural, but they can still harm your bees, especially DE. Try to limit the area where you apply these and do not put them inside your hives. A simple ring around each stand leg is enough. Aside from overzealous application, the biggest problem with this method seems to be longevity. Wind, rain or even just fallen leaves (which may create ant bridges) can render these powder barriers useless.

Tanglefoot is a sticky glue often used on fruit tree trunks to keep ants at bay. It can be effective when used on the legs of your hives. However, it's terribly messy, must be reapplied monthly and tends to catch bees in it.

Dirty Motor Oil or Grease when applied to stand legs will keep ants from crossing. This is nasty stuff, but at least it is a byproduct. I find this method to be very effective against tough Argentine ants. I paint a ring of the used oil around each leg with an old toothbrush. It soaks into the wood and lasts about a month. When using it, be careful not to spill any on the ground. The advantages are that it's free and that it doesn't kill klutzy bees, but it is pretty unpleasant to work with.

Moats are in my opinion the most secure way to protect your hive from ants. However, they can drown a lot of bees and must be refilled often. To avoid or reduce these pitfalls, make sure your moats are not oversized. The bigger they are, the more bees they will drown. To avoid having to frequently refill them, try using vegetable oil instead of water. It evaporates much more slowly, though it may attract wildlife. If you do choose to use water, you may want to put some detergent in it. Some ants can walk across water and soap will break up the surface tension.

Mint is a plant that I'm always looking for ways to use. One can only drink so many Mojitos (or can they?…) and the stuff grows like crazy! I was excited to hear that one of our readers planted mint all around her beehives. Not only does the essential oil drive away crawling insects, but bees seem to love the blossoms if you let it flower.

If you can't plant a bed of mint, then one reader suggested bruising some mint leaves and placing them in the lid of the hive where the ants congregate.

Testing honey with NMR-profiling:

Hope For the Future of the Honey Industry?

Condensed excerpts taken from Food Fraud an article By Stephan Schwarzinger, Felix Brauer and Paul Rösch

Honey – for thousands of years it has been the only source of sweet taste, and it still is the prototype of an all-natural, healthy food. In particular with the growing trends for organic food and a healthy life-style honey has enjoyed steadily increasing popularity. Unfortunately, while demand is on the rise, supply is short. The reasons for this are complex and interwoven and have their origin in bee diseases, climate change as well as agro-industrial production methods. As a consequence, an increasing number of honeys mixed with non-natural sweet syrups has been detected in the international trade. Such economically motivated adulteration is seen also in other foods such as fruit juice, olive oil or wine, and it is most reliably exposed by NMR-profiling. This technology is based on the comparison of hundreds of spectral features of authentic honeys with the sample to be tested.

Owed to its special role as sweet food in the development of mankind, honey today enjoys special protection by the law. However, serious issues in honey production complement the rise in the demand for honey. Climate change, Varroa mite, the intensification of agricultural production with an escalating use of fertilizers, pesticides, and insecticides have all impacted honey production negatively.

Economically motivated adulteration on the rise. Production shortages lead to price increases, which in turn give rise to a growing number of adulterated honeys in the market. Even in good production years, greed is a major motivator for unethical entities in the honey industry. With honey the authentic product is diluted with various sugar syrups, which are produced at industrial scales from, e.g., corn, rice, or wheat at a fraction of the price of honey. Mixed products, or products with the pollen being removed are strictly forbidden in the European market, but are accepted elsewhere and thus participate in global trade. Economically motivated adulteration not only includes mixing of honey with cheap syrups, but extends to disguising the geographic origin of a particular honey, a type of fraud known as 'honey laundry'. Honey laundry became public recently in the 'Honeygate' scandal in the USA, where honey from China was wrongly declared on a large scale to obfuscate its country of origin. Lost excise duties were rumored to be as high as USD 180 million. To further obscure the product's geographical origin – typically tested by analyzing the pollen spectrum – pollen is now increasingly being filtered out of the honey, which – on the other hand – is simple to verify.

Counterfeiting honey with plant-derived sugar syrups, on the contrary, is analytically very demanding to prove. In essence, honey consisting mainly of the two mono-saccharides glucose and fructose is adulterated with its main constituents. Syrups from so-called C4-plants, such as corn or cane, exhibit a different ratio of the stable isotopes of carbon, 12C and 13C, which can be proven by stable isotope ratio mass spectrometry (IRMS), a method routinely used in honey analysis4. However, addition of syrups originating from wheat, rice, and other C3-plants cannot be detected by the same method. To ensure the authenticity of a honey, typically a combination of several analytical methods is applied today that includes IRMS, detection of non-honey oligo-saccharides, enzymes used in industrial syrup production, as well as small molecule markers for foreign syrups. In addition, dedicated substances can be used to test for authenticity requiring a set of different analytical techniques. All this takes a lot of time and is costly; more complex issues such as those involving a food's provenance, however, cannot be answered at all by only quantifying a limited set of substances.

NMR fingerprints prove quality, authenticity and unveil adulteration in just one measurement.

The remedy is provided by nuclear magnetic resonance (NMR) spectroscopy, a technique that is also applied in medical imaging (MRT). In contrast to other techniques, which typically focus on the detection of specific, pre-selected markers ('targeted analysis'), an entire spectrum of the ingredients of the sample is recorded. Hence, high-resolution NMR spectroscopy permits the 'non-targeted' detection and – at the same time – quantification of typically several dozens of substances within a single measurement. This takes only a few minutes.

Testing honey with NMR-profiling: - continued from previous page.

Accordingly, the method is predestined for the efficient analysis of complex substance mixtures as found in food: unlike methods using, e.g., chromatography, no time-consuming separation of the components in a mixture is required. At the same time, the sample can also be measured without extensive chemical preparation (e.g. extraction, derivatisation). Moreover, due to its unique dynamic range the reproducible retrieval of signals arising from substances at very low concentrations (ppm range) in the presence of highly concentrated compounds (% range) is possible. Accordingly, the systematic differences in concentration of a range of metabolites can be aggregated into a pattern, which can be used as a marker for geographical origin or the absence of unlawful adulterations. In short: NMR spectroscopy offers a versatile multi-parameter screening tool to test for quality, authenticity, and adulteration with minimal time, effort and cost.

So what are the possible future impacts that NMR testing will have on the honey producer?

Grandma's Honey Muffins

Ingredients

1 large egg, room temperature

2 cups all-purpose flour

1/2 cup sugar

3 teaspoons baking powder

teaspoon salt

1 cup 2% milk

1/4 cup butter, melted 1/2

1/4 cup honey

Directions

Preheat oven to 400°. In a large bowl, combine flour, sugar, baking powder and salt. In a small bowl, combine egg, milk, butter and honey. Stir into dry ingredients just until moistened.

Fill greased or paper-lined muffin cups three-fourths full. Bake until a toothpick inserted in center comes out clean, 15-18 minutes. Cool 5 minutes before removing from pan to a wire rack. Serve warm.

For some time now these has been a two tier pricing structure from some American honey packers. False claims of Canadian honey being blended with cheaper off shore honey or otherwise having being adulterated has garnered it an unfair reputation in some circles. Simply put, Canadian honey is suffering from an unjustly deserved bad reputation and the price it's able to command is being hurt in some markets.

Adulterated and off shore honey continues to appear on the market. It's cheap price and ready availability devalues pure Canadian honey that struggles to compete with it.

Now imagine if that playing field was level. Imagine that all honey on the open market and on the store shelf was subject to an inexpensive, quick, and accurate standard of testing that ensured it's purity and country of origin. Can you imagine the value of the amazing honey that is produced in this province, this country, would command on the world market? Adulterated or counterfeit honey could no longer hide under a thin percentage of good quality Canadian Honey. Beekeepers would be paid a proper price for what they produce, and Canada's honey would reclaim its reputation of excellence and quality.

Europe is quickly making this a mainstream standard. Labs are opening up on Canadian soil. If provincial beekeeping organizations can push the Canadian Honey Council towards petitioning the CFIA in adopting this standard of testing, then a brighter future can be possible for the honey producers in this country.

Basic Baking Tips For Honey

Honey is the original all-natural, unprocessed sweetener. And, since it's sweeter than white sugar, you can use less of it when baking:

Use ¾ cup plus 1 tablespoon of honey for every cup of sugar

Decrease the liquid in the recipe by ¼ cup

Add ½ teaspoon of baking soda for every cup of honey

Reduce your oven temperature by 25 degrees.

Another reason honey is great to use when baking is because it's hygroscopic (water-attracting): it absorbs moisture from the air, keeping your baked goods moist and delicious. for days.

Red River Apiarists' Association
Membership Application

The RRAA membership extends for one calendar year. Renewals are due in January and includes access to 8 monthly issues of the RRAA BeeCause newsletter.

☐ I hereby apply for membership to the RRAA $35.00/year

☐ *Optional: Beekeeper Liability Insurance - $65.00 + $5.20 &&&&.... $70.20/year

Total Payment $_____

Note: Liability Insurance fees must be submitted before April 1st.

****

Name: _____

Address: _____

City: _____ Prov: _____ Postal Code: _____

Email: _____ Phone: _____

Signature: _____

Please check one of the following:

☐ New Member
☐ Renewal
☐ U of M Student Beekeeping Course (free first year)
☐

Payment Method:

☐ Cash
☐ Cheque
☐ E-Transfer
☐

Completed form and payment may be brought to a RRAA regular meeting or mailed to:

John Speer, RRAA Treasurer
Box 16 Group 555, RR5
Winnipeg, MB
R2C 2Z2