

The Bee Cause



Volume 7, Issue 5

May 2010

- Next general meeting is **7:30** Tuesday, **April 13th** at the **River Heights Community Centre, 1370 Grosvenor Ave., Winnipeg.**
- (in room right of main-door)
- **Speaker: Bev Clark will be speaking on queen rearing and the Future of bees**

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The Honeybee a Insect of Distinction

Compiled By Ken Rowes

This year is a year of acknowledging the Honey Bee (refer page 5) *Apis mellifera* L. long known as the 'Angel of agriculture'.

While there are thousands of insects in the **Hymenoptera** order (for example, wasps, sawflies and ants), honey bees are the only living members of the tribe Apini, within the family Apidae. The one genus of honey bee *Apis* can be divided into three branches based on how they nest: the giant open-nesting honey bees *Apis dorsata* and *Apis laboriosa*; the dwarf, single-combed honey bees *Apis florea* and *Apis andreniformis*; and the cavity-nesting honey bees *Apis cerana*, *Apis koschevnikovi*, *Apis nuluensis*, *Apis nigrocincta*, and *Apis mellifera*. These nine species thrive in environmental extremes like deserts, rain forests and tundra, but most people

only know *Apis mellifera*, the agricultural darling.

In any event, it has been reported that a cavity-nesting honey bee spread about six million years ago during a warming into Europe and thence into Africa to become *Apis mellifera*.

Honey bees are eusocial, a term used for the highest level of social organization in a hierarchical classification.

Adult bees are divided into a queen, female workers and male drones. The queen will leave the hive only once to mate with several drones, storing sperm in her spermatheca to last her lifetime. In order to rear and defend the eggs laid by the queen, worker bees develop stinging mechanisms, pollen baskets, dance languages and labour divisions. Tasks are divided according to age and colony needs. Younger worker bees tend to the queen, and older worker bees forage, construct wax cells, convert nectar into honey, clean cells and guard the hive. Ideally, a healthy hive is a collection of overlapping generations.

It has been said that bees preceded humans on earth by millions of years. And so it is that honey bees are one of the oldest forms of animal life still in existence from the Neolithic Age. The **Neolithic** Age, Era, or Period, or **New Stone Age**, was a period in the development of human technology, beginning about 9500 BCE in the

Middle East that is traditionally considered the last part of the Stone Age. The Neolithic followed the terminal Holocene *Epipalaeolithic* period, beginning with the rise of farming, which produced the "Neolithic Revolution" and ending when metal tools became widespread in the Copper Age (chalcolithic) or Bronze Age or developing directly into the Iron Age, depending on geographical region. The Neolithic is not a specific chronological period, but rather a suite of behavioural and cultural characteristics, including the use of wild and domestic crops and the use of domesticated animals.

There is also much speculation over the early Gondwana continent and the climate to facilitate a bee life style. Archival records suggest that they (honey bees) originated in southern Asia, probably in the region of Afghanistan. The earliest record of humans gathering honey from wild colonies is suggested to be from 7000 B.C. There is no way of knowing to what extent honey bees have evolved since then; we can assume that some evolution has taken place, particularly with regard to the social organization of the colony and foraging behaviour. *Apis mellifera*, the most widely distributed of the species of *Apis*, is not native to the Americas. The first record of the introduction of honey bees to the western hemisphere was in 1530 in South America. It was introduced to North America by colonists from Holland in 1638. Since bees visit a broad range of host plants and are able to

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President's Comments -- May 2010

Finally the rains have returned to Manitoba, and all the plants are responding quickly. April was the month with days and weeks of unusual warm weather. The bees could fly in all directions, but were not finding many plants in flower. It certainly required all of us to make certain that our bees were being fed, as the usual spring flowering plants were slow to appear.

Feeding bees syrup was important as well as putting on pollen patties for a while. I saw new pollen coming in on April 12th as the pussy willows were blossoming in my area. Syrup was being taken down quickly in mid-April, but now with many blossoms in the area, the syrup feeders are being ignored.

Wintering results for many beekeepers were as varied as the weather. Some beekeepers had everything dead in January, despite the hives being heavy, while others had hives do well until they were placed outside. In talking with a variety of beekeepers about hive losses, the common factors seemed to be food frames of crystallized honey, mite treatments taking place late in the fall, and slow intake of syrup during September. This seems to suggest that some of the food stored by the bees in the fall was perhaps canola based, and as such not suitable for winter feed. Late mite treatments are always a problem as the needed 42 day cycle means that this treatment has to begin in early September in order to be effective. Many beekeepers didn't start mite treatments until October, thus cool weather created problems as did removing strips in mid-November. Again beekeepers have to remind themselves that the world of beekeeping has dramatically changed in the last 20 years, and we have to change our management practices.

The reports of wintering bees in the USA have not been good news stories. Losses vary from twenty percent up to fifty percent, and the old average of fifteen percent winter losses is a number from the past. The main causes cited are pesticide mixtures found in the honey and beeswax that were not seen before in the same quantities. Other potential reasons are the use of new, stronger systemic pesticides that growers are using to deal with problems in their crops.

The combination of population increase and a need for greater food production are all creating a situation to provide pollination to larger fields throughout the farming country, and the managed honeybee populations are the creatures of choice for agriculture. For us as beekeepers, the Darwinian theory of survival of the fittest may be the only long term solution for keeping honeybees alive in the future. The development of our own queens from successful overwintered stock may be the way to insure better results in future springs. The large scale use of imported queens is a quick and easy way to rebuild hive populations in the short term, but those queens seem only to last a season and a half as they don't winter well in year two. This is a part of the problem when the next spring occurs and the dead outs are counted.

The day worldwide to recognize the importance of **Honeybees as Pollinators** is May 29th, and RRAA will be organizing a display and beekeeping events at the Forks in the SW aisle area. If you are able to volunteer 2 hours of your time, let me know and I will give you a suggested time assignment. The date of May 29th was chosen as it commemorates the first ascent of Mt. Everest by Tenzing Norgay and Edmund Hillary at the age of 33. Sir Edmund had been a keen beekeeper in New Zealand and always supported beekeepers everywhere in the world.

Many cities and provinces are declaring this as a special day, and our province has been asked to do the same. The city of Winnipeg may be involved in some way as well, as perhaps will other media such as, radio, newspaper and television.

And to close, let me remind you of the last meeting of this spring which is on May 11th, and the featured speaker will be Bev Clark from Wanawesa on the topic of "Queen Rearing- Clark Style and the Future of the Honey Bee." And also a special feature of the evening will be some snacks and finger food supplied by Ken Fehler who always knows his way around a meat shop.

Let us hope for a positive beekeeping summer and may all your hives do well.

Charles Polcyn RRAA President

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Minutes of the RRAA General Meeting River Heights Community Club – April 13, 2010

7:30 PM: John Russell welcomed thirty-five members and guests to the March RRAA meeting.

Minutes of the March 9th meeting approved: Moved by Walter Wright and seconded by Ted Scheuneman to approve the minutes as they appeared in the April *Bee Cause*. No errors or omissions were noted.

Announcements: Charles Polcyn, while in the Philippines worked with some of the local beekeepers and the Cagayan State University to solve specific production problems and to promote locally produced honey.

Cagayan State University (Honey Production Regional Apiculture Satellite Centre) awarded the RRAA with a certificate for assistance and inspiration. The certificate was printed on ivory coloured paper. Above the wording was a picture of a beautiful university building in a quiet treed setting.

Ted Scheuneman was also presented with an identical certificate for donating beekeeping tools and equipment.

Beekeeping Field Day - June 26: Jim Campbell announced that the RRAA and MBA Field Day will be held in Fisher Branch at Paul Gregory's honey farm. Their honey house had to be completely rebuilt after a devastating fire about three years ago. Full details will be made available in the next newsletter and at our May meeting.

Newsletter: Ken Rowes reported that there are 65 members Forty-nine are signed up at present.

May 29th. - The Day of the Honey Bee: Jim and Ken will put announcements into the *Bee Cause* and *Manitoba Beekeeper*.

MAFRI Report: David Ostermann advised that CHC had applied for temporary use of Apivar. Inspection of beehives (under the Provincial Inspection Program) will soon begin again this year.

Loonie Draw: The loonie draw continues to generate a small amount of cash for RRAA activities. Albert Anderson had his name drawn for two small containers of Jamaican honey, and Nelson Szwaluk for a bottle of Natural Vanilla. Ken Fehler won a coaster and Walter Wright won the plant hanger. George Chwist won the Humane Society paper weight. Andy Lecocq's ticket was pulled for a silver plated tankard. Thanks again to those who donated draw items and everyone who purchased tickets.

Program: A Power Point presentation on Spring Management by David Ostermann

Ron Rudiak, recorder – RRAA

MBA Report Jim Campbell, RRAA rep.

MBA Report-May 2010

Jim Campbell, MBA Representative

Several projects are currently being considered and evaluated by the MBA directors. Consideration is being given to research and food safety items that will benefit honey producers.

In the research area, evaluation is underway on how best to coordinate varroa treatment evaluation efforts within Alberta, Saskatchewan and Manitoba. The goal is to prepare an application to fund testing of several natural treatment products to determine how effective they are for the variable weather conditions across the Canadian prairies. MBA is looking at the current budget to determine how to fund the project. The likely direction would be to use resources from the Barry Fingler Memorial Trust Fund in combination with resources from MBA Operations budget, so this project can move ahead.

In another area, under the Food Safety umbrella, MBA is considering administering a project to prepare a Video on proper techniques for collecting bee samples, and testing for varroa infestation levels. A deliverable of this project would be a DVD that producers could view at their convenience. With the educational tool, producers would be better prepared to monitor their bee operations.

The upcoming Field Day on Saturday 26 June, will provide an opportunity to hear about current research done at the U of M, as well as updates on the project plans for this fall.

In the meantime, MBA awaits announcements from PMRA regarding the CHC application for Emergency Use Registration for Apivar for fall 2010. In addition, we await PMRA information on the new Gel formulation of Formic in response to the application by NOD Apiaries.

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Day of Honey Bee Celebration

Your chance to support the Bee Cause by sharing your interest and acknowledging the 'Bee Day' with you friends, relatives and all you meet.



The cross value of bees and their bi-products surpasses the life span of all other Agri-business although some may question grains, honey was harvested as a prime food source when grains and roots were harvested by happenstance.

of the Honey Bee" event.
(continued on page 5)

MAFRI is working on having some one available from the Minister's office to attend the inaugural "Day

(continued on page 4)
(from page 1)

conserve heat by clustering, they have become widely dispersed and are now found throughout the world. Honey bees are limited in their distribution mainly by an absence of suitable forage and/or less than 19.8 cm (7.8 inches) of rainfall annually.

The scientific name, *Apis mellifera*, was given the honey bee by Carolus Linnaeus in 1758. It literally means "the honey-carrying bee". A more descriptive name, *A. mellifica*, or "the honey-making bee" was proposed in 1761. While this second name more accurately describes honey bees (which carry nectar but make honey), the rules governing precedence in scientific nomenclature dictate that the earlier name be retained.

Developments in beekeeping methods and management techniques gave the beekeeper more control over his bees, as well as viewing them INSIDE the hive. Honey bees, the old "DARK" bee, *apis mellifera mellifera*, were first brought to America in 1622, to the Virgin Islands and Guadeloupe in 1688, to Australia in 1839, and to California in the early 1850's.

In Germany, Nickel Jakob wrote in 1568 that honey bees could raise a queen from eggs or very young larvae. In 1586, Luis Mendez of Spain was first to describe a queen as a female that laid eggs and the mother of all bees. In 1609, Englishman Charles Butler showed that drones were male bees; and Richard Remnant in 1637 showed that workers were females.

It is interesting that nothing was known about the mating of a queen with a drone for about 150 years until Anton Janscha of Slovenia described the act in 1771.

It wasn't until 1750 that Irishman Arthur Dobbs reported that the pollen collected by bees is the "male seed" of the flower which fertilizes the ovum. 1793 saw Sprengel clearly established the part played by bees in fertilizing flowers.

As we honour the honey bee another acknowledgement is taking place. That of the 200th birthday of the one, perhaps there are a few who would disagree, but surely most would concur that Rev. Lorenzo Lorraine Langstroth did more for successful modern day beekeeping than any other individual in the world. Erroneously, he is most noted for building the first hive that featured removable frames as well as a desirable size. However, his major discovery was of: BEE SPACE. That "magical space" is defined as "greater than 1/4 inch, but smaller than 3/8 inch", and is recognized by the bees as OPEN space for occupation by bees only and any spaces smaller or larger are subject to having comb built in them. By utilizing this new finding, called BEE SPACE, Langstroth was able to design a hive where the bees did not seal parts together by burr comb, hence allowing frames to be removed one by one, inner covers not sealed down to frame tops, and bee walk space on the tops of frames that had another hive body with frames on top of the lower hive body.

A Langstroth hive filled with bees could be disassembled, each part inspected for status or disease, and reassembled without damage to comb or bees. This could NOT be done with any other "housing" for bees that existed in 1851!

Ted Scheuneman honoured

At the regular meeting of the Red River Apiarists' Association on 13 April, Mr. John Russell presented Mr. Ted Scheuneman with an award brought back from a recent training visit to the Philippines by Charles Polcyn. The award was in recognition of Ted's sending beekeeping material to help honey producers overseas. The Award reads as follows: Cagayan State University, CSU at Sanchez Mira, Province of Cagayan, Presents this Certificate of Appreciation to Mr. Ted Scheuneman, Beekeeper, Winnipeg, Manitoba, in fitting recognition of his support and significant contribution in the enhancement of the Beekeeping Program of CSU Sanchez Mira by donating some tools and equipment for the project thereby giving fulfillment to the realization of the objectives of the campus being the Regional Apiculture Satellite Centre.

John Russell left in caption as 1st Vice President of RRAA who was making the award also **was recognized with a similar award** for his donation of a case of his honey blends to the CSU apiculture program.

Given this day of 5 April 2010 on the occasion of the Exit



Conference in honour of Mr. Charles Polcyn at the Cagayan State University, Sanchez Mira, Province of Cagayan, Philippines. (signed) LINA M. GARAN, DPA, Campus Executive Officer.

For the interested Cagayan is the long, lengthy interior Philippine province of the Luzon Island which stretches approximately 200 miles between two north-south mountain ranges providing a climate often hot and dry for its entire length.

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Let us begin to consider the fall honey show!

The MBA with the RRAA are scheduled to once again publicize beekeeping a Manitoba at the Winnipeg Forks October 1st to the 3rd 2010 with a **Fall Honey Show**. As honey producers please consider entering the with honey entries, photos and various honey beverages and mead.

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Day of Honey Bee Celebration

By Jim Campbell & Charles Polcyn

The Forks Market, in Winnipeg, will be the location of a special celebration honouring our favorite pollinating insect—the Honey Bee.

Saturday 29 May 2010 is being touted as “The Day of the Honey Bee” in several cities, municipalities, and provinces across Canada. Here in Manitoba, the Provincial Government has been asked to establish a proclamation to this effect. Similarly, the City of Winnipeg has been approached to do the same. The purpose of the celebration is to publicly recognize the importance of the Honey Bee in our ecosystem and our food supply, and also the importance of pollination and honey production to the many beekeepers throughout the province.

The Red River Apiarists’ Association, are planning a “Pollination and the Foods We Eat” promotion to be held at The Forks Market, Winnipeg. The site for the display is slated to be the South West end of the third aisle. This is just opposite the Human Bean coffee shop, and adjacent to the Fish and Chip shop on the corner. To honour the “Day of the Honey Bee”, their importance to the agricultural community, contribution to the provincial economy, environmental friendly impact, plus their contribution to our food supply, and our need to protect them, several events are scheduled. The main focus will be a table filled with foods requiring pollination (i.e. Sunflower, Buckwheat, Raspberry, Pumpkins, Canola (oil), Cucumbers, Tomatoes, Apples, Mint etc). Other features could include pollination presentations from honey producers, videos on importance of bees, interactive display of live bees hosted by honey producers, colouring contest for children, door prizes given out to visiting families, and vendors promoting floral specific honey and other hive products. In addition, we are working on TV and other media coverage leading up to the event.

The special event will take place from 9:00 a.m. on Saturday until closing time at the Forks at 6:00 p.m. To volunteer to help out at the Beekeeping Equipment table, the Observation Hive, or the Food We Eat table, contact Charles Polcyn at 284-7064.

Loyalty **A natural Instinct**

Is the bonding of individuals in long term commitments of sacrificial support and defence. Bees are excellent examples. Why is loyalty important, every relationship in life must be built on loyalty or they will not survive. Leaders look for this quality as a primary qualification for those who serve. And so it is in nature where the power of success in a colony of bees, loyalty is critical. Makes you think about our own lives!

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Bee Maid Supports Bee Research in Canada **considering project proposals in the area of apiculture or** **pollination research.**

Bee Maid Honey Limited is proud to announce that they will be contributing financial assistance to the following research projects this coming year:

Integrated Management on Nosema & Detection of Antibiotic Residues; Dr. Stephen Pernal, Agriculture and Agri-Food Canada, Beaverlodge Research Station, Beaverlodge, Alberta
Nosema ceranae is an emergent world-wide pathogen, and it, in combination with Nosema apis, have been linked to wide-scale losses of colonies in Europe and North America. We propose to examine effective therapeutic management for these parasites and to generate a modern antibiotic residue dataset for fumagillin, the only registered antimicrosporidial compound for bees. Our objectives are to: 1) Develop optimal application methods and dosages for fumagillin against N. ceranae; 2) Document residues associated with different methods of fumagillin application; 3) Screen alternative therapies for Nosema spp.; and 4) Examine the seasonal phenology of N. ceranae in Canada. These data will benefit the Canadian beekeeping industry by providing optimal treatment options to control both microsporidian species causing nosema disease without contaminating honey with unwanted residues. It will also provide for the development of modern analytical techniques for the detection of fumagillin and its degradation products, which currently do not exist. Furthermore, this research may lead to identifying other effective therapies so as to lessen dependency on fumagillin treatments. Overall, this project is required to improve the quality of Canadian honey bee health, safeguard against further large-scale colony losses and to ensure Canada has a sustainable supply of pollinators.

And

Effects of a miticide on honeybee memory; Principal Investigator: Dave Shutler, Professor, Acadia University, Wolfville, Nova Scotia

Honeybees are of great ecological and economic importance, but have been suffering declines worldwide. High mortality rates are often attributed to the parasitic mite, Varroa destructor. Varroa may have other indirect negative effects on honeybee longevity and productivity. For example, chemical treatments used to control Varroa may interfere with honeybees' ability to properly integrate stimuli that elicit important behaviours like foraging and mating. Research is currently underway at Acadia University, spearheaded by MSc candidate Elisabeth Frost and in collaboration with Assistant Professor Kirk Hillier, to assess effects of a common miticide on honeybee mortality, learning, and memory. Ultimately, this research will lead to standardized methods to evaluate suitability of mite treatment programs and potential sublethal effects of chemicals on honeybees. Because bees worldwide are exposed to mites and miticide stressors, results of this research will be applicable globally.

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Editor's Note by Ken Rowes

The buzz for this May is establishing good strong colonies, producing new queens and acknowledging the Honey Bee May 29th. Do your part: visit the Winnipeg Forks for the Bee Day, put a bee sign in your car window, wear yellow and bee wearing your bee clothing!

Note that 2010 is a blue year for making queens.

It's exciting to rummage through the literature gathering historical records in an area of knowledge one has a passion for. I hope this newsletter is a good read for you and gets you into talking about your bee story as well as actively participating in the beekeeping world of our community (Day of the Bee May 29th 2010) and with your hives in Canada's Heartland Manitoba.

We all have our cycles of time and interest that once in a long while the Bee and its heritage needs our enthusiastic input. Something like a letter to your councillor, Member of parliament our local Agri centres you name it. The chamber of commerce in our areas should be notified in how hopeful and promising this insect industry is and its struggles that need to be cared about and supported.

CLASSIFIED

1. **For Sale:**

2. Wanted: S.S Bottling Tanks Single wall or double wall with water jacket, good condition or repairable. Also needed—Belt Barrel Heater for drums: **call Brian Rich 204 739-5481**

3. For Sale: 30 Frame Maxant Extractor. please call **Javad Niazi At 885-0576 or javadni-azi@yahoo.ca**

4. FOR SALE: Clearance of a variety of Beekeeping Equipment- Honey Supers, Brood Boxes, Wax Dipped Feeder Boxes, Queen Excluders, Bottom Boards, Lids, Empty Shells, Bare Frames, etc. Reasonable Prices on all items. Call Charles Polcyn at 284-7064 or email at: charles_polcyn@ymail.com

5. For Sale: Downsizing 100 hives and contract with Bee Maid available. Also selling 3,4 and 5 frame nucs available May 15th. Will sell 10 frame honey supers all white frames, June 1- many in new boxes,

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. They are those of their originator and not of the Red River Apiarist Association.

Deadline for any submission to this newsletter is the second Saturday preceding the membership meeting to allow for publishing and mailing delays. Regular membership meetings are normally scheduled 7:30 PM on the second Tuesday of every month at the River Heights Community Centre located at 1370 Grosvenor Avenue in Winnipeg except the months as 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.

We are on the web!
www.beekeepingmanitoba.com

equipment in excellent condition; and excluders, wintering inner covers, bottom boards etc.

Contact Dennis Ross 878-2924 or Rosskr@mts.net

6. For Sale: Equipment for sale, 10 double brood chambered colonies. a 10 frame Maxant extractor, commercial winter wraps, supers and frames, tools, covers, stands, bottom boards, feeder pails, sump pump, refractometer, much more contact Leo Demers 204-379-2518.

7. For Sale: For 2010 well established Strong—Healthy 4-frame nucs with queens bred from my own gentle hardy local stock. No foulbrood, chalkbrood, nosema, tracheal mites, varroa count very very low in my apiary. Also new inner covers made of 3/8" plywood with outer rim 7/8" x 7/8" pine \$7.50. Ph Ted Scheuneman 338-6066, West St Paul

8. Wanted granulated white honey and/or wildflower honey contact **Tom Dixon 475-5059**

9. Wanted - radial extractor, decapper and bottling tank contact Clayton or Diana Brinkman at 807-548-5044

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Through the next years of inventing saw new and improved bee equipment established including the bettering of existing bee equipment. Some of the more important items are: M. Hruschka, an Austrian, invented the first frame extractor in 1865, which was followed by L. L. Langstroth's extractor in 1867. Moses Quinby invented the first bellows smoker in 1870. J. Mehring of Germany stamped out the first beeswax foundation in 1857, which was followed by A. I. Root and A. Washburn developing the first machine roll foundation in 1875 using the idea of the twin roll clothes dryer. H. Laidlaw developed the first machine operated artificial inseminator of queens in 1944. L. L. Langstroth was part of a group that imported the first Italian Queens to the U. S. in 1860. F. Benton imported the first Carniolan bees to the U. S. from Germany in 1891.

The weight of distinction of the Honey Bee is captured by each of us in our own way whether for subsistence, commerce, industrial development and international trade. For the world it is the support of ecological cycles that the Honey Bee has been and continues to be a corner stone.

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Honey Bees: A History, By TAMMY HORN
April 11, 2008

History of Honey Bees, George's PINK PAGES
December 2000

The Honey Bees and their Hive
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Beekeepers Field Day and Summer Picnic near Fisher Branch, Manitoba

Date: On Saturday **26 June 2010**, Manitoba Beekeepers' Association together with the Red River Apiarists' Association invite all interested beekeepers to come on out for an afternoon of food and fun.

Lunch Time/Cost: Arrive for Picnic Lunch being served at 1:00 p.m. on Saturday. Food Cost \$10.00 each. Bring your Lawn Chair, and perhaps a sun cap too! Tour to follow lunch.

Location: Tour to take place at Interlake Forage Seeds Ltd, near Fisher Branch, MB

Directions: From the junction of Hwy 17 and 68, (i.e. junction near town of Poplarfield), drive 10 miles North on Hwy 17 (toward Fisher Branch), and then turn East on Bartlett Road and drive three (3) miles to yard site. Watch for the sign "Interlake Forage Seeds" alongside Hwy 10 just before the turn-off.

Tour: Visit one of the larger Honey Producers in Interlake Area. Learn about the recent construction by Wizer Building, and hear why a sound absorbing ceiling is a good idea. See the benefits of hiring Foreign Workers for Honey producers. Tour to take place after lunch.

Q&A Session: Discussion on current beekeeping activities and events, including updates on in-progress research and non-food grade equipment replacement program.

Please arrange your own transportation to and from the tour site.

For more information, call Jim Campbell at (204) 467-5246, or Rhéal Larfenière at (204) 945-4825.

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Bees Always Have a Safe Landing

Discovery News By Emily Sohn | Wed Dec 23, 2009

Bees' graceful and acrobatic landing techniques are instinctive. Whether landing on a picnic table, underneath a flower petal, or on a wall of a hive, bees always manage to touch down without crashing or tumbling. Now, for the first time, scientists have figured out how these insects manoeuvre themselves onto all sorts of surfaces, from right side up to upside-down. The bees' technique depends mostly on eyesight. When bees approach an object, according to previous work, they steadily slow down to a stop by adjusting their speed as the size of their target steadily looks larger. Srinivasan wanted to know what happens after that. Along with colleagues, he set up a platform that could be adjusted to any angle from horizontal to vertical and even upside-down. Using sugar water, the scientists trained honeybees to fly to the platform again and again. Then, the researchers turned on their high-speed camera. Their footage showed that no matter how flat or steep the surface, bees slow to a hover at 13 millimeters (about half an inch) away from wherever they're going to land. That suggests, Srinivasan said, that the insects are somehow using their eyes to measure that specific distance. If their landing surface was flat, the researchers report today in the *Journal of Experimental Biology* that bees simply touched

down back legs first. If the platform was anywhere between vertical and upside-down, on the other hand, the insects made contact with their antennae first, by pointing them almost perpendicular to the platform. Then, the bees hauled their front legs up and finished with a flip-like manoeuvre to get their mid-legs and rear legs onto the surface. It's a graceful and acrobatic motion. Current landing systems use radiation-emitting systems, which are detectable and often undesirable for military applications. "It's a beautiful way of landing using biological autopilot," of the bees. "

A honeybee's brain is the size of a sesame seed and weighs about a milligram. Yet, bees and other insects manage to perform complicated tasks, including smooth upside-down landings.

Figuring out the rules that simple animals use to translate vision into motion, Douglas Altshuler, a biologist at the University of California, Riverside, said, could help engineers design machines that mimic nature in unexpected ways.

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Sperm war – the sperm of bees do battle inside the queens

Taken from the April 2010 Beeline Newsletter BC

The queen bees mate in “nuptial flight” that lasts for a few hours or days. They store the sperm from their suitors and use it to slowly fertilise their eggs over the rest of their lives. Males compete fiercely for their chance to inseminate the queen. But even for the victors, the war isn't over. Inside the queen's body, their sperm continue the battle. If the queen mates with several males during her maiden flight, the sperm of each individual find themselves swimming among competitors, and that can't be tolerated. Susanne den Boer from the University of Copenhagen has found that these insects have evolved seminal fluids that can incapacitate the sperm of rivals while leaving their own guys unharmed. And in some species, like leafcutter ants, the queen steps into the fray herself, secreting chemicals that pacify the warring sperm and ease their competition. The amazing thing about this chemical warfare is that it has evolved independently several times. Social insects evolved from ancestors that observed strictly monogamous relationships. Even now, the queens from many species mate with just one male during their entire lives. With just one set of sperm in their bodies, they have no problem with sperm conflict. The trouble starts when species start mating with several males during their nuptial flights, as honeybees, social wasps, leafcutter ants, and others do today.

To understand the sperm wars, den Boer exposed sperm from different species to their own seminal fluids, those of brothers, or those of unrelated males. In two species of bees she found that a male's seminal secretions are a boon to his own sperm. Even at small concentrations, they managed to boost the survival of sperm that had been stored in saline. In species where queens mate with a single male, like bumblebees the seminal fluids had the same beneficial effect on the sperm of unrelated individuals. But these chemicals weren't so benign in species where queens store sperm from several males, like honeybees. There, they significantly reduced the survival rates of competitor sperm, slashing them from 6-18% after just 30 minutes.

How seminal fluids know to attack other sperm is a mystery. The fact that a brother's sperm also suffers, even though it shares much of the same DNA, suggests that the method involves a blanket attack on anything that isn't recognised as “self”. And as with many wars, both sides suffer. It turns out that the protective chemicals from one set of seminal fluids can't counteract the destructive chemicals from another. If the two are mixed, no set of sperm survives very well. From the queen's point of view, these battles are positively counter-productive. The more sperm she has, the more eggs she can fertilise and the more young she can raise. It's in her interest to stop the sperm from killing each other. Den Boer found that the queens of the leafcutter *Atta colombica* do just that. The fluids from a queen's spermathecae (the organ where she keeps her sperm supplies) can quell the destructive effect of rival seminal fluids. If they're added to the mix, survival rates for all the stored sperm shoot back up to normal levels.

Reference: <http://dx.doi.org/10.1126/science.1184709>

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Sincerity

Sincerity is being as genuine on the inside as we appear to be on the outside. Honey Bees demonstrate a special sincerity in an unusual skill in communication. Using body language and uniquely formulated scents called pheromones, to convey reliable messages describing danger, work assignments, and food sources.

Makes you think about ourselves.

Powdered sugar dusting—sweet and safe, but does it really work?

Taken from ScientificBeekeeping.com

This is for your information around chemical control use. I include it in the RRAA newsletter to get some membership trials and response.

Jeanne Hansen is bogging with Randy over sugar dusting.

I'd like to share my success story with you. I am a hobby beekeeper with 5 hives. I dusted them almost weekly, whenever I open them, all summer. My results matched your observations - it seemed to hold the mites at bay, but there was a spike in the number of mites in August.

Then I said to myself, “the formic acid people only promise a 90% elimination of the mites, you have to leave the pad in place for a certain period of time, and you do it only once in fall and once in spring. Why not similarly go all-out with the powdered sugar?”

Thus, I chose a week forecasted to have sunny weather the entire week, and powdered my bees once DAILY. I always apply the sugar like you recommend, and I use a dry white board to count the mite fall after an hour, like you. There were over 200 mites each of the first couple days, then the number began to diminish, and by the end of the week when the number of mites was in the teens, I felt I must have reached the 90% treatment level of formic acid, and quit.

My point is this: You have tested everything else. Perhaps short-term DAILY treatments would actually turn out to be a control method

Jeanne Hansen

Thanks!

Jeanne Hansen

Thanks Jeanne,

Daily dusting is actually not necessary, as when a female mite emerges, she spends generally 5-7 days in the phoretic stage before returning to the protection of a brood cell.

So dusting every 3 days should be adequate to knock down most of the mites. Such treatment would need to be continued for about 3 weeks. Morris's data suggests that this is very effective. If you run such a test, please let me know your results!

Randy

Jeanne replies: Excuse me for arguing, but I thought you said a single dusting only removes 30%-50% of the mites. I don't understand then, why wait three days to dust again? I'm not talking about the middle of the summer, when new mites are continually emerging with new bees. I'm talking about a fall treatment, similar to a formic acid fall treatment. Let's dust 5 days in a row and be done with it.

R: Sorry, misunderstood, thinking that you still had brood! Jeanne's data follows:

Let's see what my infestation rate was for Oct 25. Eighteen of my shallow frames = 9 of your deeps x 3000 bees/frame = 27,000 bees [Randy's note-- about 2000 bees on a deep frame, but close enough]. Let's say that 27 mites on the white board means 100 mites still on the bees. 100 mites on 27,000 bees = 0.37% To me that means I have controlled the mites with powdered sugar as well as I could have done with formic acid.

The way you and your son can dust 36 colonies in 10 minutes, I should think daily sugar dusting for 5 days would be a do-able control method, even for side liners. After all, they wouldn't have to stop to count, just dust and go. Thanks!

Jeanne Hansen

Thank you Jeanne! For all, note that Jeanne's mite levels built slowly despite roughly weekly dustings during summer. Her idea of cleaning up a broodless colony with daily dustings for a few days sounds great! Plus, there's no brood to worry about killing with sugar dust. If any of you try this, please let me know!

This is interesting to share in the fact it is less costly. Less time consuming and less toxic all way round.

It will be interesting to hear your comments.

Your Beefriend Ken RRAA editor

Lab Fees Increase

Honey Producers are reminded that the Apiculture Diagnostic Lab fees increased effective 1 January 2010. The lab at Agriculture Services Centre, 205 University Crescent, Winnipeg provides analysis of honey bee samples collected by inspectors at the request of beekeepers, and samples dropped off on site, or sent in directly by beekeepers. Fees for full Varroa, Nosema and Tracheal mite analysis will be \$25.00, and \$10.00 for each of Nosema and/or Varroa analysis.

The 2010 Recommendations for Administering Antibiotics and Acaricides to Honey Bee Colonies is now posted on the MBA website. A hardcopy will be mailed out to all active beekeepers.

<http://www.manitobabee.org/bulletins.shtml>

Decided to fill this space with HoneyB's musings:

Reviewing my supply catalogues I come across the Bee-Keepers' Supplies 1921 by The Ham Brothers Co, Limited Brantford, Canada. I am still using many of the same equipment today. But the question is are they safe so my rule of thumb is to check each and reconsider the products I sell around the use of these. I encourage other to do the same.

Brood comb is always a question and which frames to use where. Or how to draw comb on plastic or wax foundations. All questions we act on and make some changes in our beekeeping management. If any are wondering about these come to our meeting and ask.

All the best for April has been excellent which indicates a good honey year.

Red River Apiarists' Association Winnipeg, Manitoba 2010 MEMBERSHIP APPLICATION

I apply for membership in the Red River Apiarists' Association. Membership includes one-year subscription to the newsletter "The Bee Cause" (8 issues)- \$25.00.

Name _____ Tel. _____

Address _____

City _____ Prov. _____ Postal Code _____

E-mail address _____

Signature _____

New Member [] Renewal [] Student [] [free 1st year]

Other. Please specify. _____

This completed form may be brought to the meeting or mailed with your cheque to :

John Speer, RRAA Treasurer
Box 16, Group 555. Winnipeg, Manitoba R2C 2Z2.

Make cheques payable to Red River Apiarists' Association.
Please do not send cash in the mail.