



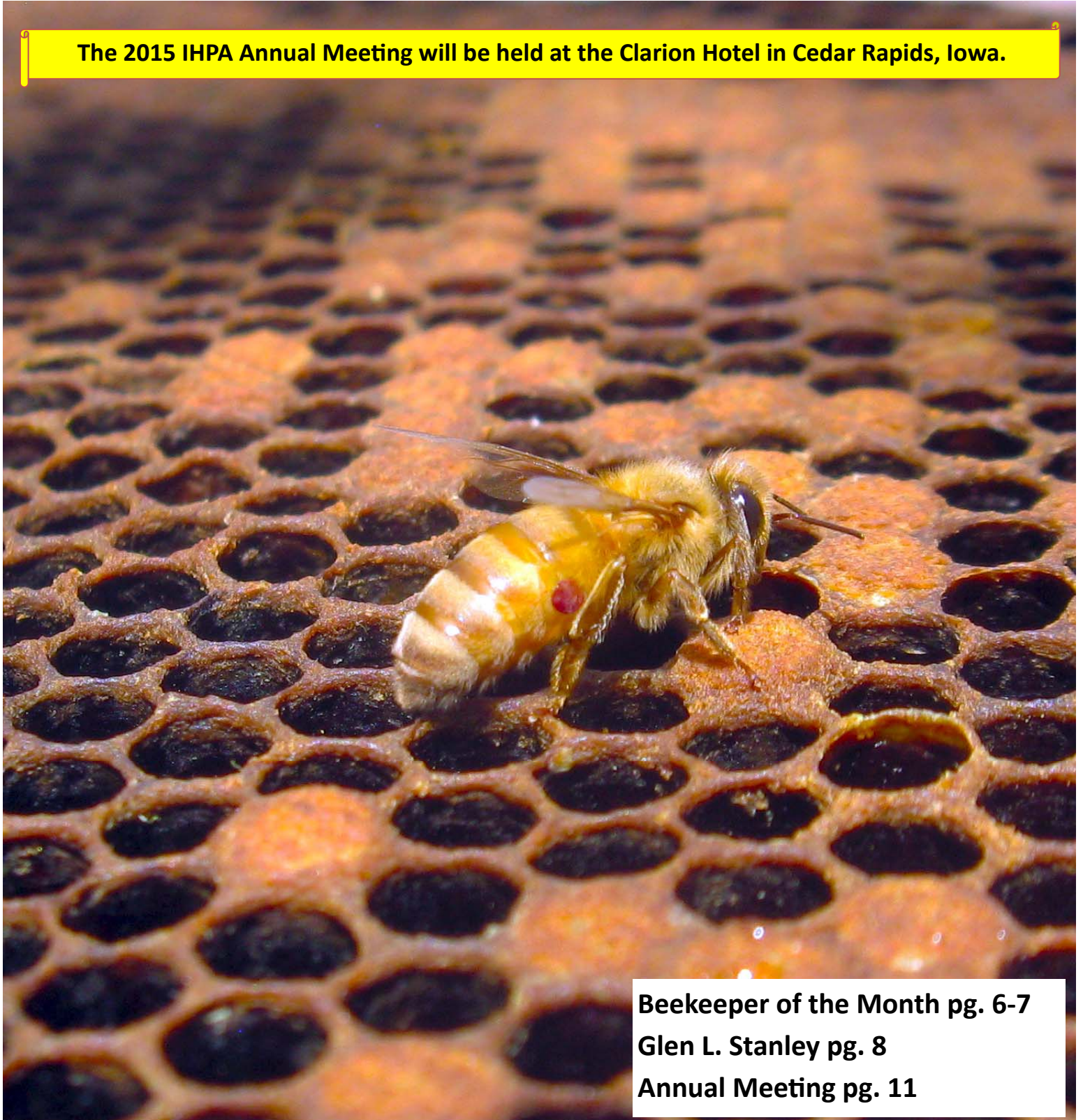
The Buzz

Newsletter of the Iowa Honey Producers Association



August 2015

The 2015 IHPA Annual Meeting will be held at the Clarion Hotel in Cedar Rapids, Iowa.



**Beekeeper of the Month pg. 6-7
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Annual Meeting pg. 11**



Dates to be Remembered

IHPA Board Meeting — Nov. 12th
prior to the Annual Meeting.

Annual Meeting—Nov. 13th & 14th
Clarion Inn, Cedar Rapids, Iowa



2015 IHPA Annual Meeting Nov. 13th & 14th, 2015 Notice!

The 2015 IHPA Annual Meeting is
being held at the **Clarion Inn in Cedar
Rapids, Iowa** this year.

The IHPA Annual Meeting is our
yearly opportunity to get together
and discuss the wonders as well as
mysteries of beekeeping. This
meeting is open to anyone interest-
ed in beekeeping or honeybees. We
have a variety of guest speakers
from across the US come to speak
on their expertise in the beekeep-
ing world. For current beekeepers
this is a great time to hear what is
new in beekeeping or ask questions
of those with a greater number of
years experience. Those who are
thinking about getting started in
beekeeping will have numerous
chances to ask, "what's it like to
keep bees?" There will be no short-
age of answers. Beekeepers love to
share the stories, fun, and en-
joyment they have found in
beekeeping.

For Sale: A Mannlake 18 frame radial
extractor with base + uncapping tank
in new condition.

319-385-1553
Tom Phelps
1723 Hilltop Rd.
Mount Pleasant, IA 52641-8215

For Sale: Honey Equipment, etc.
Boiler

Honey Production Equipment

Work table 107 ½ x 35 x 31
Steel rack 53 ½ x 53 x 42
Steel rack 40 ½ x 28 x 48
Steel rack 64 x 32 x 48
Flash heater 36 x 36 x 14" deep
Food grinder (2) peanut butter
Tank SS Kelly double boiler
Omega in-line digital thermometer

Creamed Honey Equipment

Honey packer automatic Api Electronic
ETRAC XFC series Microinverter
Gear drive portable mixer (NSPG)
Nettco
SS table SS Top 36" x 14 deep
2 inline filters Dadant
SS piping 1 ½" diameter assorted
lengths with valves and connections
Cash drawer, pole display, monitor, key-
board, printer
Cranberry

Racks and Misc Equipment

6 basic shelf type display racks
Display shelving 1 6', 1 5'
1 table 35" x 2 Butcher's block
1 counter top 74" x 18" x 35"
1 counter top 42" x 25" x 30 ½"
1 rolling ladder 4 x 60 x 50 ½
2 chrome carts
3 gorilla racks
6 chrome racks
1 verifone cc machine

Powder Inventory

Blueberry, Cranberry, Apricot, Jalapeno
Powder, Jalapeno 1/8", and Raspberry
Powders

Contact:
Ann Garber
200 E. South St.
Corydon, Iowa 50060



New IHPA Cookbook

It's time for a new cookbook!

Please submit your new Honey recipes,
the Iowa Honey
Producers Association is doing a new
cookbook that will be available at the
2016 Iowa State Fair.

We would like to have as many NEW
recipes in this new cookbook as possi-
ble, so bring on your newest tried and
true delights. Submit all the categories
you can think of including soap and hon-
ey mead.

We have the form available online
through the Buzz, in the hard copy of
the Buzz newsletter or available for pick-
up at the 2015 Summer Field Day in July
and at the 2015 Annual Meeting in No-
vember. Our cut-off date for the cook-
books to get prepared will be March 1,
2016.

We do have some incentives for you, the
more recipes you submit, the better for
you, stay tuned for those incentives in a
later Buzz article.

Please submit recipes to:

Jodi Kraft
IHPA Cookbook Chairperson
P.O. Box 1
Goldfield, IA 50542-0001

or my committee members: Becky
Elsbernd, Connie Bronnenberg, Rhonda
Heston and Heidi Love.

Thank you and looking forward to seeing
your new recipes for the 2016 Iowa
Honey Producers Association Cookbook.

2015 Buzz Quilt

The 2015 Buzz Quilt is complete. We have some awesome quilters!! The blocks look fantastic and the unique quilting done by Dianne Rinehart of Marshalltown is out of this world. Each block has an individual quilting design. Thank you Dianne for the wonderful quilting.

Raffle tickets are \$5 each or 5 for \$20. All proceeds benefit the Iowa Honey Producer's Association Queen program. These funds are used to pay the expenses of the Queen and Princess when they travel to your Farmer's Market, Honey Fest, visiting schools to help educate students about bees, etc.

The winning ticket will be drawn on Saturday, November 14, 2015 at the conclusion of the Annual Meeting in Cedar Rapids at the Clarion Inn. You do not have to be present to win, but you will want to be there for the FUN!

If you want to purchase some tickets, please contact Rhonda Heston, 52735 187th Ave, Chariton IA 50049-8616.

R.Heston@yahoo.com . 515-724-2124.

IHPA Membership

It's never too late or too early to renew your membership. Annual memberships are valid for a calendar year, January through December. The date of the back of this BUZZ Newsletter tells you when your membership expires.

Dues are \$20 for the first beekeeper in the house. Each additional beekeeper in the house is \$5. One BUZZ Newsletter will be sent to one address no matter how many members there are in the household.

No need to send your membership dues now, I'll remind you again closer to the end of the year. If you have any questions about your membership, please contact Rhonda Heston, R.Heston@yahoo.com or 515-724-2124.



GUIDE TO VARROA CONTROL

The Honey Bee Health Coalition has completed the first edition of 'Tools for Varroa Management, A Guide to Effective Sampling & Control.' The guide lays out an Integrated Pest Management (IPM) strategy for managing Varroa mite infestations; including how to monitor mite levels, chemical and non-chemical methods to control the mites, and methods to determine which treatment is appropriate for a beekeeper to use at different phases in a colony's life cycle. The guide can be found at <http://honeybeehealthcoalition.org/Varroa>



A first glimpse of the impressive 2015 Buzz Quilt!

IOWA HONEY PRODUCERS ASSOCIATION COOKBOOK

This recipe is being submitted for: Iowa Honey Producers Association (2016 cookbook)

Name of Recipe: _____

Submitted by: _____

INGREDIENTS: (List **all** ingredients in their **proper** order: 1, 2, etc. **Please type or print neatly.**)

#1 _____

#2 _____

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

METHOD: (Be sure to include: *Size & type of container *Time *Temperature *Yield)

COMMENTS:

Please send form to: Jodi Kraft, IHPA Cookbook Chair

P.O. Box 1, Goldfield, IA 50542-0001

These cookbooks will be available at the 2016 Iowa State Fair, please submit by March 1, 2016.

If necessary, continue on back of sheet. (Please mark the bottom of this sheet "over".)



2015 IHPA Donation Proposal Form



The Iowa Honey Producers Association supports honeybee and beekeeping research through donations to research projects during the IHPA Annual Meeting.

Starting in 2014 the IHPA Donation Proposal Form will need to be submitted during the Submission Period prior to the Annual Meeting. The IHPA Board will review the stated use of the donation to confirm the use is in line with the goal of promoting continued research in honeybees and beekeeping. This review will allow the board time to request additional information if needed and ensure total proposed donations do not exceed the association's budget for research donations.

With acceptance by the IHPA Board, the Donation Proposal will be brought to the floor during the Business Meeting of the Annual Meeting for a vote by the members. Donation Proposals can be made by anyone with a current IHPA membership. Members are encouraged to help the association to identify research projects that will continue to work for the benefit of honeybees, beekeepers, and the honey industry.

Submission Deadline: October 1st, 2015
Submission Period: July 1st – October 1st, 2015

IHPA Member submitting the Donation Proposal.

Name: _____

Address: _____

Phone Number: _____

Email: _____

Donation Proposal

Proposed dollar amount of the IHPA donation: \$ _____

Contact information for head researcher / project organization.

Name: _____

Address: _____

Phone Number: _____

Email: _____

Please provide a description of how the proposed donation would be used regarding your research relating to honeybees, beekeeping, or the honey industry.

Please send Donation Proposal Forms to IHPA Treasurer, 52735 187th Avenue, Chariton, Iowa 50049



Featured Beekeeper of the Month

This month our featured beekeeper is Jeret Crow Schrader. He is a member of the IHPA youth mentor program. Last month we printed his brother AJ's story. Jeret lives with his parents, Adam and June Schrader, and his brothers AJ and Seth, near Marion Iowa. Jeret attends Linn-Mar High School where he is in the 9th grade. He likes listening to music, swimming and is involved in 4-H and FFA. He is the reporter for the Whittier Willing Workers 4-H club. He says he doesn't have any plans for after high school yet because he is not a planner.

The Iowa Honey Queen told him about the mentor program when he was at the Iowa State Fair. Now he is learning the art of beekeeping with his two brothers, and Larry Spina, his men-



Jeret Crow Schrader

tor. Jeret bought the book *Beekeeping for Dummies* at the IHPA meeting and read it before he started his classes at the Indian Creek Nature Center. He made a scrapbook about getting started in beekeeping for a 4-H project and showed it at the Linn County Fair, where he got a blue ribbon. He also gave a presentation to his 4-H club about beekeeping and the Langstroth Hive. Since the hives are close to the house and the boys can watch them easily they made a bee zone sign to make people aware. They also put mulch around to keep the weeds out and used glass stones in a bird bath as a water source for the bees. This project netted another blue ribbon at the fair.



Jeret also volunteered at Honey Fest at the Indian Creek Nature Center and helped extract honey. He is helping with an observation hive project at a friends orchard next year. He plans to expand to two colonies this spring.

Thanks for your story Jeret.



L-R: Seth AJ & Jeret Crow Schrader with their hives.

Right:

Jeret Crow Schrader's Bee Zone for their hives.



Left:

Jeret & AJ Crow Schrader getting ready to install bees.



Jeret Crow Schrader at bee class at the Indian Creek Nature Center

Glen L. Stanley

Glen L. Stanley
Ames

Glen LeRoy Stanley: Born to Orin Henry and Pearl Ora Stanley, July 13th, 1917, in Decatur County Iowa, joined a loving God on August 3rd, 2015. A gathering of friends and family will be 9:30 - 11:00 a.m. with an 11:00 a.m. funeral service on Saturday August 8th, 2015 at Grandon Funeral and Cremation Care, 414 Lincoln Way in Ames.

Glen attended country grammar school and High School at Decatur City and Leon, Iowa. Glen and his brother, Lloyd and sister, Leota, walked 2 miles to county school every day. He often said, "We were well served by making that effort." He loved school and was a lifelong learner. During those years Glen attended church at Elk Chapel country church. When church was no longer held there, Glen went to Sunday school and church in Leon. He often was ask to play the banjo in the church orchestra and sing in the choir.

At a very early age he assisted his father with his beekeeping enterprise along with farm chores. He continued with farming until joining his father in the beekeeping business in 1937. In 1938, he and his father and brother, Lloyd formed a partnership and in 1939 they built the Honey Processing Plant on Main Street in Gilbert. The Stanley Brother's harvested and processed 250,000 lbs. of honey in 1941, shipping it by rail to many locations. Working with his brother for 58 years were the most wonderful years of his life.

Glen joined the United States Army, January 12, 1942 to January 12, 1946. He fought in the Battle of the Bulge.

In 1949, he was hired by the Iowa Department of Agriculture to

serve as Apiary Inspector. In 1961, he was appointed Director of the Apiary Division where he remained until his retirement in 1988 at 72 years of age. During those 39 years, with the cooperation of Iowa beekeepers he was able to improve the quality of beekeeping and honey production. He did more for the Beekeeping industry than had ever been done by any Iowan. During those years, Glen set up the elaborate honey bee display at the Iowa State Fair and enjoyed telling everyone about the importance of the honeybee. He was a dedicated Apiarist becoming one of the most sought after honey bee educators in the mid-west as well as Europe. He wrote many articles for the Bee Journal and received many honors for his efforts.

Glen was a kind, gracious, and humble man whose character was defined by his genuineness and his wonderful sense of humor. He enjoyed spending time with his friends, playing the banjo, and sharing knowledge concerning the importance of the honey bees.

Glen was preceded in death by his wife, Gladys, sister, Leota and brother, Lloyd.

He is survived by one step son, Robert Granson and two grandsons, Greg, wife Stacey and children, Emily Jolynn, Bethann and Faith , also, Marc Granson from TX. His nephew's, Lyle Stanley, Kris Stanley and wife Jan and family. Many friends and his special friend, Jan, who he thought of as his own daughter and her loving family.



Glen L. Stanley

July 13th, 1917 — August 3rd, 2015

Online condolences may be directed to www.grandonfuneralandcremationcare.com

Funeral Home

Grandon Funeral and Cremation Care
414 Lincoln Way Ames, IA 50010
(515) 292-2273

Published in Des Moines Register on Aug. 5, 2015

To: The Buzz Newsletter

The family of Glen Stanley would like to extend a Special Thank you for the beautiful flowers that the Iowa Honey Producers Association sent on his behalf. To those friends who sent cards, or came to share their great memories of a dearly loved Honey Bee Keeper. Glen would say to you all, "keep up the good work and above all, protect our honeybees, as they are so valuable."

Thank you,

Jan Sobotka



BROTHER ADAM AND THE BUCKFAST BEES IN ONTARIO

While this story is well known to beekeepers in Canada, few south of the border will know it. Here then is the story of how Brother Adam and the Buckfast Bee came to be at the heart of

the University of Guelph's honey bee program -



Buckfast Breeding

In the first and second decade of the 1900's devastating losses of honey bee colonies occurred in England. At the time the cause wasn't known but since it seemed to have started on the Isle of Wight the disease was named for its apparent origin. Much later it was recognized that the problem was caused by the parasitic mite *Acarapis woodi* or tracheal mite. A young monk working with bees at Buckfast Abbey in Devon England became intrigued by the tolerance or susceptibility of different races of bees to this disease. This monk, known as Brother Adam, spent the next seventy years breeding bees with a singular devotion.

Brother Adam was able to apply the recent revelations about genetics by designing a breeding system. He recognized that because queens mate with multiple drones of unknown genetic backgrounds he would have to control the mating to achieve significant results. Fortunately Buckfast Abbey is relatively close to the Moors, an area where no trees grow so no bees can survive in the wild. By moving colonies to this area with the drone stock he had selected, he could ensure that the virgin queens in his nucleus colonies could only mate with his selected drones. Going one step further, he inbred the drone lines and had the drone colonies headed by sister queens. The drones produced in these colonies are therefore almost genetically identical so he could do pedigree breeding just as is practiced in all mammal breeding programs. Each year one drone line was selected and multiple queen lines were mated with it. This produced a number of combinations to test each year. Pedigree breeding allowed him to keep records of all the genetic combinations from both the male and female side, similar to the family trees people use to record their ancestry.

Brother Adam's breeding system has a three year cycle. In the first year a minimum group of thirty queens of each combination are produced and introduced to colonies. In the second year the mature colonies are tested and several breeder queens are selected from each group. In the third year, larvae from breeder queens are grafted to rear new queens. The drone producing colonies are requeened in the fall if a new drone line is required the following year. Since worker bees eject drones in the fall, only drones from the new queens are present in the spring.

Brother Adam thought that bees should be productive, easy to manage and pleasant to work with. His main selection criteria were therefore; low tendency of swarming, lack of aggression and calmness or what he referred to as comb stability. He developed a simple scoring system for recording observations of these characteristics. Colonies were also required to be above average in honey production to be selected for

breeding. Because all combinations were made with only one drone line each year it was most important that the drone line have all the main characteristics consistently expressed. He travelled extensively to search for strains of bees which had positive traits and crossed these with his stable drone lines. Some of these new combinations proved worthwhile but others were abandoned even after years of re-crossing, high swarm tendency being the hardest trait to eliminate from some strains.

Many bee breeders, especially in Europe, have adopted Brother Adam's methods and used his stock. Until 1990, however, only the Weavers of Texas had bred this stock in North America. In the 1960's, Dr. Maurice Smith of the University of Guelph brought Buckfast eggs and semen to the Weavers from Buckfast Abbey. At the time, of course, most Canadian beekeepers imported their queens from large queen rearing operations in the United States.

Tracheal mites eventually made it to the United States in the 1980's and colony losses were extensive. Prior to the arrival of tracheal mites in Canada our University of Guelph research program, led by Dr. Gard Otis and Dr. Cynthia Scott-Dupree at the time, did many projects in the northern United States to study the effects of tracheal mite and to test control measures. We reasoned the best control measure was to breed for resistance and started the tracheal mite resistance breeding program. We also imported Buckfast stock from Brother Adam in 1989 to gain presumed tracheal mite resistance within bees known for their beneficial attributes. This was the first time honey bees had been imported into Canada from a European country since imports were banned in 1927 due to the Isle of Wight disease. Of course the import protocol required quarantine procedures and a great deal of effort to ensure we didn't import foreign pathogens. Subsequent research projects demonstrated that, as suspected, Buckfast stock were highly resistant to tracheal mites.

We continued to import Buckfast stock in the following years, first from the Abbey and later from the breeder Brother Adam recommended, Keld Brandstrup of Buckfast Denmark Ltd. Ontario beekeepers Barry Davies, Paul Montoux, Rick Neilsen and the University of Guelph all invested in purchasing breeder queens, established isolated mating stations, and became registered Buckfast breeders. Registration required a commitment to use Brother Adam's breeding system and to pay royalties to the Abbey. Only registered Buckfast breeders are allowed to use the term Buckfast when advertising colonies or queens for sale. The stock gained widespread approval in the province and was maintained and improved through continued selective breeding by the Ontario Buckfast Breeders. The University of Guelph is now the only original registered Buckfast breeder in Ontario. Fortunately three other bee breeders have joined the program and we now call our group Buckfast Ontario Breeders (B.O.B.). These breeders

are Gabriella Berger of Georgian Bay Honey in Owen Sound, Bill Ferguson of Ferguson Apiaries in Hensall, and the Bryans family of Munro Honey and Meadery in Alvinston. The University of Guelph apiaries sell only breeder queens. Buckfast Ontario imported 11 breeder queens from Denmark in 2010 and seven more in 2011.

After seventy-eight years of beekeeping Brother Adam retired in 1990 at the age of 93. (He died in 1996, age 99.) His legacy of breeding productive, gentle bees is carried on internationally by many breeders. We are proud to be associated with these efforts.

University of Guelph

<http://www.uoguelph.ca/honeybee/breeding.shtml>



Bee Health App

Android and iPhone

Description:

The Bee Health app is based on current scientific knowledge to address honey bee diseases and pests. It is a handy resource to help beekeepers and other users to detect, diagnose, manage and treat honey bee diseases and pests. It includes pictures and treatment options which aid beekeepers in adopting appropriate pest management practices. Thus, beekeepers can improve bee health and enhance on-farm food safety and biosecurity practices in their operations.

Download the free Bee Health app from Alberta Agriculture and Forestry today.

<http://www.programs.alberta.ca/17713.aspx#ad-image-0>



103rd Annual Meeting of the Iowa Honey Producers Association November 13th & 14th, 2015

**Clarion Hotel & Convention Center
525 33rd Avenue, SW
Cedar Rapids, IA 52404**

The IHPA Annual Meeting will be held Friday, November 13th & Saturday, November 14th in Cedar Rapids at the **Clarion Hotel (319) 366-8671**. Room rates are \$69 per room plus taxes. You must tell them that you are booking your room for the Iowa Honey Producers Association Annual Meeting to get this room rate.

The IHPA Annual Meeting is our yearly opportunity to get together and discuss the wonders as well as mysteries of beekeeping. This meeting is open to anyone interested in beekeeping or honeybees. We have a variety of guest speakers from across the US come to speak on their expertise in the beekeeping world. For current beekeepers this is a great time to hear what is new in beekeeping or ask questions of those with a greater number of years' experience. Those who are thinking about getting started in beekeeping will have numerous chances to ask, "what's it like to keep bees?" There will be no shortage of answers. Beekeepers love to share the stories, fun, and enjoyment they have found in beekeeping.

2015 Annual Meeting Speakers include the following:

Meghan Milbrath, Greg Haniford, Michelle Colopy, Mary Harris, and Adam Dolezal. Roy Kraft, IHPA VP, will be hosting a round table on "wintering bees in cold climates". His guests will be Phil Ebert, Bob Fastbinder, and Meghan Milbrath.

Please think about entering our photo contest, cooking with honey contest, mead contest, hive body paint design, or bringing items for the Queen Program and silent auction! Consider attending the banquet and enjoying fellowship with your fellow beekeepers!

Additional Annual Meeting information will be in the September issue of the Buzz Newsletter including contest and banquet information.

HONEY BEES EVOLVE RAPIDLY TO OVERCOME DISEASE

Okinawa Institute of Science and Technology (OIST) Graduate University

An international research team has some good news for the honey bee and the millions of people who depend on them to pollinate crops and other plants.

These valuable pollinators have faced colony losses over the past decade, largely due to the spread of a predatory mite called the Varroa mite. But the bees might not be in as dire a state as it seems, according to research recently published in Nature Communications.

Researchers found a population of wild bees from around Ithaca, New York, which is as strong today as ever, despite the mites invading the region in the mid-1990s.

"They took a hit, but they recovered," said Alexander Mikheyev, a professor at the Okinawa Institute of Science and Technology Graduate University (OIST) in Japan and lead paper author. "The population appears to have developed genetic resistance."

Mikheyev and his collaborators at OIST and Cornell University studied the population genetics of the wild colony by comparing the DNA of specimens collected in 1977 with bees collected from the same forest in 2010. To conduct the study, they developed a new DNA analysis tool that works especially well for degraded DNA stored in museum samples.

Such a study is extremely rare, especially with bees. Few people collect them, and even fewer collect in a way that is good enough for a population level study. Luckily, Cornell Professor Tom Seeley worked in this area during his Ph.D., and deposited his samples in the Cornell University Insect Collection. This is the first time scientists have been able to observe genome-wide changes after a specific event like the mite invasion.

"By using museum specimens, we see how evolution happens as compared to how we think it happens," said Mikheyev, who runs OIST's Ecology and Evolution Unit.

Many people think of evolution happening over thousands or millions of years, but in fact, it is happening from generation to generation. External forces cause certain traits to be selected and passed on to offspring to enhance their chance of survival and reproduction. By comparing bees from the same colony only a few decades apart, the team was able to see this natural selection in action.

The bees changed in several different ways.

First, mitochondrial DNA, the genetic material stored in cells' power plants, changed significantly from the older generation to the newer generation. That genetic material is only passed on from the mothers, so a major change indicates the old queen bees were wiped out and there were large-scale population losses. Even so, the population still maintained a high level of genetic diversity throughout the rest of genome, which is stored in the cell nucleus. Genetic diversity is the raw material for evolution, and high genetic diversity increases the chance for successful adaptation.

One of the most interesting changes in the bee population was in a gene related to a dopamine receptor known to control aversion learning. Another study has suggested this receptor is involved with bees grooming themselves to get rid of the mites by chewing them up.

The researchers also found many changes in genes associated with development. Mites reproduce and feed on the bee during the bees' larval stage, so the researchers hypothesize that bees evolved to disrupt that process. Also, there were physical changes - today's bees are smaller than the older bees and their wing shape is different.

The researchers note changes observed cannot be prescribed to any one factor, such as the mites, because the timeframe is too long. However, many of the changes are too large to be due to random genetic fluctuations, or the introduction of genes from other sources, like Africanized bees. The strongest driver of the observed changes was still natural selection.

"These findings identify candidate genes that could be used for breeding more resistant bees, such as the dopamine receptor gene," Mikheyev said. "More importantly, it suggests the importance of maintaining high levels of genetic diversity in domestic bee stocks, which may help overcome future diseases." www.eurekalert.org/pub_releases/2015-08/oios-hbr081915.php

MUSSEN ON PESTICIDES 2015

We're always happy to hear from Dr. Mussen. This item appeared in the most recent Project Apis m. newsletter at <http://beekeep.info/apis-newsletter/>

Not too long ago, our chief concerns about most insecticides and honey bees were acute poisoning with organophosphate and carbamate products. While many colonies died outright, many more survived with contaminated pollens that caused up-to-a-month mortality of newly emerged adult workers that consumed the pollen. The notable exception was PennCap-M, where stored contaminated pollen would kill bees up to a year later.

The pyrethroids came next and were a bit more subtle. The quick-killing compounds eliminated foraging populations without leaving large numbers of dead bees in and around the

hives. Pyrethroid-contaminated pollens appeared not to be much of a problem until cold weather arrived. When bees that ate the contaminated pollen moved to the outer layer of winter clusters their cooler body temperatures could not detoxify pyrethroid residues. This phenomenon led to significantly increased winter colony losses.

With a few notable exceptions, the use of fungicides and insect growth regulators (IGRs) in commercial agriculture resulted in few detectable detrimental effects on foraging bees or colony populations. Pesticide applications containing adjuvants, such as emulsifiers, spreaders, stickers, etc. appeared to cause few problems for foraging bees and their colonies.

Since crop pests tend to become selected for resistance over time, chemists continue to develop pesticides that use unique biochemistry disruptors to inhibit growth or kill target pests. Since it is difficult to find metabolic pathways that interfere only with the pest of interest, these chemistries can affect "non-targets." This is particularly true when many pesticides and adjuvants are tank-mixed together and applied to bee-attractive bloom. Many of these combinations have been shown to increase physiological effects of components (synergism) such that mixes, expected to be benign to bees, kill them.

Additionally, while we used to worry about insecticide residues in the parts per million (PPM), newer chemicals produce negative effects at parts per billion (PPB), and recent research suggests that hormonal effects at parts per trillion (PPT) may be more common than anyone expected. Currently we are just beginning to develop ways to find such tiny quantities of these residues. It would be interesting to determine if honey bee's biological detoxification systems are activated by such low level concentrations in bee bodies, or the chemicals still can produce negative effects without being detected.

Researchers and regulators have to adjust to new realities of toxic effects and synergisms of pesticides at mostly undetectable levels.

Given all this, if we wish to protect honey bees and other pollinators, we should attempt not to apply ANY pesticide to bee-attractive bloom of any kind - commercial agriculture, backyard gardens, or pestiferous weeds.

Dr. Eric Mussen
Emeritus Extension Apiculturist

CAN BEES FLY IN THE RAIN?

Facts about Honey Bees and Pesticides
By Dick Rogers, Principal Scientist / Entomologist, Bayer Bee Care Center



We received a question on Twitter recently about the impact that rain has on the ability of bees to pollinate crops. The tweet noted that it had been raining every day in Ohio, thus making it difficult for the bees to get their work done.

Can bees fly in the rain? In DreamWorks's animated Bee Movie, character Barry B. Benson, a honey bee (voice of Jerry Seinfeld), gets caught out of the hive during a rain storm. Two large rain droplets pound him off of his flight course, and he is forced to seek shelter through an open apartment window. Of course, everyone knows that worker honey bees are females, right? So, although the gender of the bees in this movie is inaccurate, the seeking shelter from rain part is real.

Animated films often play a bit loosely with the facts, and some of the Bee Movie's bee facts are no exception. But the movie's statement that bees can't fly in the rain, as it turns out, is pretty accurate. Honey bees, and flying insects in general, do not fly in certain conditions of rain. Mist, for example, can easily cover a bee and interfere with its flight aerodynamics. Bee flight muscles typically beat 12,000 times per minute, and mist can impede these wing beats. In addition, water can accumulate on the bee's hairy body, becoming a weight issue.

In heavy rain, such as that faced by Barry in the Bee Movie, large droplets can hit a bee in flight and knock it out of the air similar to being hit by a blast from a water cannon. In addition, rain clouds can block the sun and may interfere with bee navigation, as well as reducing solar radiation, which can help heat up flight muscles. The coolness of the rain water also can lower the bee's body temperature and impede activity, including flight.

If a bee is out and a rain shower pops up, it will seek shelter and return to the hive later. Or if bees are already in the hive, they will stay put until a break in the rain and all conditions are suitable for flight.

Interesting fact: Firefighters use a wall of mist to control bee flight and protect rescue workers when bees are spilled on highways when trucks transporting hives of bees for pollination accidentally tip over.

Go to <https://www.bayercropscience.us/news/blog/2015/july/072715-you-ask-we-answer---can-bees-fly-in-the-rain> to ask your questions (scroll to the bottom for the form).

The Buzz Newsletter Article Submissions

Please send submissions, classified ads, and photos to Alex Ebert by email to TheBuzz@ABuzzAboutBees.com or alex.ebert@eberthoney.com or by mail to The Buzz, c/o Alex Ebert, 14808 S. 102nd Ave. E., Lynnville, IA 50153.

The deadline for submissions is the 10th of each month to be included in the following month's newsletter. The Buzz is a monthly newsletter published by the Iowa Honey Producers Association which is an affiliate of the Iowa State Horticultural Society.



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Cedar hive ware. Check us out on the web at:

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Service, Quality, and
Dependability."



BL Plastic Containers, LLC
1425 Metro E. Drive Unit 109
Pleasant Hill, IA 50327

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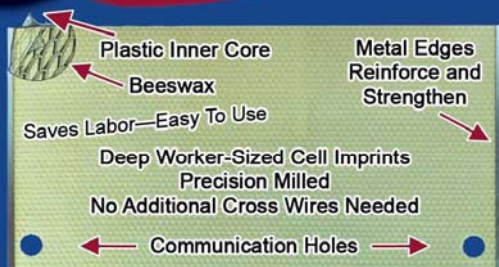
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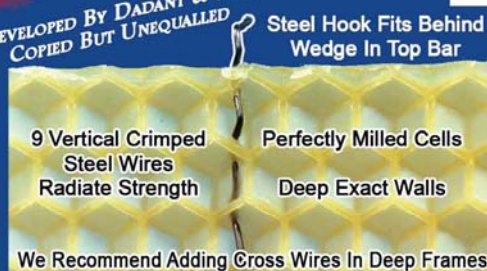
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The Buzz Newsletter

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