



Canadian beekeepers face devastating colony losses

Many beekeepers across Canada report colony losses “significantly worse” than in previous years, blaming increased Varroa destructor mite activity.



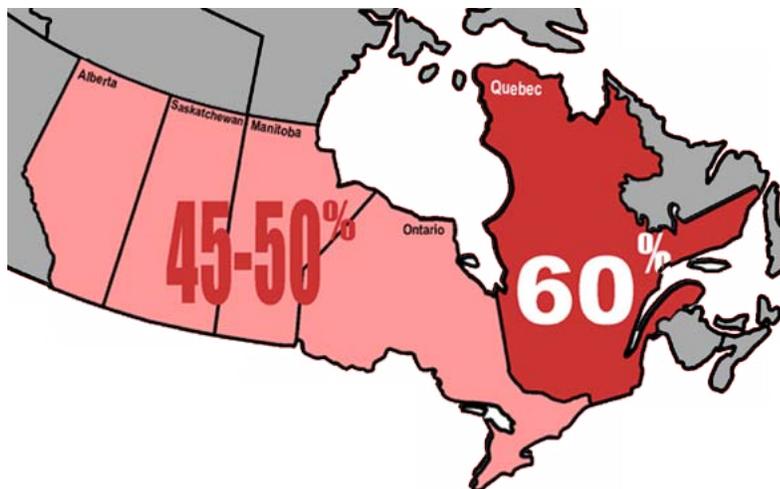
Paul Kelly.
(University of
Guelph photo)

The mite damage will create “a big challenge” over the next few years for beekeepers, says **University of Guelph** expert **Paul Kelly**, research and apiary manager at U of G’s **Honey Bee Research Centre (HBRC)**. It could take beekeepers up to three years to recover from the high colony losses this year, he estimated.

“Beekeepers of all scale and experience levels are affected. Some have had total colony losses,” said Kelly. “It’s too early to say precisely, but I expect the average local losses will top 50 percent,” he said.

According to the **Canadian Honey Council**, beekeepers in Alberta and Manitoba have lost an average of 40 to 45 percent of their honey bees so far this year. In Quebec, losses are about 60 percent. In Ontario, where losses are also about 40 to 45 percent, beekeepers are appealing for government help rebuilding hives.

At HBRC, the losses are about 25 per cent, Kelly estimated. Apiary locations where their hives had unusually



Beltsville lab accepting samples once again

Restrictions have been lifted that prohibited inspectors and beekeepers from submitting adult bees and brood samples for examination, announced **Samuel K. Abban**, biological service technician for the **United States Department of Agriculture’s Agricultural Research Service (USDA-ARS)** laboratory in Beltsville, Md.

Processing of lab work had been suspended since the COVID outbreak of 2020.

There is no charge for the lab to diagnose bee diseases from properly submitted samples.

“The diagnosis of bee diseases has been a focus of this lab since 1891. and we operate a ‘Bee Disease Diagnosis Service’ for beekeepers across the U.S.,” Abban said.

“We will not be accepting samples as part of a research or grant project as we gradually get back to normal operation,” Abban said in an email.

See **CANADA**, *next page*

See **SAMPLES**, *next page*

CANADA ... *from previous page*

high bee populations last spring experienced the greatest colony mortality this spring, which fits a predictable pattern of losses caused by Varroa mites, he explained.

The mite takes blood and protein reserves from adult bees and pupae, transmitting viruses and reducing an insect's immune responses.

"They are in every one of our hives. It's just a matter of how many there are and whether they are causing damage," Kelly said.

Mite reproductive rates depend on spring weather conditions, he said, and in last year's early spring they were able to reproduce quickly and wipe out colonies over the fall and winter. "Early bee population buildup in 2021 provided ideal conditions for mite population growth" last year, he said. Kelly has worked with bees for more than three decades and produces videos on beekeeping for HBRC's YouTube channel.

SAMPLES ... *from previous page*

Samples received of adult bees and beeswax comb (with and without bee brood) are examined for bacterial, fungal, and microsporidian diseases as well as for two species of parasitic mites and other pests associated with honey bees (*i.e.*, small hive beetle, *Aethina tumida*).

When requested, American foulbrood samples are cultured and isolates are screened for their sensitivity to Terramycin (oxytetracycline) and Tylan (tylosin).

"We do not analyze samples (bees, wax comb, pollen, *etc.*) for the presence of viruses or pesticide residue," Abban said. "We do not make determinations about which species of nosema (*N. apis* or *N. ceranae*) is present, when nosema disease is detected." Diagnostic reports are transmitted to the beekeeper, the submitter of the samples, and to the appropriate apiary inspectors.

The lab accepts only samples originating from the U.S. and its territories.

Samuel K. Abban: (301) 504-8821 or samuel.abban@usda.gov.

Wayne Steffins new in New Mexico

NEW MEXICO. Wayne Steffins (wsteffens@nmda.nmsu.edu) is the new apiary contact for New Mexico.

Heartland Apicultural Society conference set June 28-July 1

The "Buzz of the Heartland" annual conference of the Heartland Apicultural Society is set for June 28 through July 1 in Evansville, Ind. Featured speakers will include Randy Oliver, Jerry Hayes, and Dr. Brock Harpur of Purdue University, and Dr. Dewey Caron of Oregon State University, along with John Benham, Jim Berndt, Chuck Dailey, Brutz English, Krispn Given, David Hocutt, Jake Osbourne, Charlie Parton, Kathleen Prough, Tony Rekeweg, Debbie Seib, Mike Seib, and Blake Shook.

Registration and dorm/hotel information: heartlandbees.org.



Utah – beauty, and losses

"Spring has sprung in Utah," reports the Beehive State's JENNA CROWDER, diagnostic entomologist for the Utah Department of Agriculture and Food. Above is the tulip festival in Lehi, Utah's Thanksgiving Point, in Ashton Gardens. (Photo © Thanksgiving Point, from website rove.me.) However, Crowder continues, "In the midst of bright tulip blooms, the melting mountain snow reveals the first wave of dead-out hives along the Wasatch front." Varroa mites remain the most common cause of winter colony losses, she reports.

Spongy moth egg mass complicates bees' journey

ARIZONA. Jack Peterson: "Nothing has changed for Arizona. No active bee inspection program, bees must be in compliance with federal and state phytosanitary standards to be brought into or out of Arizona.

"We recently had an incident of bees going into California for almonds and a spongy moth egg mass was found on one of the hives. The truck was turned around back to Arizona to deal with the egg mass even though Arizona was not its originating state. Everyone please be on the lookout."

Time to fight the small hive beetle, on two fronts

By Tammy Horn Potter
Kentucky State Apiarist

This year, June began with firecracker temperatures in the 90s F, ideal for female **small hive beetles** to begin laying eggs anywhere in the hive that they can insert their ovipositors.

Ideally, beekeepers had been already been preparing for small hive beetles in May. This battle with small hive beetles should take two fronts, inside the hive and outside the hive.

Attack inside and out

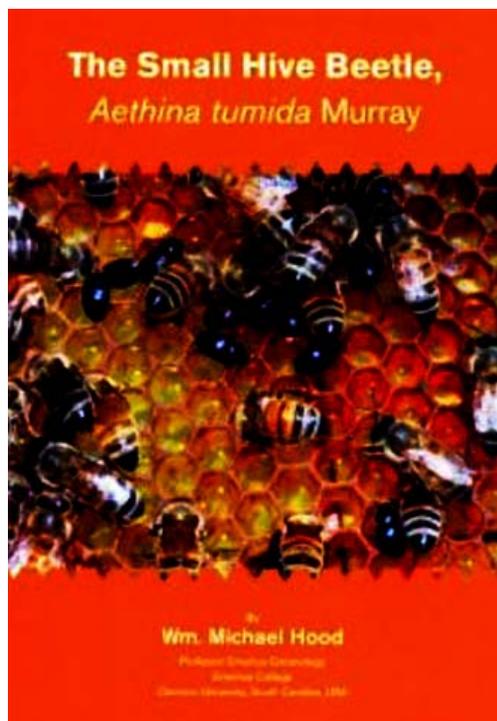
Internal controls include a wide variety of traps, designed to attract small hive beetles into devices filled with oil and/or some type of lure.

These are economically easy on the wallet, but can be very messy if you forget that the traps are between the frames and take the super off and place on its side while you are doing inspections. The worker bees may also propolis the slats on the traps. And frankly, the population of small hive beetles may be so large that the traps are ineffective.

Another popular interior trap is a towel designed to catch the beetles. Some products are called Beetle Bee Gone and Beetle Towel. These “towels” have the advantages of being non-chemical and also less messy.



Small hive beetles. Photographer: Jessica Louque Affiliation: Smithers Visient Source: Bugwood.org Copyright: CC BY 3.0 US



DR. MIKE HOOD'S book *The Small Hive Beetle* is a great resource for any beekeeper's library. He gave an informative talk to the Kentucky State Beekeepers Association in 2021.

External controls include simple salt being placed under and around the apiary. Salt can hinder the pupae development of small hive beetles. Diatomaceous earth, available at garden centers, can also be effective.

Most of us have heard that the best defense against small hive beetles is keeping hives strong with plenty of populations. That is true, but sometimes the small hive beetle populations get out of hand without your knowledge. If that is the case, Checkmite is still considered a chemical control for small hive beetles, but use protective gear when applying this product. Be sure to read the label for proper application methods.

Fallback position

Just a reminder that small hive beetles pupate in the ground, so if you shut a hive down because the beetles have taken over, break the pupation cycle by starting a new hive elsewhere. In other words, don't put another hive back in the same place where the small hive beetles are pupating.

Furthermore, I like to remind people about **Jennifer Berry's** advice to take a hive tool or a hoe and lightly turn the soil so that the small hive beetle pupae are exposed to the sunshine. This kills the pupae in a way that doesn't involve chemicals, and is free.

North American Mite-A-Thon summer session begins soon; report mite data Aug. 13-28

Mite-A-Thon is an international effort twice a year to help beekeepers gain knowledge of the level of mite infestation their hives are carrying at the beginning of the season and just before the overwintering season begins.

All beekeepers can participate from throughout North America. Your Varroa monitoring data uploaded to www.mitecheck.com provides the basis of a general report without identifying individual participants. The data collected by participants helps to visualize Varroa infestations in honey bee colonies across North America within a two-week window.

The collected data from a rich distribution of sampling sites in Canada, Mexico, and the United States engages newer members and re-familiarizes long-time members with proper Varroa monitoring techniques.

Pollinator Partnership promotes the health of pollinators, critical to food and ecosystems, through conservation, education, and research.

Testing early in the spring season was held to get a leg up on mite infestations and learn monitoring techniques. The August testing is important because over-wintering success is at least partially dependent on mite loads.

Participants will monitor the level of mites (number of mites per 100 bees) using a standardized protocol utilizing



two common methods of assessment (powdered sugar roll or alcohol wash) and then enter data, including location, total number of hives, number of hives tested, local habitat, and the number of Varroa mites counted from each hive. The published information will not identify individual participants, but will contribute greatly to ongoing research.

Determine your preferred method of testing for mites and commit to testing in August. Report your data at www.mitecheck.com.

There is a prize for the beekeeping organization that creates the best outreach and participation. Take photos of your group events.

Necessary Actions:

Visit the Mite-A-Thon Web site and sign up for updates at www.pollinator.org/miteathon/miteathonsignup.

View the 2020 report at www.pollinator.org/miteathon.

NY Times will publish your bee photo

The New York Times Games Department runs a photo of a bee at the heading of each Spelling Bee Forum. Many commenters in the forum like to discuss the types of flowers, insects and scenery in the photos. They invite you to submit your original images to have one featured at the top of the Forum, on the newspaper's social media accounts, or both.

Image Requirements: Photo must have a bee as its focal point (please avoid images of people). The photo must have been taken by you, and must not have already been published anywhere else. The file should be in a 16:9 or 16:10 aspect ratio, resolution above 1920x1080, and in PNG or JPG format.

Submit files to: https://www.nytimes.com/2022/05/23/crosswords/bee-forum-photo-submissions.html?unlocked_article_code=AAAAAAAAAAAAAAAAACEIPuomT1JKd6J17Vw1cRCFTTMQmqxCdw_Plxftm3iWka3DIDmwZiO8PBJO b5EDXabEkbdY-mjqcXsJEdacvQ-B1i_



Photo by Yuri Cortez/AFP via Getty Images

MP3 group works to develop online pesticide courses

A series of targeted online courses for specialized areas of the pesticide industry has been proposed for grant funding by **Ana Heck** of Michigan State University and **Randall Cass** of Iowa State University.

A working group of professionals exploring **managed pollinator protection plans (MP3s)** have met online monthly for the past two years constructing the courses.

Heck and Cass made a presentation to the **American Beekeeping Federation** national conference in Las Vegas last January, seeking funding to develop a specialized series of online certification courses. The presentation was titled “Which Way Forward for Managed Pollinator Protection Plans (MP3s) and IPM4Bees.”

“Unlike many pesticide applicator credit clinics that require attendance at a certain time and location, our standalone online [internet-based] course will allow participants to take the course at any time,” Heck said in the proposal summary.

The group’s monthly online meetings concern topics such as managed bumble bees, pollinator protection on rights-of-way, and the Environmental Protection Agency’s relationship with MP3s.

The MP3 group now has 25 members in 16 states, including Iowa, Kentucky, Massachusetts, Michigan, Nebraska, Oregon, Tennessee, Vermont, and Washington. Montana and New Mexico are currently reviving their MP3 efforts, Heck said.



Randall Cass.

The group has nearly finished the first online course. The next step is to seek approval by states for pesticide applicator re-certification credits.

The materials have so far primarily focused on specialty crop growers who contract managed bees for pollination. The group next wants to create educational materials on pollinator Integrated



Ann Heck, and friends.

Pest Management (IPM) for pesticide applicators, beekeepers, gardeners, landscaping professionals, pollinator health, rights-of-way, seed treatments, new pesticide applicators, and understanding pesticide labels.

The completed courses would be made available to individual states to modify to their specific requirements.

One idea of special interest to apiarists and inspectors is a course with information for beekeepers on how to follow pesticide regulations for in-hive treatments.

To add in your state’s MP3 efforts, or to ask Heck about the online seminars program, contact the “Ask an Expert” MSU portal: canr.msu.edu/outreach/ask-an-expert.



Working group member Dr. Judy Wu-Smart, University of Nebraska entomologist, provided the conference’s keynote lecture on bee kills from systemic pesticide pollution and the implications to beekeepers. She promoted the use of monitoring traps to investigate the causes of pesticide-related bee losses.

EAS summer conference returns to in-person format

The annual conference of the **Eastern Apicultural Society (EAS)**, themed *“Beeing Social, Again,”* will be held **Aug. 1-5 at Ithaca College, Ithaca, N.Y.**

There will be a short course from Monday, Aug. 1 to Wednesday, Aug. 3, and the main conference runs from Wednesday, Aug. 3 to Friday, Aug. 5.

The short course features pathways for all levels of expertise as well as a day-long queen-rearing workshop and a microscopy session. Morning plenary sessions, afternoon breakouts, dinners, social events, auctions, a children’s program, travel to a commercial beekeeper and the Cornell University Botanic Gardens and Mann Library Bee Collection are all offered during this jam-packed week of bee information, socializing and being connected.

Registration fees will depend on the meals and housing options chosen when registering online at the EAS website.

The short course and main conference features **Dr. Tom Seeley**, professor *emeritus* of biology in the Department of Neurobiology and Behavior at Cornell University; and **Dr. Scott McArt** and **Emma Walters**, also of Cornell.

The short course will feature experiences for all levels, from beginners to advanced. The historic **Dyce Lab** will serve as the site of a portion of the short course as well as a microscopy component for the short and full conferences.



**EAS
2022**

**Beeing
Social,
Again**

Ithaca College
Ithaca, N.Y
Aug. 1-5, 2022

Master Beekeeper certifications of pre-registered candidates will be certified in oral, field, lab, and written components held Tuesday and Wednesday, Aug. 2-3 to recognize qualified beekeepers who will provide education and assistance to beginning beekeepers and serve in other capacities in the community as experts in beekeeping.

Additional social events will include a “dine-around Ithaca” on Monday evening, with registrants joining a local beekeeper at one of the varied restaurants in the area to chat about bees and sample the local culinary scene.

Registrations for attendees (both individual registration and vendor/volunteer registration) are open through June 30. Volunteering details are outlined in the *Journal* and on the EAS 2022 Conference site.

Details: easternapiculture.org/conference/eas-2022/.

EAS Secretary Doris Morgan: secretary@easternapiculture.org.

JOB OPENINGS

NEW YORK: Honey bee senior extension associate.

From Scott McArt, assistant professor of entomology, Cornell University, Ithaca, N.Y.: “We’re hiring a Honey Bee Senior Extension Associate at Cornell Entomology. Primary responsibilities are overseeing the awesome NYS Beekeeper Tech Team, Cornell Master Beekeeper Program, and creating/delivering other extension/outreach programming as needed to a wide variety stakeholders interested in pollinators. This is a two-year term position, renewable depending on funding, available work, and performance.

“Come be my colleague — this is an awesome job in an awesome place!”

For more info and to apply:
academicjobsonline.org/ajo/jobs/21891

Scott McArt: (607) 255-1377 shm33@cornell.edu

NORTH CAROLINA: Apiary inspector.

Salary \$32,703 - \$51,904 annually. Location Regional, NC. Permanent Full-Time. NC Dept of Agriculture & Consumer Services. Job Number 60012524-00753, Position Number 60012524. Inspects apiaries and issues permits or certificates; provides diagnostic services; educational opportunities and resources for state beekeepers; inspects honey processing and packing

facilities. Must move to or reside in Anson, Chatham, Cumberland, Harnett, Hoke, Lee, Montgomery, Moore, Randolph, Richmond, Robeson, Scotland, Stanly, or Union counties.

Knowledge of bee culturing techniques and bee behavior. Technical and working knowledge of bee pests and diseases.

Requires high school or GED diploma; college-level coursework in biology, ecology, social insect behavior, or microbiology; three years experience in beekeeping; or equivalent combination. Transcripts required.

Apply online with a copy of Form DD-214. Questions? Contact (919) 707-3201. Website: oshr.nc.gov/jobs/index.html.

USApple publishes pollinator BMPs for apples

Published in partnership with the Honey Bee Health Coalition

The U.S. Apple Association has made available its new publication, “*Pollinator Best Management Practices (BMP) for Apples*.” The publication, created in partnership with the Honey Bee Health Coalition (HBHC), can be viewed and downloaded at honeybeehealthcoalition.org/resources/applebmps.

The publication provides guidance for U.S. growers and regulators on pollinator protection in orchards. The document considers practical production needs and suggests elements of an outreach and education program to foster adoption and implementation of identified practices.

Apples are an important pollinator-dependent crop grown for commercial production on 295,000 acres in the U.S. As growers respond to greater demands for advancements in sustainability, USApple believes this document will be a valuable tool.

One-third of our food begins with pollinators, and each year bees generate \$21 billion in economic activity in apples alone, said USApple president and CEO **Jim Bair**. “Protecting pollinators is the ethically and environmentally right thing to do, and it’s also good for our businesses.”

The work increases understanding within the U.S. apple-growing community of the benefits and opportunities around protecting pollinators, while also recognizing the need to protect the crop from pest damage.

“HBHC is pleased to have facilitated the development of this document that will provide practice recommendations



to U.S. apple growers on how to improve the health of pollinators in their orchards,” said **Matt Mulica**, HBHC facilitator. “This process brought together apple growers, commercial beekeepers, and researchers to discuss issues related to bee health in orchards and provide specific actions to protect bees and enhance pollination services.”

Funded by USApple, the organization for the past year has worked with HBHC and its technical experts to create the publication. “It’s gratifying to see the results of our shared vision with HBHC and the collective knowledge of the technical experts,” concluded Bair. “USApple, retailers and customers believe sustainability is critical, and these BMPs will be a helpful tool for continuing and expanding the efforts that are already under way.”

Native/non-native bee/wasp survey funding continued

Karen Roccasecca, Pennsylvania state apiarist, announces that the **Native and Nonnative Bee and Wasp Survey** is in progress, and invites AIA members to set and report on traps for the survey.

Roccasecca said that funding for the survey was approved in mid-May. Participants from previous years “can place traps in the same locations as previous year(s) or move any or all to new sites,” she said.

For more information and participation directions, contact Karen at kroccasecc@pa.gov or (717) 346-9567.

Book reveals the inside secrets of hives

Hive Tour: The Insider’s Guide To Honey Bees is available for purchase on Amazon Books.

Authors **Frank Linton** and **Phil Frank** say, “Over the last 15-plus years, each of us has described honey bees’ in-hive goings-on to hundreds of people. We have found the public genuinely curious about honey bees, and we have written this book to address their curiosity.”

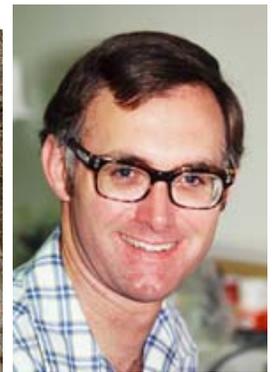
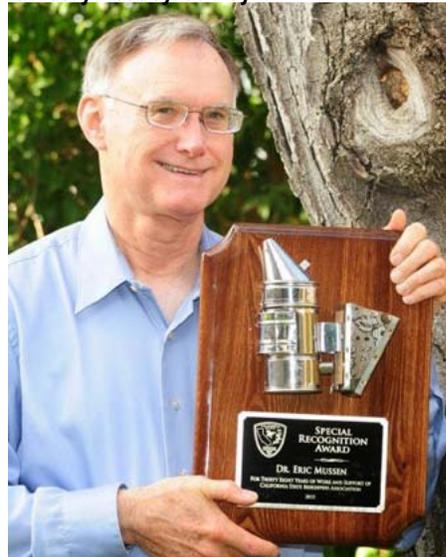
The book, aimed at observation hive viewers and novice beekeepers, has full-page color photographs depicting everything one might see inside a beehive.

Preview the book at hivetourguide.com.
email Frank Linton at fnlinton@gmail.com.



Laurence
Cutts
d. Feb. 22,
2022

© Kathy Keatley Garvey



1976.
Dr. Eric
Mussen
d. June 3,
2022

Laurence Cutts, Eric Mussen

Florida, California lose premier honey bee authorities

By Logan Paul Cutts

Environmental Specialist
Florida Department of Agriculture and Consumer Services

Former Florida Chief of Apiary **Laurence Cutts** died Feb. 22, 2022. A third generation beekeeper born in 1935, he was a pioneer in Florida beekeeping. When new threats arose in the beekeeping industry beekeepers would say they hoped it starts in Florida — not wishing ill will, but knowing Florida would do something about it.

He was chief of apiary and Florida State Beekeepers Association president for many years. A commercial beekeeper with over 8,000 hives once remarked that without Laurence he would have lost everything.

Cutts was nicknamed the “grandfather of southeastern beekeeping.” He is the only beekeeper inducted into the Florida Agricultural Hall of Fame.

He designed and produced the first SHB trap, the Better Beetle Blaster. The profits went to spearhead a new Bee Lab at the University of Florida.

A strong supporter of Bee College and Bee Lab research, Cutts was instrumental in bringing to the forefront the need for research to reduce beehive losses, not just in Florida but worldwide. He helped many countries through his wealth of knowledge. He was the bees’ and the beekeepers’ greatest advocate.

By Kathy Keatley Garvey

Celebrated honey bee authority **Dr. Eric Carnes Mussen**, an internationally known 38-year California Cooperative Extension apiculturist and an invaluable member of the University of California at Davis Department of Entomology and Nematology, died June 3, 2022 at 78.

“Eric was a giant in apiculture,” said Steve Nadler, professor and department chair. “The impact of his work stretched far beyond California.”

Dr. Mussen joined the department in 1976 and retired in 2014, continuing his many activities until a few weeks prior to his death.

For nearly four decades, he drew praise as the go-to person when consumers, scientists, researchers, students, and the news media sought answers about honey bees.

“Eric’s passing is a huge loss,” said longtime colleague Lynn Kimsey, director of the Bohart Museum of Entomology. Norman Gary, a noted UC Davis *emeritus* professor of entomology, described Eric as “by far the best Extension apiculturist in this country.”

Colleagues described Dr. Mussen as the “premier authority on bees and pollination in California, and one of the top beekeeping authorities nationwide.”

Kathy Keatley Garvey’s full tribute: ucanr.edu/blogs/entomology/index.cfm