

Sandusky River Valley Beekeepers Association



August 2021

srvba.ohiostatebeekeepers.org

Upcoming Events

August Monthly Meeting Notice

- When: Monday, August 2, 2021 at 7pm
- Where: First United Methodist Church, 510 W Maple Street, Clyde, Ohio 43410
- Topic: “Winter Preparations”
- Presenter: Linda Miller, SRVBA Secretary.



Message from the President

Hello SRVBA Members!

It's really hard to believe it's August. Summer seemed like it wasn't ever going to get here and now we're on the down swing.

Our July field day at Cherry City Honey was another huge success, with the Clubs presentation on “**Varroa Destructor.**” The class presenters were the officers of the club. A lot of great questions were asked by the 30+ club members that attended. We discussed Varroa and what it does to the Honeybee, different monitoring techniques, and what's available for treatments. Afterwards, club members enjoyed some grilled cooked hot dogs, chips, and sweets. A big thank you again to Gary and Tami Wylie for the use of their beautiful “Cherry City Honey and Apiary” building.



Join Sandusky River Valley Beekeepers Association:

1. Fill out membership form
<http://srvba.ohiostatebeekeepers.org/>
2. Mail form to: SRVBA, c/o
Tami Wylie, 1000 CR 312,
Bellevue, OH 44811

Message from the President

A thank you again to the members that helped develop the “**Varroa Destructor**” PowerPoint that is now the property of SRVBA for future use by its members for educational references: Dr. Mike Stone, Linda Miller, Tami and Gary Wylie, Kim Root, Jackie and Richard Kindred, and Evelyn Lepard. Thank you again for your time and efforts in putting this together.

I have been in contact with the First United Methodist Church in Clyde and asked when they **would allow** us back into the church as a meeting venue. They had their Council meeting on July 20th and decided to let us back in for our August meeting. So, on **Monday August 2nd at 7:00pm** we will be having our August meeting, in-person, at the Church. Club member Linda Miller will discuss different techniques on getting your colonies ready for winter.

I am sorry to say that the SRVBA will not be participating in the area county fairs this year. I had asked in an email for volunteers to chair each fair but no one showed any interest in heading any of the fairs up. However, I did hear from four (4) club members that would be interested in helping work a fair. With this low number of volunteers, it was decided by the Executive Officers not to partake in the 2021 fairs. Each fair has been notified and they were asked to contact us again for the 2022 fairs.

The September meeting will be our annual picnic. The picnic will be held again this year at Dr. Mike Stone’s residence, at 1850 SR 12, Fremont, Ohio. The picnic will be held on September 19th, starting at 12:00 noon. Hot dogs, burgers, buns, water and paper products will be furnished by the club. Members are asked to bring a dish to share.

The October meeting will have a small field day, again at Cherry City Honey. We will be demonstrating making candy boards for the upcoming winter months, discussing why they are important, and when to install them. If you are interested in this presentation, empty candy boards (8-frame & 10-frame) will be available to purchase at Cherry City Honey for \$12 each.

A demonstration on how we make the sugar boards will be taught along with making winter and spring pollen patties which can also be used in the candy boards. We haven’t yet decided on a Saturday date for the October meeting.

The last thing to discuss is that a few members have come forth about updating our club's logo. This needs to be voted on by members to make it happen. Attached to the end of this newsletter are some sample logos. If any member has any other suggestions for logos please forward them to me at my email address:

tmr7212@yahoo.com

Thomas Rathbun
SRVBA President

Message from the President (continued)

IN THE HIVE (page 1)

Temperatures during summer can be very hot. A number of 90 °F days, in a row, can make it very uncomfortable to work bees.

An average day may have a low of 70°F with a high in the 90°F range. It rains often in late afternoon. Up to late June, you can find comfortable days to work bees but as we reach mid-summer, finding a comfortable day gets pretty hard, especially if the hives are located in full sun.

Hives have reached the maximum bee population and working a hive in mid-summer is far different than working a hive in early spring.



Tom Rathbun
SRVBA President

A hive with a number of supers on is not going to be easily examined. Early in the year, beekeepers are concerned with the size of the colony, the condition of the brood, and the amount of honey stores.

Often, problems are easier to spot. Weak hives, for example, and solutions, more defined (feeding, replacing queens, equalizing hives etc.).

Inspections are easier as well. Prior to adding honey supers, it is rather easy to examine frames of brood.

We are now pretty much past the swarming season, when efforts are made to prevent crowding and provide for honey storage by adding supers. Summer represents a change in colony dynamics.

Brood rearing is retarded with the reduction of available pollen and nectar! One may note especially the reduction in drone populations.

Message from the President (continued)

IN THE HIVE (Page 2)

The basic principles of beekeeping have not changed:

1. The presence of a vigorous, productive queen.
2. A population of young bees in sufficient numbers to ensure the survival of the colony.
3. Sufficient honey stores to provide food during non-productive periods (true in the summer as well as the winter seasons).
4. Avoid disease issues – mite populations and American Foul Brood.
5. Protection from extreme temperatures – hot temperatures as well as cold.
6. Comb management issues – adequate space for the storage of honey and brood rearing.
7. Location, location, location!

Bee populations at this time of the year will easily cover 20 frames or more. If honey supers are removed, the bees will be more densely packed into the space within the hive.

Ventilation Issues

During winter, bees cluster very densely when the weather turns cold. During our 90°F days bees cluster on the front of the hive to open up passageways between frames to ventilate the hive. There are many differences of opinions on hive ventilation. I was told and taught that I should use popsicle sticks between the inner cover and top super to provide a way for air to escape from a hive and provide ventilation. Some may use other types of shims but don't use anything large enough to allow robbing bees to enter the hive.

We do know that honey bees can exist with small entrances to hives. But we are taught to remove entrance reducers for the summer season to allow more air circulation into the hive.

In order to reduce high air temperatures inside the hive, bees collect drops of water, which are positioned in the hive, then the bees fan their wings to pass air over the droplets so that evaporation will achieve a decrease in the air temperature.

Message from the President (continued)

IN THE HIVE (Page 3)

Ventilation Issues (continued)

How much summer ventilation a hive needs depends on many factors: local climate, the size of your colony, wind exposure, and sun exposure. I personally like some shade for my bees. I have moved my hives next to a tree line that provides some shade in late afternoon.

Others have noted that hives set in the sun will have less chalkbrood, small hive beetles, and Varroa mites. I have come to the conclusion that the bees bearding on my hives are the normal natural way for honey bees to help ventilate a hive during summer heat periods.

One other observation I have made this year – when I did try to provide upper entrances on my hives, it opened the door to robbing bees. As I enter my bee yards, I now look at the hives without bee beards first. It has become apparent that queen problems are not found in those colonies with bee beards.

I use entrance reducers to prevent robbing in colonies without bee beards at this time of the year. If I must feed a hive, I always make sure the entrance reducers are placed on the hive being fed. The bee beard actually provides a hive with a lot of protection against robbing.

One other side effect of bearding bees is the fact that one should not disturb them! They are older bees and they can possess an attitude problem.

NOTE: (some of the above information was obtained from my good friend, Dana Stahlman of Stahlman Apiaries, notes dated July 11, 2021).

Stay safe and enjoy the bee yard!

Thomas Rathbun

President SRVBA

Beekeeper News



A new heat-resistant fungus might help fight varroa mites, such as the one behind this honey bee's head.
Scott Bauer/USDA Agricultural Research Service

Scientists Evolve a Fungus to Battle Deadly Honey Bee Parasite

By [Erik Stokstad](#) Jun. 4, 2021 , 4:10 PM

<https://www.sciencemag.org/news/2021/06/scientists-evolve-fungus-battle-deadly-honey-bee-parasite>

The biggest scourge to bees is tiny—a mite the size of a pinhead that feeds on them and spreads deadly viruses. Getting rid of the parasite, *Varroa destructor*, is tough: Chemicals can kill it, but the mite has started to evolve resistance to the usual pesticides; moreover, these and other treatments can harm the bees themselves. Now, researchers have toughened up a mite-killing fungus so it can slay the bee slayers inside a hot beehive. If the new strain passes further tests, it could help honey bees around the world avoid a gruesome fate, and reduce the use of chemical pesticides.

“The beekeeping industry has a great need for alternatives,” says Margarita López-Urbe, an entomologist at Pennsylvania State University, University Park, who was not involved in the fungal research. “So it is very exciting to see that there is potential for a nonchemical treatment.”

Varroa destructor has plagued beekeepers and their bees for decades. Some researchers have hoped to combat them with biopesticides, microbes that naturally target specific insect pests. Compared with traditional chemical pesticides, they are less toxic to other animals, including humans. One biopesticide, the common soil fungus *Metarhizium acridum*, has been used against locusts in recent years. Some 2 decades ago, researchers at the U.S. Department of Agriculture and elsewhere began to study related species that can kill the varroa mite.

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Scientists Evolve a Fungus to Battle Deadly Honey Bee Parasite

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When spores of *M. anisopliae*, for example, land on a varroa mite, they germinate and grow tiny tubes that drill through the exoskeleton and grow throughout the insect, killing it (see video, below). “They can literally bust through the shell,” says Jennifer Han, an entomologist at Washington State University (WSU), Pullman. The fungus might have been a great biopesticide, but for one catch: It wouldn’t grow well inside the warmth of the hives, which can reach temperatures of 35°C.

So Han and colleagues set out to create a heat-tolerant strain of the related *M. brunneum*. First, they stressed the fungus by starving spores or adding hydrogen peroxide to its growing medium. This sped up the rate of mutations. Then, the researchers put spores from the stressed fungus in an incubator and gradually raised the temperature. Most of the spores died, but the survivors seeded the next generation. After seven rounds of this unnatural selection, the percentage of spores that germinated at 35°C—a crucial step for infecting the mites—increased from 44% to 70%.

The next step was to boost the deadliness of the fungus, because strains can become less virulent when repeatedly cultured in the lab. After adding a petri dish with the heat-tolerant fungal strain to a honey bee hive, Han and WSU entomologist Nicholas Naeger found fewer than 4% of dead mites in the hive had died from *Metarhizium*. So the researchers grew a new batch of fungus from the dead mites and treated the hive with that strain; in the second round of experiments, 50% of dead mites succumbed to a fungal infection. Two rounds later, the kill rate was just over 60%. All told, Han and Naeger counted more than 27,000 dead mites over the course of their experiments. “When you close your eyes, you still see little varroa,” Han says.

To get more of their fungal mite slayer into hives, the researchers cultured it on brown rice, added it to a mesh bag, and put the bag inside the nest. The bees would try to remove it, causing spores to drift down on the mites. To compare this new treatment to oxalic acid, a common chemical used by small-scale beekeepers, the researchers then treated 30 colonies with either the acid or the fungus. After 18 days, the fungus was [just as good as the acid at keeping the number of mites in check](#), the team reported last month in *Scientific Reports*. Because the dose of *Metarhizium* was relatively low, Naeger says its performance could likely be improved.

Further tests are needed to demonstrate the treatment’s efficacy, says Scott McArt, an entomologist at Cornell University. Mite populations tend to proliferate later in the year than when the study was conducted, he notes, so the fungus would need to be tested against higher numbers of mites to prove its worth.

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Another question is cost. The biopesticide will likely be more expensive than oxalic acid, Han and Naeger say, and it is more time-consuming and complicated to use than common chemical pesticides. But the fungus is likely safer for hives. Bees can fall sick or die if concentrations of oxalic acid are too high, and other chemical miticides can cause reproductive problems in the pollinators.

Han and her colleagues are continuing to develop more effective strains of the fungus and reduce their costs. “I think this is going to be a long process,” she says. But if they succeed, it would be a “really big advance,” McArt says. “There are a ton of beekeepers who do not want to put pesticides in their hives.”

Posted in:

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