MT. BAKER BEEKEEPERS ASSOCIATION

BEE BITS NEWSLETTER

Next Meeting

Wednesday, December 21 Time: 7 PM
Gateway Centre Suites 1313 E. Maple St.
The Rainier Room, Ste. 301 Bellingham, WA
"Bee-giners" session: 6—7 PM Rainier Room

BEEKEEPER OF THE YEAR

--By Gary Clueit

Congratulations Tim Hiatt for becoming our latest Beekeeper of the Year!

We received three outstanding nominations for our Beekeeper of the Year Award and Tim received the most votes.

Tim was nominated by Fran Bach, who offered the following in support of his nomination:

Tim took on state government as chair of the Legislative Committee in 2014, which grew out of the Honey Bee Working Group, the proviso of which was to look at issues facing commercial beekeepers and identify ways in which the state can assist the industry.

Over the past two years, Tim and the Legislative Committee have spent endless hours making legislators and the public aware of beekeeper issues, developing discussion papers and making presentations in Olympia.

Bills were passed recognizing beekeepers as farmers in Washington State, establishing a pilot project for good bee forage plants to be seeded on Dept. of Transport-managed lands and substituted for blanket eradication of noxious weeds, provision for permanent funding of a new research position at Washington State University, and inclusion in efforts to fund the new Bee Lab at WSU Pullman.

All these efforts have required hundreds of hours of effort in preparation – telephone calls, emails, meetings, and presentations in Olympia – to keep beekeeper interests in front of legislators. Tim has conducted this process so determinedly that Senator Judy Warnick has called him "relentless" and commended his dedication. Nor can these efforts be allowed to flag in the future.

All of the Legislative Committee deserve our thanks and recognition for their work, but as chair, and with the responsibility that position entails, I believe Tim Hiatt deserves to be recognized by WASBA as Beekeeper of the Year for 2016.

Thanks to MBBA member Jack Fisher, who sent in this excellent story that highlights the efforts of four beekeeper scientists to find solutions to some perplexing problems.

Meet the Bee Heroes Working On the Front Lines to Save Pollinators

In future editions of Bee Bits, we'll be examining the details of the work of each of these scientists. For now, you can find the entire story about Dr. Ernesto Guzman, Dr. Nigel Raine, Dr. Marla Spivak, and Dr. Dennis vanEngelsdorp at this link to the "Civil Eats" article by Nancy Matsumoto :

http://civileats.com/2016/08/02/meet-the-bee-heroes-working-on-the-front-lines-to-save-pollinators/

WINTER FEEDING

Sugar syrup is not an option for feeding bees in the winter in northern climes, but there are a number of alternatives. Last year, Russell Deptuch demonstrated one method—an easy-to-prepare sugar board to put on top of your hives.

1 Make a wooden tray approximately 16-1/4" X 20" (to fit on top of a standard hive box), with supporting slats. Line with 1/2" metal screen.

2 Place a single layer of newspaper on top of the screen. Urban bees insist on the *New York Times*, but rural bees don't care. Ours are enjoying the *Wall Street Journal* this year.

3 Mix 10 pounds of cane sugar with two cups of water and one teaspoon of "Honey B Healthy" or "Pro Health." Knead with your hands (this is fun, and a great exfoliant!) until the water is evenly distributed and you can make a ball.

4 Spread the sugar mixture in the tray evenly, then while it's still moist, make a starter hole in the center of both sugar and newspaper so the bees can get through.

5 When the sugar is dry and has hardened, place the board on top of the hive, over the inner cover (or you may put it directly over the frames and then put the inner cover on top), being sure that the "tray" side of the inner cover is up to allow enough space for the bees to crawl around and get to the sugar board. Place the outer cover on top.

Bees feeding on the finished board

From our neighbors down in Skagit county, here is another recipe, which is more work, but yields a sugar supply that gives more options about how much you feed.

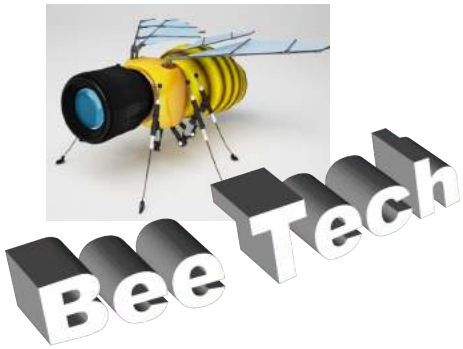
Bee Candy / Fondant Recipe

10 pounds cane sugar
5 cups water
1 teaspoon ProHealth or Honey Bee Healthy
1 teaspoon vinegar
Paper plates to use as molds

Bring water to boil on **medium high** heat
Add some of the sugar and stir; add more sugar and continue to stir (don't cover).
Continue stirring and bring to soft ball stage (242°F)
Caution: Hot Syrup, Handle With Care!
(Do Not Leave Pot Unattended!)

Remove from heat and let cool to about 210°
Add ProHealth or Honey B Healthy and vinegar.
Stir vigorously and quickly pour into paper plate molds.
Mixture should be fudge-hard at room temperature when cooled. Remove from molds and place on hive top bars.

Brad Raspet - BingalingBees.com 360-708-9424



Important developments in technology aimed at helping beekeepers are often discussed on our local beekeeping forum: groups.yahoo.com/neo/groups/mtbakerbees/info. *Two new tech products have recently received quite a bit of attention.*

The Thermosolar hive, developed in the Czech Republic to kill Varroa mites

THERMOSOLAR HIVE RESEARCH

--By Tim Trudel

The contents of this article are the from the developer's website thermosolarhive.com and the American Bee Journal (ABJ) August 2015 issue.

The thermosolar hive is a complete hive designed to treat Varroa mites using only solar heating.
It was developed in the Czech Republic by Dr. Roman Linhart, a beekeeper of 28 years with 40-50 colonies and a bee researcher for 20 years.
To use the Thermosolar hive, four treatments per year are sufficient to control mites with no additional chemical treatments. The hive consists of special brood boxes with solar glass windows and a special solar hive cover and insulated lid. The hive body and lid are insulated to help retain heat during "thermo-therapy".

How it works: Research has shown that mites cannot survive sustained (two hour) temperatures of 40˚C and stop reproducing at temperatures above 35.5˚C. The hive was developed to allow treatment in remote areas without electricity or other tools using only solar heating.
Ten years of development have resulted in the Thermosolar hive. Special glass coatings and interior insulation allow the hive to heat slowly to treatment temperature, even with the bees actively cooling the hive. Two temperature probes monitor temperatures in the upper brood box. Treatment needs to be done with no honey supers on the hive - spring and late summer.
Two treatments, 7--14 days apart are required each season. All the brood needs to be combined into the top box for treatment. A gradual heating is necessary. Monitoring by the beekeeper is required to stop active solar heating once treatment temperature is reached throughout the brood box to avoid over heating. The thermosolar "ceiling" is the main source of heat, but the windows on the boxes are necessary to assist and maintain the treatment temperatures for the two-hour treatment.

Typical treatment: Pick a day with no more than 20% cloud cover and expected temperatures to be 12—20˚C. Attach the two thermometer sensors in the wax at the top and bottom of center brood frame. Starting about 9:00 AM, remove the cover over the thermo-ceiling. Monitor the temperatures of both top and bottom sensors while the temperature rises (about 2--2.5 hours). The top temperature will rise the most. The goal is to get both sensors to at least 40˚ C without the top temperature getting above 47˚ C. When the top reaches 47˚C or when both temperatures reach 40˚C, replace the lid over the thermal ceiling. As soon as both temperatures reach 40˚C, start timing the treatment for two hours. At temperatures above 40˚C, the foragers will move to the lower boxes. Nurse bees will remain with the brood and tolerate the higher temperatures easily. They maintain the necessary humidity of the brood nest. Most of the mites will be on house bees and in the brood nest and will be killed by the treatment. (About 80-90%) Any mites that are on the bees in the lower box and on foragers outside the hive will move to the brood in about five days. A second treatment 7--14 days later will kill the remaining mites.

Other benefits of the Thermosolar hive: Even with the thermosolar ceiling closed, there is a modest heat gain from the windows on the boxes. This heat gain in spring provides a 2-4 week head start in development. The extra heat also reduces the amount of honey necessary to maintain the brood nest temperature. The honey harvest in a

Thermosolar hive is increased compared to regular hives in the same location. Also, any time the brood temperature is increased above 35.5°C, mite reproduction is halted. ▫
Multiple hives can be treated by one Thermosolar hive. The bees and brood frames need to be moved from the conventional hive into the Thermosolar hive and the two treatments performed. A bit of work, but the backyard beekeeper could to this for a few hives.▫
Comments: I believe that this hive will work here in western Washington. Our latitude is one degree south of the Czech Republic. I know we can find two sunny days in spring and fall to treat each hive. The detailed research results on the website show both the killing of mites in the hive, as well as the considerably reduced rate of their reproduction throughout the summer. ▫
Read the research on the web site. This is an effective, non-toxic, chemical-free mite treatment.▫ We can now get the miticide residues out of our wax. Hopefully we can now end the treat/treatment free debate and join forces and work the remaining issues together. If this hive/methodology catches on, hopefully we can have hives produced locally and the price will come down. [The high cost of the Thermosolar hive is one reason it's been met with a big dose of skepticism. --BB Ed.]

▫————————————————————————————-▫

What inspired this hive? Over a period of time, Dr Linhart noticed some feral bees flying into the attic space under a tin roof above a cafe he frequented. When they survived into the third year and did not appear to succumb to Varroa mites, he asked the clerk how long they had been there. Seventeen years!! On hot days, there was always a beard outside the attic as they left to cool off. One day, he caught a swarm from this hive and happily moved these "survivor" bees into his apiary to gain from the good genetics. Unfortunately, once out of the attic, they were infested with mites like all the other colonies. It was the hot attic providing periodic mite ▫ treatments, not a strain of survivor bees.

Thanks to Tim for his research on this.
We'll be keeping up with the Thermosolar hive, since one of our intrepid members has ordered one to try out. Stay tuned.

BROODMINDER

The second technology being tried out here in Whatcom county is a hive monitoring device called the BroodMinder.

From their website (broodminder.com):
By utilizing the latest in Bluetooth Low Energy (BLE) technology and integrated circuit temperature and humidity chips, we have developed the industry-leading, affordable brood monitoring device. Designed to last more than a year on a single, replaceable coin cell, the BroodMinder provides continuous service throughout the winter "no matter how endless it may seem" eliminating the need to open the hive.
The BroodMinder logs and stores measurements once every hour for the entire year. This means that at any time, you can retrieve and analyze the data, thus allowing for early preparation for next season.

Local beekeeper **Rebekah Lee** has posted (on the forum) her experience with the BroodMinder in great detail with an excellent explanation of its workings. She installed the device in late August, so her readings have not run a full season yet, but she will continue to post as results come in. In her words:

"The data on each module is updated and saved on an hourly basis until uploading to a smartphone. Installation is easy-peasy. Well, I did have to work out a solution for my Country Rubes bottom board, which sits on cross rails instead of side rails. Brood Minder assumes flat bottom board or side rails for the weight module. But it wasn't a big deal.

With thoughtful analysis one is able to determine where the cluster is and whether brood is being raised. Interior temperature and humidity (T/H) can be analyzed against outside T/H. Nectar flow can be monitored via weight as well as the progress of ripening; buildup may also monitored. The .IO site is collecting data from any volunteers uploading BroodMinder data. The goal is to develop an extensive database for meaningful analytics for the individual beekeeper. BroodMinder does a little of this on their site; analyzing a hive they monitor."

Great work, Rebekah! (rebekah@msrebekah.com)

HERE'S A SPECIAL HOLIDAY TREAT

Song of the Queen Bee, by E.B. White

New Yorker Magazine 1945

Many apologies to E.B. White; this is an edited version.
For the entire poem go to: www.badbeekeeping.com/ebwhite.htm

"The breeding of the bee," says a United States Department of Agriculture bulletin on artificial insemination, "has always been handicapped by the fact that the queen mates in the air with whatever drone she encounters."

When the air is wine and the wind is free
and the morning sits on the lovely lea
and sunlight ripples on every tree
Then love-in-air is the thing for me
I'm a bee,
I'm a ravishing, rollicking, young queen bee,
That's me.
I wish to state that I think it's great,
Oh, it's simply rare in the upper air,
It's the place to pair
With a bee.
Let old geneticists plot and plan,
They're stuffy people, to a man;
Let gossips whisper behind their fan.
(Oh, she does?
Buzz, buzz, buzz!)
My nuptial flight is sheer delight;
I'm a giddy girl who likes to swirl,
To fly and soar
And fly some more,
I'm a bee.
And I wish to state that I'll always mate
With whatever drone I encounter.

There's a kind of a wild and glad elation
In the natural way of insemination;
Who thinks that love is a handicap
Is a fuddydud and a common sap,
For I am a queen and I am a bee,
I'm devil-may-care and I'm fancy-free,
The test tube doesn't appeal to me,
Not me,
I'm a bee.
And I'm here to state that I'll always mate
With whatever drone I encounter.

I am a bee and I simply love it,
I am a bee and I'm darn glad of it,
I am a bee, I know about love:
You go upstairs, you go above,
You do not pause to dine or sup,
The sky won't wait ---it's a long trip up;
You rise, you soar, you take the blue,
It's you and me, kid, me and you,
It's everything, it's the nearest drone,
It's never a thing that you find alone.
I'm a bee,
I'm free.

If any old farmer can keep and hive me,
Then any old drone may catch and wife me;
I'm sorry for creatures who cannot pair
On a gorgeous day in the upper air,
I'm sorry for cows that have to boast
Of affairs they've had by parcel post,
I'm sorry for a man with his plots and guile,
His test-tube manner, his test-tube smile;
I'll multiply and I'll increase
As I always have---by mere caprice;
For I am a queen and I am a bee,
I'm devil-may-care and I'm fancy-free,
Love-in-air is the thing for me,
Oh, it's simply rare
In the beautiful air,
And I wish to state
That I'll always mate
With whatever drone I encounter.

IT'S TIME AGAIN FOR:

The Country Living Expo and Cattlemen's Winterschool

WASHINGTON STATE UNIVERSITY

WSU Extension is offering 180 classes in six sessions on **Saturday January 28, 2017.** Registration is open now, with early bird pricing through December 31. extension.wsu.edu/skagit/countrylivingexp

Bonnie Swanson is teaching Beekeeping for Beginners in Sessions 1 & 2
Find out how to keep bees in the Northwest. The first hour of this beginner class will cover where, when, what, and how to start keeping bees in western Washington including apiary location selection, equipment type, bee genetics and timing. The second hour will cover "What Now?": seasonal responsibilities, nutrition, protection, honey extraction, and continued education.