



The Buzzz

The Monthly Newsletter of the Gilroy Beekeepers Association

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Apiary Photo of the Month



Part of Mark Chips' Apiary

Editors Note: A big thanks to those of you who have submitted pictures. Keep them coming and I will feature your apiary in the order that I receive them.

GBA News

This issue marks the end of 2016. Please note that beginning with the January 2017 issue the newsletter will only be distributed via email to paid club members.

Got Honey? Need to rent the club extractor? Contact Pete Garcia to schedule a time. (408) 310-4000

Presidents Message

by Dave Stocks

As 2016 draws to a close, it's time to look back at what has happened in the last year and continue planning for 2017. I think we've had a successful year. We sponsored four classes, all of them very well received. Attendance at our meetings has been good as was the attendance at our September bar-b-que. We look forward to building off this next year.

Two very important committees were formed during the year. Although not formally named, Roark Dieters led a group which put together an outstanding exhibit at the Santa Cruz County Fair. Paula Joiner has put in countless hours developing lesson plans for the Education Committee. Other GBA members have stepped up and taken on responsibilities. Their willingness to do so is greatly appreciated.

It's always good to have goals, and we have them for 2017! We look forward to expanding our number of classes as well as presentations at our meetings. Hopefully this will include some "hands on" events. We also hope to do more community outreach. Perhaps our biggest goals for the year will be obtaining our tax exempt status and getting insurance. We are making slow progress. In order to help this process, as well as maintain the health of the Association, the Board is in the process of developing a budget. We want to make sure we know where your money is going. We hope to present this to the Association at our January meeting. I feel that keeping the members informed is our most important task. We'll try to plan something fun to attract as many members as possible!

The year can't end till we've had our Holiday Part. This year's event will be held at Old City Hall. By the time you read this, you should have received your invitation. I hope to see you all there.

Finally, thank you all for your support. It is greatly appreciated!

News from the Bee World

SEAWEEEDS SAVE BEES?

By Dara Scott (Advance Science)

I know it sounds strange, doesn't it? How could plants growing in the sea help bees? New research confirms it can! Seaweeds, or macroalgae as they are also called, are full of bio-active properties, far more than land based plants. It is for this reason that they have become extremely popular in animal health. They are now routinely used in animal feeds from pigs to poultry, horses to hamsters and salmon to shrimp!

The feeding of seaweeds has come a long way in the last 10 years or so. For hundreds of years whole seaweeds were fed to animals for health benefits. Nowadays, bio-active properties are extracted out of seaweeds using specialized techniques that do not damage any of the functional actives. These extracts are fed to animals for a number of benefits, such as general health (in particular gut health), immune boosting, increased productivity and weight gain.

The reason seaweeds are so beneficial is due to their anti-microbial, anti-viral, anti-fungal and immune boosting properties as well as high levels of vitamins and minerals. Different seaweeds have different properties; some are more anti-fungal, some have large amounts of specific vitamins etc. so selection of the correct seaweed species for extraction is important.

So how does all this affect the beekeeper and their bees? Recently there have been a number studies on the use of seaweeds fed to honey bees. Scientists wanted to see if seaweed health benefits would apply to our flying friends. It turns out they do. This year a French university published a study on feeding seaweed extracts to bees with *Nosema ceranae*. They found that a number of extracts from different seaweed plants had benefits for the colonies. In particular, two extracts caused not only a decrease in the level of *Nosema* spores, but also a reduction in bee mortality. They concluded by saying "experiments showed that algal sulphated polysaccharides (seaweed extracts) could be used to improve the survival of *N. ceranae*-infected honeybees and reduce the parasite load. This could represent an alternative strategy to control nosemosis since fumagillin is no longer licensed in several countries."

Encouraging, but this is not the first body of research on feeding seaweeds to bees. Advance Science, an Irish company, pioneered research in this field with a number of trials to document the properties of the product HiveAlive™. Seaweed extracts make up the bulk of HiveAlive along with thymol and lemongrass. Working with world renowned seaweed experts, specific seaweeds were selected, some of which are only available off the coast of Ireland. The seaweed bio-actives are extracted using a unique patented process to ensure maximum efficacy. These extracts have been proven to promote bee intestinal wellbeing, maintain colony health, reduce over winter mortality and boost production.

Advance Science's most recent trial on HiveAlive by the Hellenic Institute of Apiculture [accepted for publication by the Journal of Apicultural Research] tracked two groups totaling 40 colonies over two years. The only difference between the two groups was that the test group had HiveAlive added to the sugar syrup, whereas the control group did not have HiveAlive added to their sugar syrup. Very early into the two-year study, the population of the HiveAlive group surpassed the control group. By the end of the trial, the HiveAlive population was 89% greater than the control. Over-winter mortality was also reduced; 15% of colonies failed in the control group with no losses observed in the HiveAlive group.

In addition, the levels of *Nosema ceranae* were tracked over the two years. Just under a third of the way into the trial there was an observable difference in *Nosema* levels between the two groups; the control groups had consistently higher *Nosema* levels. However, the HiveAlive group maintained lower levels for the remaining duration of the trial. Both the increase in population and difference in *Nosema* spore levels were statistically significant, $P=0.001$ and $P<0.05$ respectively.

The in-house trial on HiveAlive using 32 colonies further confirmed these findings. On completion of a one-year field trial, the HiveAlive group (when compared to a control) had a 38% increase in brood, a 22% increase in colony population and, most importantly, showed a 45% increase in honey produced and stored by the colonies.

This article, with references, can be found on pages 24 and 25 of the August 2016 Hivelights at http://www.honeycouncil.ca/images2/pdfs/Hivelights_August_2016_low_res.pdf.

APIS INFORMATION RESOURCE NEWSLETTER OCT 26

Dr. Malcolm Sanford's most recent newsletter, written on his last day in Hawaii following the Western Apicultural Society Conference, contains a wealth of information about Hawaiian beekeeping history and other topics from around the world, and Malcolm's commentary on them.

Among them is a reference to the small size of honey bee colonies in Egypt and one reason for it. This resonated with me as my husband, Jim Bach, once spent a month in Egypt under a teaching program supported by the US government and forever after deplored his inability to affect a change in attitude among Egyptian beekeepers. Cultural perceptions are very hard to change, especially from outside, and often it takes years for the reasons behind them come to light.

Some years after Jim's stint in Egypt, a delegation containing some of the same group of Egyptian beekeepers visited the US. Among them were the then-largest beekeeper in the region and his daughter. Though the father received all the credit, the daughter actually ran the operation. In a private conversation, she reported that she had taken Jim's advice in amalgamating small colonies into stronger ones, with very positive results. She also revealed that the number of colonies, not the level of production, was the most prestigious factor in Egypt, therefore many small colonies was seen as far

more important in the field of reputation than a lesser number of strong colonies. Nor was she, as a woman, given any credit whatever for her accomplishments in improving the viability of her father's operation.

Dr. Sanford's comments reveal yet another sad factor relating to the business of beekeeping elsewhere in the world. Is this mostly a matter of struggling to survive under cultural handicaps or simply one of greed? (Be careful not to put North American perceptions onto places with a very different reality...)

You can find current and back issues of Apis Information Resource News at <http://beekeep.info/apis-newsletter/>, the same page where you can sign up to receive them regularly.

USING HONEY'S GOOD NAME

by Dewey M. Caron

Did you happen to catch the latest headline (Nov 2) from the Organic Consumers Association (OCA) <https://www.organicconsumers.org/>

"Nonprofits File Lawsuit Against Sioux Honey Over '100% Pure' and 'Natural' Labels on Products Contaminated with Glyphosate"

They are using our precious product honey to make a point. We get trampled in the meantime.

Background: The OCA and Beyond Pesticides have filed a lawsuit in the District of Columbia Superior Court against Sioux Honey Association, following earlier filing of a lawsuit against Sioux in U.S. District Court for the Eastern District of New York for deceptive and misleading labeling of its Sue Bee and Aunt Sue's honey brands. Sue Bee honey products are labeled "100% Pure" and "Natural."

The lawsuit acknowledges the difficulties beekeepers face. They "are often the victims of, and have little recourse against, contamination of their hives caused by pesticide applications in the fields where bees forage," OCA International Director, Ronnie Cummins additionally states in the press release "Regardless of how these products came to be contaminated, Sioux Honey has an obligation to either prevent the contamination, disclose the contamination, or at the very least, remove these deceptive labels." Sioux Bee, a producer cooperative, established in 1921 (<http://www.suebee.com>) includes many of the largest US honey producers as members.

The lawsuit is based on information obtained under a Freedom of Information request. FDA (U.S. Food & Drug Administration), in their initial testing for Glyphosate residues, found levels to 123 ppb (parts per billion) of glyphosate; some honey samples had none or only trace amounts below levels of quantification. Glyphosate, a known endocrine disrupter and, according to the World Health Organization, a probable human carcinogen, is the active ingredient in Monsanto's Roundup® herbicide.

In addition to Sioux Honey, Quaker Oats was sued earlier this year on a similar claim regarding glyphosate residues. FDA found glyphosate residues in oatmeal cereals, including several types of infant oat cereal.

"More Bad News for Honey as U.S. Seeks to Get Handle on Glyphosate Residues in Food"

While many groups are likely to comment on the story, Gilliam quotes Sioux VP Bill Huser as saying "glyphosate is commonly used on farm fields frequented by bees, and the pesticide travels back with the bees to the hives where the honey is produced." Sioux has not been notified officially of any test results by FDA. The most recent Huffington Post article by Gilliam additionally quotes Darren Cox, president of the American Honey Producers Association. "It's a chemical intrusion, a chemical trespass into our product ...We have really no way of controlling it. I don't see an area for us to put our bees..... They need to be able to forage in ag areas [but] There are no ag areas free of this product."

Because there is no legal tolerance level for glyphosate in honey in the U. S., any amount could technically be considered a violation, In the EU, the level is 50ppb. According to unnamed sources within EPA "EPA is evaluating the necessity of establishing tolerances for inadvertent residues of pesticides in honey...."PA has examined the glyphosate residue levels found in honey and has determined that glyphosate residues at those levels do not raise a concern for consumers."

The agenda of OCA and Beyond Pesticides is to get EPA to ban certain pesticides such as glyphosates. They are using honey's good name toward that end. Can our product withstand this latest insult to its good name?

Best Management Practices For Almond Pollination, Honey Bee Health, And The Season Starts Now -

The Almond Board of California has directed significant resources toward understanding the issues surrounding honey bee health and communicating to growers the steps to take to avoid contributing to hives losses.

It has published "Honey Bee Best Management Practices for California Almonds" and related quick guides that outline bee best management practices for growers. To access these vital documents, go to <http://www.Almonds.com/BeeBMPs>.

The Almond Board will continue to work to get the word out on honey bee health and related best management practices through workshops, communication vehicles, and presentations at the annual Almond Conference, Dec. 6–8, in Sacramento, Calif.

<http://www.beeeculture.com/catch-buzz-best-management-practices-almond-pollination-honey-bee-health-season-starts-now>

Bayer Must Change Its Pesticide Advertising -

Bayer CropScience, the world's largest agrochemical company, buckled to Massachusetts' demand that it stop advertising that its neonicotinoid pesticides are like "giving 'a daily vitamin' to plants," though the chemicals have been linked to honey bee colony collapse disorder.

Attorney General Maura Healey filed an Assurance of Discontinuance on Oct. 26 in Suffolk County Court to settle the dispute, which her office began investigating in September 2013. Bayer CropScience promised to pay \$75,000 and to stop its misleading advertising, for instance, that its neonicotinoid pesticide products are EPA-approved.

<http://www.beeeculture.com/catch-buzz-bayer-must-change-pesticide-advertising>

Another Species of Varroa Mite Threatens European Honey Bees

WEST LAFAYETTE, Ind. – A sister species of the *Varroa destructor* mite is developing the ability to parasitize European honeybees, threatening pollinators already hard pressed by pesticides, nutritional deficiencies and disease, a Purdue University study says.

Researchers found that some populations of *Varroa jacobsoni* mites are shifting from feeding and reproducing on Asian honeybees, their preferred host, to European honeybees, the primary species used for crop pollination and honey production worldwide. To bee researchers, it's a grimly familiar story: *V. destructor* made the same host leap at least 60 years ago, spreading rapidly to become the most important global health threat to European honeybees.

While host-switching *V. jacobsoni* mites have not been found outside of Papua New Guinea, Purdue researchers [Gladys Andino](#) and [Greg Hunt](#) say vigilance is needed to protect European honey bees worldwide from further risk.

"This could represent a real threat," said Andino, a bioinformatics specialist with Information Technology at Purdue. "If this mite gets out of control and spreads, we might have another situation like *V. destructor*."

Varroa mites are considered the biggest bee health problem worldwide. Here, a Varroa mite has latched on to the upper-right side of a honeybee's abdomen to feed. (Purdue Agriculture/Tom Campbell)

Varroa mites are obligate parasites, meaning their lifecycle is inextricably entwined with that of their bee hosts. The mites can do serious damage to their hosts' health due to their relatively large size – "think of a tick as big as your fist," Hunt said. Mites latch on to bees and feed on their hemolymph, insects' rough equivalent to blood, leaving behind open wounds that are susceptible to infection. They can also transmit diseases such as deformed wing virus and have been linked to colony collapse

disorder.

To gain insight into the biology behind *V. jacobsoni*'s host switch, Andino and Hunt, professor of behavioral genetics and honeybee specialist, studied the differences in gene expression between *V. jacobsoni* mites that fed and reproduced on Asian honeybees and those that parasitized European honey bees. Knowing which host cues mites respond to and the genes involved could lead to potential control strategies, the researchers said.

"If we can understand the mechanism, we might be able to disrupt, block or manipulate that," Andino said. "But first we have to understand what is happening and which genes are involved in allowing the mites to shift to a new host."

Andino and Hunt sequenced and assembled the first *V. jacobsoni* transcriptome, a catalog of all of the proteins made by an organism that shows which genes are actively being expressed. They then used the transcriptome to compare gene expression in populations of *V. jacobsoni*.

They found 287 differentially expressed genes between the mite populations that only parasitized Asian honeybees and those that successfully fed and reproduced on European honeybees. A change in gene expression is often a sign that an organism is reacting to a change in its environment – in this case, a new host species.

Of these 287 genes, 91 percent were up-regulated in the host-switching mites. Many of these genes were related to stress responses, "which makes sense," Andino said.

"If you're feeding on a new host, you're going to be stressed. You have to adapt. The food is different and might not be optimal for development," she said. "Potentially, European honeybees are not fulfilling the requirements these mites are used to getting from Asian honeybees."

Some genes involved in reproduction and egg production were overexpressed while some genes linked to digestion genes showed reduced expression, compared with the same genes in *V. jacobsoni* mites that exclusively parasitized Asian honeybees.

Andino and Hunt said the mites' leap to European honeybees likely occurred within the last decade. Previously, *V. jacobsoni* mites were occasionally found on European honeybees but seemed unable to produce healthy offspring, limiting their destructive capacity.

Catching the host transition in its early stages will allow researchers to continue to investigate the complex genetic details behind the shift and monitor infected European honeybees, Hunt said.

"This happened once with one species of mite, and it looks like it's happening again. Maybe if we catch this as it's beginning, we'll be able to figure out why it's happening or, down the road, stop it."

The paper was published in *BMC Genomics* on Wednesday (Nov. 16) and is available

at <http://dx.doi.org/10.1186/s12864-016-3130-3>.

Funding for the study and an ongoing genome-sequencing project was provided by the U.S. Department of Agriculture-Agricultural Research Service and the USDA National Institute of Food and Agriculture.

New Findings About the Honey Bee Infecting Deformed Wing Virus

The honey bee *Apis mellifera* plays an important role for the pollination of fruit and vegetable plants, besides its significance for the production of honey and wax. Losses of entire bee colonies during winter have economic and -- in particular -- ecological consequences as pollinators are missing in spring during blossom. Apiculture in North America and Europe is especially affected by partly massive losses. Only during the winter months of 2014/2015, up to fifty per cent of all bee colonies in some Austrian regions collapsed.

The main trigger of this bee mortality does not seem to be the use of pesticides in modern agriculture. Many studies have shown that the survival of bee colonies strongly depends on the infestation with Varroa mites, widespread blood-sucking parasites, and the transmission of deformed wing virus by these mites. A research group from the Institute of Virology at the University of Veterinary Medicine, Vienna has developed a new laboratory system, which enabled them to make an important step forward in the investigation of the virus. By using a molecular clone, they have simulated the course of disease in a targeted way under laboratory conditions.

Artificial viral genomes of deformed wing virus

Up to now, scientists have only used samples of the deformed wing virus, which they had taken from infected bees. "However, mixed and multiple infections can bias the results of such tests", stated lead author Benjamin Lamp. For the new test system, the researchers used artificial genetic material instead of natural samples of the deformed wing virus, in order to clearly correlate the course of disease to the virus. "Initially, we amplify the genetic RNA material of a virus and save it as a DNA copy in a vector, a specific transport vehicle for genetic material. The resulting molecular clone enables us to produce artificial viruses, which are identical and genetically defined," explained Lamp. Insects infected with the artificial virus showed the same symptoms such as discoloration, dwarfism, death or the eponymous deformation of the wing that also occur in natural infections. Thus, it could be unambiguously shown that these symptoms are caused by the deformed wing virus.

Deformed wing virus detected in gland tissue

Besides the infection with the viral RNA under controlled laboratory conditions, also an unbiased picture of the disease process could be shown. The scientists infected not only fully developed bees with the artificial genetic material of the virus, but also larvae and pupae. During the pupal stage, Lamp and his team analyzed the target tissues and the host cells -- the cells the virus preferably infects. The scientists found viral antigens -- the specific protein molecules of the deformed wing virus - in all body areas. However, neural, gland and connective tissue cells were particularly affected. "The high concentrations of viral proteins -- the antigens -- in the glands could also indicate an oral transmission of the virus from one bee to another in the hive," explained Professor Till Rumenapf, last author and head of the Institute of Virology at the University of Veterinary Medicine, Vienna. This could explain why the virus also remains present in the hives if it is not transmitted by the Varroa mite. However, no viral proteins were detected in muscle and blood cells.

Various applications of the new method

By using the molecular clone, different aspects of the viral life-cycle could be simulated, manipulated and studied under laboratory conditions. This concerns the transmission of the virus by the Varroa mite, the course of the infection and the viral replication in different stages of development of honey bees. Controlled experimental conditions will enable the development of new strategies in order to effectively reduce the losses of bee colonies caused by the virus. The described experiments involved only one DWV strain, but the method can also be used for other strains. "In many cases, a bee is not only infected with one virus species. Our test system provides a tool to find out, which viruses are especially harmful and how viruses behave in multiple infections," explained Lamp. "Thus, we can develop targeted strategies against disease-causing viruses."

About the deformed wing virus

The deformed wing virus (DWV) belongs to the family of Iflaviridae. These viruses are so-called RNA viruses. Their genetic material only consists of one ribonucleotide strand, unlike the prevailing double-stranded DNA in mammals. In most but not all cases, infections with the deformed wing virus are bound to an infestation of a hive with the Varroa mite. "The virus persists in the hives and can even be detected if there are no parasites in the hive," explained Benjamin Lamp.

The latest edition of the Western Apicultural Society newsletter is now available
<http://digitalwasjournal.advancedpublishing.com/?issueID=24&pageID=1>

Drippings from the Extractor

by Dave Stocks



The mambo, the bossa nova, the watusi, the waggle, the tremble. What do they all have in common? They're all dances. The mambo is a popular dance of Latin America. The bossa nova and the watusi are remnants of the 60's. The waggle and the tremble are way more important, they are bee communication dances. Both these dances are well described in Dr. Thomas Seeley's book *Following the Wild Bees*.

Most beekeepers have heard of the waggle dance. Scout bees, having found a new source of nectar or pollen, return to the hive to recruit her colony mates. Inside the hive she performs her waggle dance which communicates the direction, distance and scent of the new food source. Depending on the richness of the food source, she might need to make several trips, each time repeating her dance, before she has recruited enough of her nest mates to take advantage of the new bonanza.

The tremble dance relates to the abundance of the new found food source. Depending on their age, bees have different jobs in the hive. To increase the hives efficiency, a bee returning from a foraging flight is not required to store its collected nectar or pollen. Instead it is passed off to a house bees who processes and stores the honey. In a strong nectar flow, after the recruitment of bees to the new source, there may not be enough house bees dedicated to processing. Bees returning to the hive and not finding enough house bees to take their load, will perform the tremble dance to recruit new bees to the processing task. This optimizes the efficiency of the entire colony.

For more, I encourage everyone to read *Following the Wild Bees*. The books main emphasis is on how to locate feral hives. However, in each chapter Dr. Seeley presents biology sidebars which are very informative.

I recently received an email from a friend who is hopeful of getting her first bees next spring. She lamented that she hadn't done much to prepare. She went on to tell me how she had been recording what was blooming each month in her area. My immediate reaction was that she has been taking one of the most important steps in preparing for her bees. When her bees arrive, she will already have a good idea when she might expect a nectar flow. This is the first step in planning her management strategies for the year.

Speaking of what's blooming, I was pleasantly surprised the other day when I went out to check my hummingbird feeder. As I walked by an "Indigo Spears" salvia, I noticed a loud hum. The plants were covered with hundreds of bees. I particularly like these plants because they attract early season bumble bees. I had never appreciated it's late season benefit to honey bees!

"Indigo Spears"

This month in the Beeyard

By
Serge Labesque

My December Beekeeping To-Do List

[A year-end perspective](#)

The bees are hunkering down. This is a good time to revisit what happened in and around our apiaries over the year that is coming to a close.

Although the quantity of rain we received last winter was modest, it nonetheless produced a nice honey flow in early spring, and the colonies developed well. It did not take much effort to multiply and rejuvenate the hives. After a brief pause in late spring, the honey flow resumed, allowing the colonies to produce more early-summer surplus honey than we had seen in years. But this bounty was not to last and summer dearth settled in, as it usually does around here even in the best years. However, the presence of drones until the end of summer attested to the near-normal nutritional conditions of the colonies. Overall, the bees were in good health and keeping varroa under control as they entered winter.

It's exciting to see that treatment-free beekeeping, "natural beekeeping" for lack of a better term, is gaining traction and that the value of locally adapted bees is also getting mounting recognition. Many beekeepers in this area shared splits from their survivor colonies during the spring, and enough bees, queens and honey were produced to satisfy everyone.

The local association is responding remarkably well to the new beekeepers' need for local bees, help and sound guidance. Considering the massive influx of newcomers to the craft, this is a challenging task that rests on the dedication of a few passionate members acting under great leadership.

Just considering these glimmers of hope, one might think that we are entering a new, post CCD era in beekeeping. Unfortunately, there is on-going degradation of the bees' habitat. Toxic substances of all sorts are too frequently used. These permeate the environment and are inescapable by pollinators. Really, it does not take much widening of the field of view to see that the condition of the bees in general remains dire.

Narrowing the perspective to my own apiaries - The way I presently manage my apiaries and the equipment I use are bringing huge satisfaction. Better yet, the bees seem to find their share of benefits in the double-deep brood chamber system I have previously mentioned in these lines. The size of my apiaries feels just right for me, hovering at the "enjoyable" level instead of the "drudgery" level I imposed upon myself and endured in past years. Maybe I am finally learning to control the urge of wanting always

more bees. All this is the result of a long evolution, a slow learning process, and, dare I hope, of approaching maturity as a beekeeper. But it is not the final result yet, because I have more to learn and there is still much room for improvement.

In July, an invitation to make a presentation in France, was a good opportunity to meet some brilliant people and to re-connect with friends of *La Ruche du Quercy*, a very active regional beekeepers' association.

The arrival of the Small Hive Beetle brings a shadow in this otherwise bright picture at the local level. Once again, bees and beekeepers will have to adapt to yet another threat.

All in all, this has been a pretty good year, in this area. It could very well be a turning point that holds good promises for the bees and that heralds a departure from the damaging conventional practices of many beekeepers. But we still have a lot to do before we can say that the bees are saved.

December in the apiaries

Standard time, short days, the weather and work schedule, all seem to conspire to prevent me from seeing my bees at this time of year. Nevertheless, I swing by the apiaries once in a while after work to check on the hives, to make sure that no accidental fall of a tree limb or wind gust, for example, has caused any damage. It's nighttime then, but placing an ear against the wood can reveal the faint, yet reassuring hum produced by the clusters. More tangible signs of what is happening inside the hives can be found on the monitoring trays. The size and location of the clusters is evidenced by the debris they produce that accumulates on the trays.

I take a few pictures. They will be enlarged on the computer screen and examined later, in the warmth of the house. This helps document and assess the condition of the colonies in greater detail, including the mite fall. The small amount of finely shredded cappings that is seen on the images signals the interruption in the production of new bees and the modest consumption of stores. An increase in the mite fall at this time can be an indication of good grooming behavior on the part of the bees, as the mites, which are no longer protected inside the cells of sealed brood, become vulnerable. This beneficial trait is worth observing and noting. On the contrary, the colonies that maintain large brood nests are causes of concern. Not only do they consume stores at a higher rate, but they are also real mite nurseries.

The review of the year's apiary notes is a good exercise that brings valuable lessons and helps to plan for the next beekeeping season. Call it mental beekeeping, if you want, but it is actually quite educational, rewarding, and fun.

With no direct interaction with the bees, there is some time left to take care of the tools and equipment: cleaning, repairs, material purchases and equipment fabrication. More and more, I find that simplifying my beekeeping paraphernalia by eliminating, recycling or re-purposing some of my old, useless gear is gratifying. Out went Cloake boards, drone traps and many more contraptions that used to overflow from my scarce storage space.

And there is always a spot nearby where plants can take root. They will produce food for pollinators, other animals, and then possibly for us. Fruit trees come to mind, of course. But there are also many flowering plants that we can add to improve our bees' environment, preferably natives that are well-adapted to our local conditions. I cannot think of a better reason to get out of the house, put the boots on, and grab a shovel in winter.

In summary, this month:

- Inspect the exterior condition of the hives:
 - Hive tops should be properly set and secured.
 - Observe the hive entrances and the ground in front of the hives.
 - Verify that the hive entrances remain unobstructed.
 - On nice days, observe the flight paths and the bee activity.
- Examine monitoring trays.
- Verify that mice have not entered hives (telltale clues of their presence are visible on the monitoring trays, as coarse pieces of comb, mouse feces, etc.).
- Ensure that the hives are adequately ventilated.
- Clean and scorch tools and equipment.
- Pour the ashes out of the smoker and scrub the tar build-up.
- Repair and build beekeeping equipment.
- Review notes from the year.
- Plan next season (evaluate the need for equipment and bees).
- Read and learn more about bees and beekeeping.
- Enjoy some honey.

Happy Holidays to all of you from the Labesques!

Serge Labesque © 2016

Calendar of Events

Meetings

Monday December 5, 2016

Santa Clara Valley Beekeepers Guild

6:15 pm

Dwell Christian Church San Jose

1292 Minnesota Ave San Jose CA 95125

<http://beeguild.org/>

Tuesday December 6, 2016

Gilroy Beekeepers Association

7:00 pm

Old City Hall, 7400 Monterey Rd.

Gilroy, Ca

<http://www.gilroybees.com>

Wednesday December 7, 2016

Santa Cruz Beekeepers Guild

6:30 pm

El Rio Mobile Home Park, 2120 N. Pacific Ave.

Santa Cruz, CA

<http://santacruzbees.com>

Thursday December 8, 2016
Beekeepers Guild of San Mateo
7:00 pm
Trinity Presbyterian Church
1106 Alameda de Pulgas
San Carlos, CA
<http://www.sanmateobeeguild.org/>

Saturday December 10, 2016
Monterey Bay Beekeepers
8:00 am
<http://www.montereybaybeekeepers.org/>

Classes and Conferences

Jan 12: Mead Making Bootcamp. Info <http://honey.ucdavis.edu/events>

Jan 13 - 14: Beginner's Introduction to Mead Making. Info <http://honey.ucdavis.edu/events>

Jan 25: World of Honey - Honey Tasting (North America). Info <http://honey.ucdavis.edu/events>

May 5 - 6: California Honey Festival (Woodland, CA). Info <http://honey.ucdavis.edu/events>

May 7: 2017 Bee Symposium. Info <http://honey.ucdavis.edu/events>
