MERRIMACK VALLEY BEEKEEPERS ASSOCIATION

# NEWSLETTER

**President**
Eric Helgemoe
4 Hobbs Road
Pelham, NH 03076
Tel. 603-3875

**Vice President**
David Ross

**Secretary**
Josie Puffer
4 Gaita Drive
Derry, NH 03038
Tel. 434-9822

**Treasurer/Editor**
Alden Marshall
5 Burton Street
Hudson, NH 03051
tel. 883-6764

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## NEXT MEETING

This Saturday's meeting will be as scheduled on April 7th. Dessert social will be at 6:30 and the business portion will start at 7:30. Come join us for the social hour, you may wish to bring along one of your creations for the dessert table and possibly an item for the raffle.

Now that there has been a period of warm weather that has kicked the bees into rather advanced brood rearing there should be some questions/ comment as what to expect or look for in the next few weeks, bring your thoughts to bee talk.

## Bee School Wrap-up

This week concludes the fifth in a successful series club sponsored beekeeping classes under the extremely competent direction of our V-Pres. John Hamblet and Louisa Varnum. One has to have been in a position to undertake such a responsibility to realize the time and effort involved in such a task. I personally want to thank and congratulate them for doing an outstanding job. It is no wonder that those who have attended classes elsewhere in the past have rated MVBA's as top notch. I have first hand experience that other clubs in the state are currently also doing a fabulous job with their beekeeping schools. Three cheers for all the clubs that make the effort.

Our classes have been very well attended from a roster of about 50 students, a few being current club members.

PEACH BLOSSOM

## Stimulative Feed?

Last month I talked briefly about using syrup and pollen supplement to stimulate brood rearing. Well, as luck or fate would have it, Mother Nature stepped in and provided a full week of ultra stimulation. A plethora of pollen and nectar producing plants, mostly trees burst into bloom. Now, that could be a boom or a bust.

Next came the colder weather. where foraging was much more limited. In the meantime brood rearing has been greatly ramped up causing increased consumption of recently and over wintered stores. Providing the colony has a sufficient stash of provisions the enhanced brood production can work to the bees and beekeepers advantage. However with the weather limits on foraging there may not be enough resources in the hive to sustain the large quantity of brood or, the colony itself, that must be fed. It is perhaps prudent to keep an eye on the colony's reserves and feed if necessary. I would for a short time, opt for a 2:1 syrup solution.

## Genetic Diversity!

Here is a little info from Ms. Heather Mattila's research at Wellesley College.

" Her research finds the link between genetic diversity and healthier bee colonies is in the makeup of the microscopic life found inside the guts, on the bodies, and in the food of the bees.

She finds that genetically diverse populations of worker bees, a result of the highly promiscuous mating behavior of queens, benefits from diverse symbiotic microbial communities, reduced loads of bacteria from pathogenic groups, and more bacteria related to helpful probiotic species – famous for their use by humans to ferment food.

The study, reported in the journal published in PLoS ONE, provides the first major insight into how honey bee colony health could be improved by diversity.

Mattila and other researchers have long observed that a high level of genetic diversity within a colony – which occurs when a queen bee mates with multiple males – improves the colony's overall health and productivity, though how colony members produce this effect was largely unknown.

The researchers found that diverse honey bee colonies showed a significantly greater variety of active bacterial species with 1,105 species, while only 781 species were found in uniform worker populations.

Furthermore, active bacteria from genetically uniform colonies consisted of 127% more potential pathogens, while diverse colonies had 40% more potentially beneficial bacteria.

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The team made another surprising discovery – four bacteria known to aid in food processing in other animals dominated bacterial communities in colonies, many of which had never been reported in honey bee colonies.

It identified Succinivibrionaceae, a group of fermenters in animals such as cows; Oenococcus, which are used by humans to ferment wine; Paralactobacillus, used to ferment food; and Bifidobacterium, which is found in yogurt.

"We've never known how healthier bees are generated by genetic diversity, but this study provides strong clues," Mattila says.

"Our findings suggest that genetically diverse honey bees have the advantage of broader microbial communities, which may be key to improving colony health and nutrition – and to understanding factors that can mitigate honey bee decline."

Newton says the team found that genetically diverse colonies have a more diverse, healthful, active bacterial community.

"Conversely, genetically uniform colonies had a higher activity of potential plant and animal pathogens in their digestive tracts," she says

The discoveries are important because honey bees, like humans and other animals, depend on the helpful communities of bacteria that live within their guts.

In honey bees, active bacteria serve a critical function – they aid in the transformation of pollen collected by worker bees into "bee bread," a nutritious food that can be stored for long periods in colonies and provides honey bees with most of their essential nutrients". (end quote)

Health scientists Have recently undertaken and come up with some very revealing aspects of bacteria in the survivability of we mortals, Fascinating subject! (editor)