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## [Probiotics – The Cutting Edge](#)

November 24th, 2009 [§ 2 Comments](#)

### **More From Sweden And The ARS**

Probiotic research will be the greatest advancement in beekeeping since beekeepers figured out how to harvest honey without killing the bees and destroying the nest. Through it, the importance of environment, bee biology and proper management will be united. The focus will be on bee and human health and nutrition.

Natural beekeepers work with these concepts intuitively. But science can clarify and often simplify what we've known and have experienced with our bees.

Page 1169 in the December 2009 *American Bee Journal* describes more research concerning those beneficial critters in a bee's stomach. From it, I gathered the following:

- 13 species of lactic acid bacteria were found in the bee's stomach
- the bacteria are unique to the bee
- the bacteria don't originate in flowers or pollen
- they kill food spoiling bacteria
- they kill honey bee pathogens
- completely suppress foulbrood in bee larva
- compliment the bee's immune system
- they kill bacteria commonly found in infected human wounds
- are viable in fresh, uncapped honey less than two weeks old
- ferment bee bread
- preserve honey
- fresh unheated honey is a great probiotic
- results have been replicated in Sweden and by the ARS

The implications of this research are profound, both for the bee and for us. And it confirms what many natural beekeepers have known for years:

- anything internal or external that messes with the bees internal bacteria wrecks bee health
- fresh unprocessed honey is best
- heating/processing honey destroys its healthful qualities

## Probiotics For Bees

The latest research shows that the beneficial bacteria found inside a bee's stomach persist, for a time, in both honey and bee bread. Like always, the bees do it best for themselves. A comb of fresh, uncontaminated bee bread and honey is the ideal source of bee probiotics. But there are problems:

- seasonally scarce
- difficult to maintain
- viability difficult to access

### Pollen Patty

Another option might be to use fresh honey and bee bread to inoculate a pollen patty mixture. The reduced sugar concentration of a pollen patty might allow the bacteria to live longer.

### Kombucha

A liquid mixture is cheaper, easier to maintain, and apply than a pollen patty based probiotic. And it reduces the risk of introducing diseases and contaminates if the pollen is purchased and not trapped.

Nothing is known about kombucha and bee lacto bacteria. But using fresh honey, instead of sugar, and bee bread added to the mix would be a good start. My own experience with kombucha indicates that the bacteria involved survive in a range of temperatures for months. Let's hope it's the same for the bee's bacteria.

A kombucha based fresh honey/bee bread mixture could produce a kombucha mushroom inoculated with bee lacto bacteria. Multiple and continuous batches could be produced using the kombucha mushroom.

### Sugar Syrup

Maybe it's the ultimate solution. But my personal experience indicates it lacks the stability and consistency found in a kombucha based culture.

Regards – Dennis Murrell – BWrangler

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#### § 2 Responses to *Probiotics – The Cutting Edge*

- *Garry says:*  
[11/27/2009 at 9:47 pm](#)

Using honey, an anti-microbial, instead of sugar in the kombucha would likely regard the scoby growth. Any additional info on how to prepare this would be helpful.

### [Reply](#)

- *Dennis Murrell* says:  
[11/28/2009 at 11:20 pm](#)

Hi Garry,

I've wondered about that. But haven't experienced it in the few honey based batches I've brewed for human consumption.

My honey based kombucha experienced a different problem. When brewing, the honey was diluted to the extent that all its sugar tolerant yeasts reproduced faster than the kombucha based yeasts. And the resulting kombucha had a very bitter, off taste that I didn't care for.

Others haven't experienced this problem. Maybe their local sugar tolerant yeasts were better behaved than mine.

I expect that a kombucha based on honey and bee bread will be very beneficial for the bees. But it might be nasty tasting for us humans.

Thanks for the note. Let me know how it works for you.

Regards – Dennis Murrell – BWrangler

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