



# Buzzword



**West Sound Beekeepers Association** [www.westsoundbees.org](http://www.westsoundbees.org) Volume X Issue VI April 2007

## April 2007 Meeting

Tuesday – April 17, 2007  
7:00P.M.  
Stedman's Bee Supplies  
Silverdale, WA

## Program

**6 PM** Bee—ginner Class  
**7 PM** Program/Meeting  
Officer Elections

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WHERE IS THE QUEEN

## President/Editor

Basil Gunther



## Vice President/Webmaster

George Purkett



## Secretary

Judy Gunther



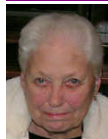
## Treasurer

Dennis Heeney



## Educational Materials

Barbara Stedman



## Librarian

Roy Barton



## Education Chair

Paul Lundy



## Queen Rearing Group Leader

Maya Bewig



## *Message From the President:*

Hello Everybody!

First, with tiny changes, I give you former president Paul Hosticka's impressions on the April Elections:

"April is election month for our association. Our by-laws have term limits of three years for officers, and for president and vice president those terms are up. I believe that change of officers is good for any organization. New ideas and new direction keep an organization vibrant. We need people willing to make the relatively small commitment of time and effort to keep the association going. No special skills are required, as I have so clearly demonstrated, and I know that many of you could do a fine job. The president runs the meetings, keeps up with minimal correspondence, is liaison with other organizations and gets last crack at the refreshment table. The vice president basically acts as back up president if the regular president can't make it to the meetings or is unable to continue as president. It ain't all that hard! For your efforts you get the gratitude of the membership and the satisfaction that you volunteered to help where help was needed. Most important you get to do it the way you think it should be done for your turn. All surely more precious than silver, more precious than gold. So throw your hat in the ring, we're looking for a few good people to lead us into a bright beekeeping future and you know in your heart that you can and should do it. The best way I know to get elected is to not show up, so go to the meeting!"

All I can add to that is that I enjoyed my three years as president and learned a lot about many of the members, how to run meetings, and even a little about bees. Thanks for the experience!

See you at the meeting,

-Basil

### **Minutes from the March 20<sup>th</sup> 2007 meeting:**

*Submitted by Chantetta Ludwig for Judy Jennings*

VP George Purkett presided at the meeting.

### **Treasurer's Report:**

Dennis Heeney gave the treasurers report:

- \$1542.18 in checking, and \$3413.10 in savings.
- 4 checks were written \$29.85 to Paul Lundy , \$173.76 to David Macovjak for Scholarship fund, \$341.91 to Basil for newsletter and Miscellaneous; \$40 to Paul Lundy -refund/state association dues.
- 43 Members paid for 2007

### **Old Business:**

Jo Miller (former State Bee Inspector from Whatcom County) will do a presentation on July 17, 2007.

Peter Ludwig reported that Marina Miexner is now in Germany, so she won't be coming to our meeting.

Peter

is waiting to hear from Steve Sheppard.

15 members signed on for the bee breeding and queen rearing group with Maya Bewig as Group Leader; she needs information on interested people.

Paul Dilly mentioned there is a good tape by Sue Colby on Queen Breeding.

Is someone interested in taking the surveys on how everyone's bees are doing?

## **New Business:**

Treasurer will not be here next month.

Check website [www.MAAREC.org](http://www.MAAREC.org) ( North Carolina Dept of Agriculture) for information on Colony Collapse Disorder .

The Association Apiary hives died , A motion was made by David Heid to replace the bee colonies for the club , Steve Greist seconded the motion. Five packages were ordered.

Discussion was on having more participation with the Associations hives, not with just George Purkett doing everything. There will be a sign up sheet On April 7th or when we pickup the packages at Stedmans after 10 AM , interested people can come and help with the Clubs Hives .

We need to:

1. Clean up around the hives.
2. Install bees
3. Make inspections every 9-10 days
4. Need to make calls to remind those who signed up( this idea had a lot of discussion)

George Purkett said he would be the coordinator for the Club Hive sign-up sheet for each week (possibly every Saturday, and possibly every third Tuesday , prior to the bee meeting.

Advertising sheets for West Sound Beekeepers Assoc .were passed around.

Discussions were on :

- "What did you do with your hives last year and what will you do differently with your hives this year.?"
- hive tools
- grease patties with peppermint (powdered sugar and vegetable oil)
- use of screened bottom boards.

## **Door Prize Winner:**

Harley Whitney, Congratulations!! He won the infamous 10-in-1 paint- scraper/hive tool !

## **George “Mr. Science” Purkett Presents:**

On Mar 24, 2007, I was invited to present a 'Talk about Bees' at an elementary school in Shelton as part of their schools 'Family Science Night'. Three other presentations concurrently in other rooms were (1) a doctor explaining x-rays, (2) A hands-on symmetry exhibit by the Pacific Science Center, and (3) a group presentation of computer internals. The students and their families were divided into 4 groups and each group was cycled thru the 4 presentations spending 20 minutes at each and having 5 minutes to move between presentations.

So my task was to filter all bee knowledge into a 20 minute talk and give it 4 times in rapid succession. My audience included all elementary grades, older siblings, parents and even a few grandparents.

Fortunately, Barbara Stedman gave me honey sticks and stickers for the kids, to get on their good side (Thank You). I displayed a set of the Bee posters, Bee suit, smoker, nuc hive, and a frame with honey and queen cells on it. There was also an observation hive with a handful of bees to keep the young eyes entertained.

I thought since It was 'Science Night', I would focus on the bee rather than beekeeping. I had each person pick the caste (queen, worker, or drone) of bee they would most like to *be* (pun intended). Then proceeded to describe the typical day in the life of each. Some were happy with their choice, and some wanted to re-choose. One requested to be a wasp.

Then I continued on with what physical changes they would have to perform as they changed themselves into a bee. This was a fun way to describe the anatomy of the bee in a way kids would be apt to remember. ...stretch jaws way out, split down the middle and start using them like a pair of pliers to work wax...really long lips that can be rolled out to be used like a straw to stick the long tongue out... Think of the heart as a long sump pump... Yes, they may remember some of that... When I said no head colds because we didn't need to nose to breath through, I heard 2 girls mention spiracles before I did. They must be learning more about biology than I did in grade school.

I gave a quiz at the end to see if I had covered the material. See how well you do on the following:

How many ears does a bee have?

How many queens in a hive?

How many combs does a bee have? (sometimes called antenna cleaners)

How many body segments does a bee have?

How many wings does a bee have?

How many eyes does a bee have?

How many legs does a bee have?

I called it my quiz by the numbers...did you notice the pattern in the numbers?

I was amazed how absorbed my audience became. The questions showed me they were very interested and wanted much more information than the mere 20 minutes allowed. Perhaps a future beekeeper will emerge from that crowd.

If you get an opportunity to present like this, I highly recommend it.

-George



Are these getting ready to swarm?

# Editor's Corner

## A Brief History of Hygienic Honeybees

It was back in the 1930's when Dr. O.W. Park of Iowa State College, F.C. Paddock, Iowa State Bee Inspector, Frank B. Pellot who ran the Dadant Honey plant Test gardens, and Oscar Wallace, decided to see if honeybees could be genetically resistant to American Foulbrood Disease. AFB, a devastating bacterial honeybee disease was, and perhaps still is, the worst threat beekeepers faced, back in those days before tracheal and Varroa mites, Small hive beetle, Africanized honeybees, and Colony Collapse Disorder. Discovery of AFB in a colony meant destroying, by burning, the colony and the equipment it was housed in. State Bee Inspection programs were designed largely to combat the spread of AFB, whose spores could contaminate honey, combs, equipment, and hive tools and remain viable indefinitely.

Sometimes a colony would survive in an AFB infested apiary. These colonies were thought to be AFB resistant and donated to the project. Infected comb was introduced to colonies and a line of bees bred from the survivors. You can read about the project in American Bee Journal, years 1936-1939. By 1939 they had achieved a 95% resistance rate!

In 1942, Dr. Allan Woodrow, of the USDA-ARS in Laramie, Wyoming, proved honeybee larvae are only susceptible to AFB during the first 24 hours after hatching. Two years later, in 1944, Dr. Leonard Haseman, of the University of Missouri, discovered that the symptoms of AFB disappeared following antibiotic treatment. Thus began the widespread and long lasting dependence on antibiotics which continues to this very day, and the AFB resistant bees were largely ignored.

About this time the University of Wisconsin, under Dr. C.L. Farrar, had 350 honeybee research colonies, four of which were AFB resistant. Colonies under Farrar were extensively managed. Farrar's students were constantly recording brood area and performing brood manipulations on colonies that were housed in three deeps with plenty of supers, since Farrar insisted upon and got record honey crops from every colony. In fact, Farrar thought the biggest obstacle to overcome in beekeeping was how to uncap all that honey! According to a former student of his, Steve Taber, Farrar worked the resistant colonies himself and found 1-5 infected larvae during each inspection yet honey production was unaffected.

Steve Taber started working with Farrar in 1945 and graduated in 1949, working with Farrar until 1950 when he joined the USDA-ARS in Baton Rouge, Louisiana. Around the same time, Walter Rothenbuhler studied under Dr. Park in Iowa; in 1951 he began working on the genetics of disease resistance behavior and the phrase "hygienic behavior" describing genetic resistance to AFB originated through his teachings. He received his Phd in 1954 and a full professorship to Iowa State in 1959, but moved to Ohio State University in 1962. A former student of his is Dr. Thomas E. Rinderer, currently Research Leader of the USDA-ARS in Baton Rouge who was advisor to Dr. Nicholas W. Calderone of Cornell University in Ithaca, N.Y.

In 1954, E.G. Brown of Sioux City, Iowa developed his world famous "Brown Line" of AFB resistant honeybees. Brown ran a wax rendering business and let his bees rob AFB infested comb. His bees exhibited three genetically based mechanisms to ward off AFB: 1) Adult bees filtered AFB spores from their honeysacs before using the contents to feed larvae; 2) Larvae themselves were less susceptible to infection; and 3) They exhibited hygienic behavior. Rothenbuhler used Brown's

**bees in his program and recalled they had a "temper" and would "staple your pants to your leg!"**

**By 1964 Rothenbuhler had demonstrated independently inheritable genetic characteristics for the two "hygienic" behaviors:**

- 1) uncapping cells of infested larvae, and**
- 2) removing the larvae from the colony.**

**He assumed two unlinked recessive genes that explained the behaviors using Mendelian logic.**

**In 1965 Steve Taber moved to Arizona and began working at the USDA-ARS in Tucson.**

**In 1975 Rothenbuhler's genetically restricted line developed "Hairless Black" Syndrome and perished. Rothenbuhler had never told people how to identify hygienic behavior. Steve Taber, shocked at the loss, began looking for hygienic behavior in the Arizona colonies. He developed a method where a two-by-two inch square of capped brood is removed from the colony and returned after being frozen for 24 hours. Then you see how long it takes the bees to remove the dead larvae. First he found some colonies that could do it in 48 hours and by inbreeding these, found colonies that exhibited "24- hour hygienic behavior". Taber advocated selection for hygienic stock for years and was ignored and even ridiculed until some of the young researchers under his guidance brought it into the "mainstream".**

**One of the young researchers was Martha Gilliam, best known perhaps for her work on hygienic behavior and Chalkbrood disease. Another researcher, Marla Spivak, joined Taber and Gilliam in Tucson in 1989 after working under Dr. Orley "Chip" Taylor in Kansas (Taylor is known for his work in trapping and documenting the spread of the Africanized Honeybee using synthetic hormones and swarm traps). Spivak later referred to Taber as her queen rearing mentor. In 1993 Dr. Spivak began the research at the University of Minnesota that led to the development of the popular "Minnesota Hygienic" line of honeybees, which has been maintained and improved ever since. Spivak also studied under Dr. Basil Furgala, also known as "Dr. Nosema", of the University of Minnesota. Dr. Furgala worked for the Canadian Department of Agriculture from 1959-1967 before coming to Minnesota. Dr. Eric Mussen of UC Davis was also a student of Furgala.**

**Dr. Jerry Bromenshenk, University of Montana, and one of the founders of Bee Alert Technology (a company specializing in high tech solutions to modern beekeeping problems), thought Taber's Cut Comb method for hygienic testing cumbersome, not very discriminating, and laborious. He developed the Nitrogen Assay, which is the industry standard today. A 3 inch diameter metal cylinder 4 inches deep (a food can with both ends cut out) is inserted into the capped brood and filled with about 300 ml (a 10 ounce Styrofoam coffee cup) of liquid nitrogen which is then allowed to evaporate. The brood frame is replaced in the hive and counts are made after 24 and 48 hours.**

**In 2002 Australian "Rural Industries Research and Development Corporation" challenged the Rothenbuhler two-gene model for hygienic behavior and using a combination of molecular techniques, linkage mapping, and quantitative trait loci analyses, identified seven putative genetic markers associated with hygienic behavior. Each QTL accounts for 9-16% of hygienic behavior; the totals explain 80% of the variance in the levels of hygienic behavior observed.**

In recent years, the team of Drs. Jeffery Pettis, Judy Chen and Jay Evans of USDA-ARS Beltsville, Maryland, have shown that bees have a variable, measurable, immune response to AFB (2004); that bacterial symbionts ("good" bacteria) are present in natural honeybee populations and actually inhibit the ("bad") *Paenibacillus* bacterium responsible for AFB (2005); the team tested about 35 antibiotics used in agriculture today and found two, tylosin tartarate and lincomycin hydrochloride effective in treating AFB (2006).

In 2006, the FDA approved the use of Tylosin for treatment of AFB in honeybee colonies.

During these same years, extra potent strains of AFB surfaced that completely resisted treatment with Terramycin, the brand name for oxytetracycline hydrochloride. One theory is that these strains arose by frequent applications of Terramycin applied prophylactically. Beekeepers discovered and used Tylosin "illegally" long before it was tested and approved. One big difference between the two antibiotics is the length of time it takes before it completely breaks down. Terramycin breaks down and is undetectable days later. Tylosin can be detected weeks or months later.

I wrote this Brief History of Hygienic Honeybees for three reasons. First it's interesting and I have never seen one, so I pieced this together from dozens of articles I've collected over the last few years.

Another was to illustrate the interconnectedness of the honeybee research community. It is relatively small and most of the people know each other. If you attend a conference or read a bee journal their names will be familiar.

The third reason was to show how mysterious is the human being. Here hygienic bees have been around or possible for almost 70 years and we're still overly reliant on antibiotics. And we pay the price, directly for the antibiotics themselves, and the greater, indirect cost of tougher, more virulent strains of AFB, combined with tainted combs and honey that foster the development of even worse strains of AFB. Instead of looking for stronger and stronger medicines, I think we should be looking for stronger bees. When tracheal mites first arrived in this country, the peppermint oiled grease patty was a good solution to survive our initial vulnerability. Nowadays most bees worth having are tracheal mite tolerant and (in my opinion) the use of grease patties should be considered obsolete. Let the susceptible colonies die, propagate the strong and don't pamper the weak! There are queen breeders producing good bees out there and they are the ones you should be buying your queens from!

*-the editor*

## **BASICS IN NORTHWEST BEEKEEPING**

*Adapted from Ron Bennett and Paul Hosticka, supplemented by editors Iverson, Augustine, & Gunther*

Now starts the most exciting period of the beekeeping year. Your bees should have been started, treated and fed, and should be in a dramatic growth mode. The queen (bless her little heart) is laying over 1,000 eggs a day. We have had many good days with the air above 50° and winds below 14 mph, and the bees have been out working very hard bringing in pollen and nectar.

But, here in the Northwest, there is about a three week period from the end of April into May where the nectar flow drops to almost zero. This is a very critical situation for your bees. They have been stimulated to build up a huge population to take advantage of

**the main nectar flow at end of May and are committed to raising and feeding a lot of young bees. Without feed sources around, your bees, which look big and strong and hard working, can actually starve out in the first three weeks in May. So, watch your bees carefully and don't let colony stores get below 15 lbs. If the colony starts to get light, FEED!!! Use a light syrup (1:1 sugar to water by volume).**

**April is also the time when those beginning with packages get to start having fun. So far it has been getting equipment together, reading and learning the craft, and maybe taking a course. The sunny location has been selected and now all is ready. Putting three pounds of unrelated bees and a queen into a box of foundation and watching them organize themselves into a cohesive, productive unit is one of the great marvels and joys of beekeeping. Make sure they have constant feed and possibly an antibiotic (traditional) at the start. After a week go in and take a look. Don't worry too much about disturbing them. It will be fine. You should see some drawn comb, eggs, and young larvae. Keep the feed on and add a second box after 6 or 7 frames are drawn out. Spend time watching them at the entrance and learn their habits. Gain confidence by going in and examining the colony every week or so. There will be no new bees for the first three weeks so expect to see some dwindling, but after that the population will explode. Make sure you give them room to grow. Keep feeding; they will let you know when they don't need it by stopping taking it. By the end of the first year you will know all you need to know about the subject. But as Ken Bennett, an old time beekeeper and founding member of our Association says: "in beekeeping, it's what you learn after you know it all that makes the difference"!**

**Now is also swarm season when you hope that your neighbor beekeeper is not as good a beekeeper as you are and you can catch swarms from their hives while your good management practice keeps your hives from swarming. Swarm control is probably one of the least successful areas of beekeeping. Swarming is the natural way for bees to ensure the survival of their species, and like all teenagers, the instinct to reproduce is very difficult to control. One of the best ways to minimize swarming is by requeening your hives. A swarm is a portion of your bees leaving with the old queen, and this tends to be with queens in their second year. So by requeening with a new young queen, you not only assure yourself of a strong queen, you cut down on the chance of her swarming.**

**A second technique is to reverse your hive boxes. The bees will start the swarm process when the queen starts to run out of perceived space in which to lay. Since she tends to only move upward, she does not use the space available below the brood cluster. By reversing the boxes, you force the bees to reorganize their stores and therefore create new space for the queen to lay in. Another method is to remove queen cells as they appear. But this rarely works since it's next to impossible to find all the queen cells and usually the bees have committed to swarming no matter what and just build more cells. Additionally the constant intrusion into the hive will stress the colony greatly. The simple act of adding supers can also make the colony feel they have plenty of room. Give supers with foundation, but only to those colonies that are working in the supers. Place directly over the queen excluder, if you are using one.**

**With swarming in mind, examine your colonies about every 9 days( on the 10<sup>th</sup> day a queen could emerge from a cell started right after your last visit. Then it's Sayonara! Adios! Farewell!) To inspect: Set off the supers; tilt up the second story, give a puff of smoke, and look for queen cells along the bottom of the brood comb. If you find only eggs or larvae in the queen cells and the hive is crowded with bees, remove all the cells -- top and bottom. Put the hive body containing mostly worker bees or larvae on the bottom board, and the other containing mostly sealed brood on top. Next put on the queen excluder and add supers to provide 10 to 15 empty full depth comb, or their equivalent in the supers. Place the empty comb directly on the excluder.**



If you find sealed or ripe queen cells, or possibly hatched ones, divide the colony. Set the top body, usually with most of queen cells, onto a bottom board and cover with a lid. Put this hive on a separate stand. Remove all queen cells from the lower body; put on the excluder and add supers to provide 10 to 15 empty full depth combs, or their equivalent, above the excluder. Several hours later, look for the queen in the divide. If you find a virgin queen (no eggs laid), let her remain, but if you find the old queen pick her up and let her run into the entrance of the colony on the old stand. Let the queen cells hatch in the divide. If you find no attempt to rear queens, and the hive is full of bees, examine the supers and add more to provide 10 to 15 empty full depth combs, or their equivalent, above the excluder.

Think about adding a screen bottom for better ventilation, if you're not already using one, for better ventilation and mite control that doesn't cost any money after installation. Some beekeepers use a additional 3/4-1" hole in the upper box as a entrance and to provide additional ventilation. Bees seem to love these!

Keep on the lookout for American foulbrood and take remedial action as necessary. If it's a very small outbreak it may be possible to remove the affected frames and treat with Terramycin. If treating with Terramycin do not treat with supers on that you intend to extract for honey. Some strains of AFB are terramycin-resistant and the stronger and more residual antibiotic Tylosin can be used. In the event of a full-blown outbreak the recommended action is to destroy the colony and burn the equipment. Non-traditional methods of combating AFB without antibiotics include "Shook Swarming" where all the bees are shaken into clean equipment without drawn comb, just foundation. Equipment except for the comb itself (which should still be destroyed) can be reclaimed by sterilization using an autoclave, gamma irradiation, or a hot paraffin dip.

If you have been fortunate and the honey flow has been good, add new supers under supers with capped honey. Remove and extract the supers containing well-ripened honey.

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 I want to be a member of the West Sound Beekeepers' Association (WSBA) during 2007. I have enclosed a check for \$24, payable to West Sound Beekeepers Association, to cover my January 1 through December 31, 2007 dues. (*household members are included in membership*)

Please Print..

NAME(S): \_\_\_\_\_

ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_ EMAIL: \_\_\_\_\_

I would prefer to receive the **email** OR **US Postal mail** version of the newsletter (**circle preference**)

**Please return to:**Dennis Heeney, WSBA Treasurer, 5350 Welfare Av, Bainbridge Island, WA 98110

# **Bees reared in cities are healthier and more productive than their country cousins, a study by French beekeepers' association Unaf has found.**



The bee was Napoleon Bonaparte's favourite insect

**Urban bees enjoy higher temperatures and a wider variety of plant life for pollination, while avoiding ill-effects of pesticides, the study said.**

**At the same time they can filter out city pollution such as exhaust fumes.**

**The study prompted Unaf to start a campaign promoting beekeeping in urban parks, on balconies and on roofs.**

**Beekeepers say urban bees' productivity can be up to four times that of their rural counterparts.**

**"In town, the bees go out more," apiarist Jean Paucton told AFP news agency.**

## **Disorientation**

**Another beekeeper said urban hives had maintained a steady mortality rate while in the countryside many bees were dying.**

**"I would find great carpets of sick bees, all trembling," Loic Leray said.**

**The Union of French Apiarists (Unaf) is campaigning against pesticides, which it says are destroying the industry.**

**It has expressed particular concern about Gaucho and Regent, two banned chemicals, the effects of which are still felt in rural areas.**

**"These molecules are neurotoxins which disorientate the bee and make it impossible for it to find the hive again," Unaf president Henri Clement told AFP.**

**But others have blamed diversification for the decline, saying attempts by beekeepers to increase production by importing unadapted foreign varieties of bee have backfired.**

**Correspondents say bees have a special place in French history - they were so admired by the Emperor Napoleon Bonaparte that he made the insect a symbol of his reign.**

**“ I would find great carpets of sick bees, all trembling ”**

**Loic Leray  
Beekeeper**

# Recipe Corner

With all the nasty colds and sore throats going around, here's a recipe for

## **Herbal Cold and Throat syrup:**

**½ tsp chopped or dried fresh or dried rubbed sage  
(sage is said to alleviate aches, pain, and fever)**

**3 tbsp honey**

**2 tbsp cider vinegar**

**Put the sage into a gauze bag or tea strainer and steep in half a cup filled with boiling water for 10 minutes. Remove sage and allow to cool.**

**Put the honey into a screw top jar or bottle. Pour in the cider vinegar and then the cooled sage water. Shake until well mixed.**

**Take two teaspoons per hour until symptoms ease.**



“Professor” Lundy



Basil's Condos