

Buzzword



INSIDE THIS ISSUE:

<i>IPM Recap</i>	1
<i>At The Last Meeting</i>	1
<i>Basics in Beekeeping</i>	2
<i>Bee Mentor Program</i>	2
<i>Sugar Dusting Varroa</i>	4
<i>Queen Resource List</i>	6

Next Meeting

July 16th, 2002

Program:

Mineral Oil as

Mite Control

with George Purkett

OFFICERS & COMMITTEES

<u>President:</u>	
Paul Hosticka	360-297-3614
<u>Vice President:</u>	
Kevin Wirth	253-851-4664
<u>Secretary:</u>	
Tricia Sullivan	360-779-1210
<u>Treasurer:</u>	
George Purkett	360-895-9116

<u>Educational Materials:</u>	
Barabara Stedman	360-692-9453
<u>Librarian:</u>	
Roy Barton	360-613-0175
<u>Newsletter Editor:</u>	
Stephen Augustine	360-779-1210

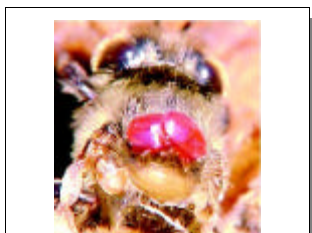
IPM Recap

Message From the President

Due to our new newsletter editor's travel schedule I am writing this note in June for the July letter, so I have the luxury of dreaming of how July should be rather than reporting on how it actually is.

July in these parts means summer is here at last. Long days of sun and warm temperatures, blue skies, bees on the wing and honey in the comb. The lowland blackberry crop is ripe and ready for extraction and the beekeeper's attention turns from the task of keeping the girls healthy to dealing with the bounty of healthy colonies. Our just

reward of buckets of honey is at hand. This is the time of year when everything in the bee yard gets a whole lot heavier. Brood boxes, supers, and buckets, all full of honey



Varroa Mite on Bee

put a sweet load on the old bones so mind your back and go get that crop.

I promise, this is my final rant on IPM (at least until

I can dislodge the rag someone stuffed in my yapper while my attention was elsewhere). Say you are the imaginary beekeeper with 4 colonies. One over-wintered colony from last year, two new packages from this spring and a swarm you caught in June. It is now September and you have been watching and caring for them all summer and are deciding how best to prepare for winter. The over-wintered colony and one of the packages are thriving, lots of bees, lots of honey, good brood production and no visible problems. The swarm built up well enough and is in two deep or three

(contd. on page 3)

AT THE LAST MEETING

Announcements:

* WSBA member, Jon Iverson, of Poulsbo passed away on June 2nd. Several beekeepers attended the memorial service.
 * Paul attended the State Bee meeting last week. WA State Fall Conference is at Sun Mountain Lodge in Winthrop from October 24th - 26th. Registration forms for the conference are available from Paul. "Central Reservations" rents many lodges

in the area as well -- phone 1-888-CAMPOUT.

New Business:

* A new newsletter editor is needed to take over for Jon Iverson. Motion made and seconded that Stephen Augustine become the newsletter editor. Approved with one dissenting vote.
 * We will also be checking into doing something in remembrance of Jon Iverson.
 * Summer picnic was discussed. Unanimously ap-

proved to have the picnic at Hosticka's on August 20th, rain or shine. 5 p.m. arrivals, 6 p.m. supper.

Program:

* Paul Hosticka and Stephen Augustine continued the topic of Integrated Pest Management. They reviewed IPM approaches for tracheal mites and other diseases.

Submitted by: Tricia Sullivan, Secretary, July 4, 2002



Get well wishes go out to:

Vice President Kevin Wirth. We haven't seen him at a meeting in so, so long. He must have hurt his back lifting all those 50 lb honey supers!

If you know of a member who has been ill let us know at (360)779-1210 or (360)297-

"The only reason for being a bee that I know of is making honey....and the only reason for making honey is so I can eat it."

Winnie the Pooh
The House at Pooh Corner

FOR SALE

12 oz capacity jars with Gold plastic lids included. 2.75 diameter x 4.75 high Mason jar lids will also work

\$2.00 per case of 12
Contact: Al or Barbara

Stedman's Bee Supplies
360-692-9453

BASICS IN NORTHWEST BEEKEEPING

Adapted from Ron Bennett (<http://members.aol.com/beetools/>)

July -

Examine each colony every 10 days for queen-rightness. Use a sugar shake test to check for mite load. Place supers with foundation only to those colonies that are working in the supers. Place them directly over the queen excluder, if you are using one. Sometimes the only way to get the bees to draw out a super is to let the queen get in there and lay a few eggs. Then, ensure that the queen is back in the brood boxes and put on an excluder. The bees will stay with the brood and start working in the super. Remove and extract the supers contain-

ing well-ripened honey.

If you are planning on making nucs for late summer or fall requeening order queens for July delivery. Requeening is your best management tool for failing hives or hives that have come down with mites or disease or hives with really bad temperament. Having nucs on hand will allow you to successfully requeen colonies late into the year if warranted.

Keep on the lookout for American Foulbrood. You can spot it by piercing sunken capped brood with a toothpick (or similar tool) and looking for "stringy" filling in place of

brood. A second method is to hold the comb by the top bar at an almost flat angle, with the sun to your back, look for dark or black scale on the bottom of cells in the brood area. If a colony is infected treat as appropriate for the level of infection. For small scale infections destroy the infected combs and treat with terramycin, but do not treat when supers are on that you intend to extract honey from. For large-scale infections you will most likely have to destroy the entire colony. Check any stored comb for possible wax moth infestation - like rust, wax moths never seem to

(contd. on page 4)

BEE MENTOR PROGRAM

WSBA has begun a mentor program. Following are the people who have signed up as volunteers to assist new beekeepers with advice and on site assistance. They will also respond to most calls for swarm capture.

South Kitsap:

George Purkett, (360)895-9116, purkettg@nwinet.com

Central Kitsap:

Mike Johnson, (360)830-0295, mlj@hurricane.net
Roy Barton, (360)613-0175, honeyhill@tscnet.com

North Kitsap:

Paul Hosticka, (360)297-3614, phos@tscnet.com
Paul Lundy, (360)297-6743, lundyknox@att.net

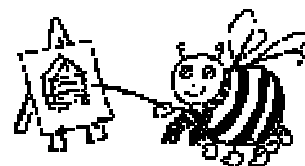
Bainbridge Island:

Jim Willman, (206)842-5991, willm4622@aol.com

Poulsbo and environs:

Stephen Augustine, (360)779-1210, saugusti@krl.org

If you would like to be added to the mentor list please contact Paul Hosticka at (360)297-3614



...IPM RECAP (contd. from page 1)

western boxes but the bees seem a little nervous on the comb and are more defensive than your other colonies. The other package just didn't seem to go anywhere. You see deformed bees, they were slow to build up and didn't make any honey. Two are on screened bottom boards and two on regular bottoms.

You put a sticky board under the screens and do a sugar shake on the others to get a varroa count. Over-winter on screen after 24 hr with two mite strips in, you count six varroa mites. Big package on regular bottom you count three mites in a sugar shake. Little package on screen 150 mites with strips, and swarm on regular bottom zero mites in a sugar shake. The over-wintered (OW) and swarm (S) don't have a problem with varroa needing treatment. You are a little nervous about the big package so you put the strips in that you pulled out of (OW) and put a sticky board under them and next day see 23 mites. With brood production going down over the winter the mites won't have the opportunity to multiply so you decide not to treat this fall but make a note to get an early count next spring. The little package (LP) has a varroa infestation and will probably not survive and definitely not thrive so you leave the strips in for the

recommended treatment time.

You see a few crawling bees out front and one or two with K-wing in (S) so you take a sample and send it off to the lab for a T-mite test. While you are at it you include a sample from (LP).

In five days you get the results back with 52% infestation in (S) and 8% in (LP). The swarm will not thrive with that level of T-mite load and so you treat with formic acid as prescribed by Agriculture Canada and since they were defensive and nervous you replace the queen with one from resistant stock. (LP)'s test reveals a low enough infestation that you don't treat them for T-mite and the vigor of the others together with no visible symptoms and your regular grease patty applications give you confidence not to treat them for T-mite this fall also.

The origin of the (S) queen is unknown so you replace her with a queen from resistant stock but (OW) and the big package (BP) queens are doing great so you tell them to keep up the good work and leave them alone.

You carefully inspect and see no evidence of foul-brood and have not had any for more than 2 years so there is no need to

treat for AFB. Since you didn't know where the swarm came from you treated them with the regular dose of terramycin dust when you caught them and they appear fine.

The swarm is light so they get 4 gallons of heavy syrup. (OW) and (BP) have the top brood box just about full so they get two gallons each and since swarm had T-mite and little package had varroa, both stress inducing conditions, you give them Fumidil-B to guard against nosema in the last two gallons of feed. That's it, you and the bees settle down for the winter comfortable that you have done your best and hopeful for 100% winter survival.

In the spring we will look in and congratulate ourselves for the successes and analyze and learn from any failure and start another year. The details will of course vary but the basic thought pattern of IPM will in time lead to better more self dependent bees and less dependence on chemical input by the beekeeper.

All of that is for the fall. Right now we have to get the extractor cleaned out and round up some buckets, it's payday! See you Tuesday.

Paul



Refreshment Schedule

Jul: Todd Oberlander & Mary & Ray Monroe
Aug: Summer Picnic
Sep: Mike Hoey & David Myhre
Oct: Mark McColigan & Catherine Mathewson
Nov: Nancy Fortner
Dec: Dinner Meeting

If you are unable to fulfill your commitment to provide refreshments for a meeting please notify Barbara Stedman by giving her a call at 360-692-9453 before the meeting date.

Summer Picnic



Mark your calendars for the annual Association picnic. This year's picnic is going to be held on August 20th at the tranquil *Octopus Garden* bee ranch in Kingston. Further details to follow at the coming meeting and in the next newsletter.

Editor's Note:

Articles and of interest to beekeepers and announcements of interest to Association members are welcomed and encouraged.

Submit articles and announcements to Stephen Augustine:

Email: saugusti@krl.org
 Mail: 401 B Liberty St NW, Poughsbo, WA 98370

Subscribe to Dr. Malcolm Sanford's excellent Apis Newsletter at:
http://groups.yahoo.com/group/Apis_Newsletter/

Octopus Garden Queens



Kitsap County bred,
New World Carniolan,
marked, laying queens
for \$12.

Queen cells for \$3.
Limited supply, im-
mediate availability.

Call Paul at 297-3614

...BASICS IN BEEKEEPING (contd. from page 2)

sleep. Make your plans for the county fair.

July marks the end of the major nectar flow here in the West Sound. You should make your plans to remove your capped frames of honey from your supers and ready them for extraction. Stedman's have an extractor to rent. You might want to consider having another beekeeper extract for you and save you the mess. But, there is nothing quite

as wonderful as the first of your own honey flowing from the extractor.

You should examine the supers frequently but don't leave much empty comb on colonies that are light in stores in the brood nest. Add supers only to the top of the filled ones, not below them. If you are not taking your bees to the mountains remove all supers by the end of July so that the bees can pack the brood boxes with any

remaining honey that they gather for their winter stores.

Don't tempt robber bees with exposed honey. When you remove your honey supers from the hive, keep them covered as you collect them. Not only will it make keeping the yellow jackets at bay a little easier, once bees start robbing, it is very difficult to stop them from robbing from other hives.



SUGAR DUSTING FOR VARROA MITE CONTROL

By Jim Fischer (admin@CableNet-VA.com)

1) What The Heck IS "Sugar-Dusting", Anyway?

It is a technique that Dr. Fakhimzadeh from the University of Helsinki proposed as a part of his Doctoral work. He published it in several journals (including the June 2000 issue of ABJ). I tried it. It works for me. Your mileage may vary, but as a card-carrying scientist (sorry, physics, not entomology), I can state that I have done my best to "reproduce" his results, and I feel that I can confirm and endorse his findings. (Heck, I'd nominate him for an award if the beekeeping community had any serious awards - the results are that good.)

The idea is simple. When varroa fall down below a varroa screen, they don't crawl back up into the hive. Varroa have little "suction-cup" feet. Sugar particles that are around 5 microns in diameter clog up their little suction cups, and they can't hang onto things. They fall. They die. They don't live to reproduce. Therefore, dusting the backs of the bees will knock off some significant percentage of the mites, keeping the population "under the economic threshold". (Beg, borrow, or Xerox the ABJ article. Read the details for yourself.)

Given time, we may find that sugar dusting allows one to stop using (or at least skip a year of using) Apistan strips and other toxic stuff. I have nothing against the makers of chemicals, but one wants to have more than one weapon when one deals with a beastie like varroa, and this is both a cheap and effective non-toxic treatment.

2) Which Powered Sugar To Use?

I do not think that 2% - 5% corn starch (found in Domino 10X and most other store brands) matters one bit. My reasoning is that one does not sugar-dust a hive until the warmer days, and there should be none of the problems that one might have with impurities in winter feed (dysentery). If the bees can fly, they can certainly avoid dysentery. But, just in case, try to find the LOWEST percentage of corn starch you can.

There are rumors of "pure" powdered sugar with zero corn starch (added to keep it from clumping up). I have yet to find any, but I have

not looked further than my wife's pantry. (Yes, yet ANOTHER opportunity to drive your long suffering spouse completely insane, this time by stealing her/his powered sugar!)

3) How To Prep The Sugar?

If you read the articles, you find that VERY tiny sugar particles are what clog up the "suction cups" on the legs of the varroa mites. But how to insure that you "dust" a minimal amount of useless larger particles, when the optimal particle size is on the order of 5 microns?

This is what I do. It is far from "perfect", but it works, and requires no special equipment or skills:

3a) First, all sugar is sifted with a good-quality baking flour sifter. This removes the big lumps. One can simply dump the lumpy stuff back into the supply of sugar to be used in baking.

3b) Sift the sugar AGAIN, this time letting the sugar fall into a container that you can seal tightly against moisture.

3c) Do your sifting on a dry day. How dry? The driest possible. Mid-winter is a good time to do this, as heating systems tend to dry out the inside air. A day when you can get a shock from a doorknob is likely about the driest you can have.

3d) Add some rice to your sugar container to absorb humidity, and keep the sugar dry (Grandpa did it with his salt shaker...)

3e) SEAL the container tightly (I use canning jars).

3f) Note that you are likely sifting sugar in a kitchen. Both the sifter and the kitchen may be "community property" under the law, but a wise beekeeper would do the sifting over the sink, and be sure to clean up after the sifting. I had one unfortunate accident involving a sifter, a bowl of sugar on a coffee table, a large dog, and an unexpected visit from the Fed-X delivery man, so STAY in the kitchen. Listen to the game on the radio.

4) How To Apply The Sugar To The Colony?

(contd. on page 5)

...SUGAR DUSTING (contd. from page 4)

Since application of the sugar is the only "technique" one must master, I have messed with several different "varroa pistols", ranging from a bagpipe-like contraption to a foot-pump-driven monstrosity.

The lowest-cost (and perhaps overall best) approach would be to use a well-washed and dried baby-powder container, one with a cap that twists to reveal tiny holes. You open the twist-cap so that the holes are partly open, squeeze the plastic bottle sharply, and the result (with a little practice) should be a satisfying cloud of fine sugar particles.

With a little practice, you can perfect your "range" accuracy, and dust the bees without getting too much on the comb or frames.

If the tiny holes get plugged up, give the bottle a sharp thump to dislodge the clogs.

Now, you can remove frames, one at a time, give each side a few "puffs" of sugar, and replace them in the super or hive body. One hand holds the frame, and the other holds the baby-powder container. Need two hands to pull that frame? Wear a carpenter's tool belt, and you have a "holster" for your varroa pistol and your hive tool.

There are some who have mentioned simply dusting the top bars rather than removing the frames, but the idea here is to do one's best to knock down all the adult varroa in the hive, so I have dusted every side of every frame (except those with open cells, on the grounds that the queen looks for "clean" cells [watch a queen sometime, she "inspects" every single cell before laying], and those cells that contain unsealed brood.)

Dr. Fakhimzadeh says that one need not be so careful, and that sugar DOES NOT have a negative effect on open brood or eggs. (Allen Dick recently pointed out that Terramycin (OTC) dusted with sugar was claimed to be fatal to brood, and Dr. Fakhimzadeh stated that it is the OTC itself that can kill the brood, not the sugar.)

Regardless, I'd still try to avoid open cells ready for laying, since one does not want to slow down one's queen.

5) I'm A Klutz - I'll Drop A Frame, Or Crush Bees!

Don't sweat it. Several of the bee suppliers sell a handy gizmo called a "frame hanger". It has two brackets that slide over the edge of a hive, and two arms that support several frames at a time, hanging them out where you can dust them. You can buy one, and use two hands to handle the frames at all times.

If you are a klutz, this will be a good way to get in the habit of developing skill, style, and panache in tearing down a hive, looking at comb, finding the queen, and other skills basic to "working with bees". Keep at it. You'll get better.

6) OK, I've Dusted My Hives - Now What?

I'm going to assume that you have a varroa screen, a slatted bottom board, or at least a sticky-board insert with a mesh cover. (If you don't, get one! Sugar dusting will not help if the mites can crawl onto another bee after their fall. Better yet, even when you are NOT sugar-dusting, quite a few mites will fall through a varroa screen.)

I use plain old "shelf paper", cut to the correct size, with the backing paper removed at the hive, and the shelf paper slid into the rear opening below the varroa screen STICKY SIDE UP. I'll say it again - STICKY SIDE UP!!!

If you slide a fresh sheet in just before you do your dusting, you can get the most accurate "body count". There are many methods to count, and I am sure that some statistics expert will tear my head off, but I don't care how you count ("pick a few square inches", count all the varroa in a stripe across the sticky paper, whatever). But pick a method and STICK with it, so your data is all based on the same "sampling technique".

When you sugar-dust, you should get more varroa on your sticky paper than you have EVER seen before. More than you would see after 48 hours with varroa strips, more than with any chemical. From what I have seen, the only thing that would knock down more varroa would be a direct nuclear strike on the hive. :)

Remove that paper after a day or two, and replace it with a fresh sheet to count "falling survivors". You should see few on the second

sheet, even after a week or two.

Why sticky paper at all? Well, if you are doing sugar rolls as a varroa detection method, you may choose to NOT use sticky paper, but I LIKE seeing the actual results of the sugar dusting. Call me vindictive, but I laugh a maniacal laugh when I see a sticky sheet with lots of varroa. I laugh even more as I set the sticky paper on fire and drop it in a burn bucket. If you listen carefully, you can hear the little vampires scream. :)

Seriously, once a varroa falls down below the varroa screen, it will NOT crawl back up into the hive and onto a bee. They just are not that smart. The varroa will simply lie there and starve to death, waiting for a bee to come close enough to climb upon. One does not need the sticky paper. Several articles have addressed the effectiveness of varroa screens.

7) When Do I Dust My Hives?

When you see "high enough" varroa counts as a result of a sugar roll or on a sticky paper placed under your varroa screen. (For instructions on how to do the sugar roll test, see this web-page, pointed out to the list by Mr. Aaron Morris): <http://entomology.unl.edu/beekpg/tidings/btid2000/btdjan00.htm#Article2>

But what's "high enough"? Well, you have to keep track, keep records, and develop a judgment about such things. I can't simply give you a number, since there is no single number that would work for all hives, and no two beekeepers are going to even "sugar shake" their bees the same way.

There is a trade-off here. One could sugar-dust a hive every week, but think of the impact on the productivity of the bees. Doing a complete tear-down of a hive is VERY disruptive. Better to tolerate a low varroa population for a while than to disrupt the hive so often. I would not dust more than once a month. (But one can do a sugar roll, or if you must, an ether roll as often as you wish.)

One is likely never going to see zero varroa during the summer, so if you see zero varroa, question your test methodology.

From what I have read, the varroa population, if left unchecked, starts to get out of hand in June, July, August, and September. Of course, if one sugar-dusts early, one could argue that one could stop the population growth before it starts. A military strategist would argue that one must do a second sugar-dusting just in time to get any mites that were sealed in brood cells when you did the first dusting. I dunno, I am just happy that I have an all-natural way to kill the majority of the mites that does not require removing the hive from the season's honey production.

8) I Have An Insecticide Duster - Can I Use It To Dust My Bees?

You can use the same type of device, but I would buy a new one and mark it "Sugar Only", for obvious reasons.

9) I'm A Commercial Beekeeper, And Don't Have Time For This Nonsense Of Tearing Down Every Hive...

OK, send me an e-mail, and I'll be happy to build and sell you the ultimate sugar dusting rig. I've got a Pratt and Whitney turbine engine from a Navy F-16 out in the barn that shows promise as a high capacity "whole hive" sugar duster. You could also use it to clean pollen if you had a football-field sized room in which to clean pollen... :)

10) Where Do We Pool Our Data?

Good point. We should. Mites and diseases are forcing beekeeping to become much more of a "science" than an "art". "Science" means accurate records, archived in a central repository, and made available to all. I am open to suggestions on how we might standardize our "mite counts" to make such a data-collection effort worthwhile.

11) Where Do The Varroa Come From? How Do They Get In My Hives?

I wish I knew. I wish I knew someone who knew. If you can find out where varroa come from, call me, so we can go torch the place some Saturday night.



Queen Resource List

(not a comprehensive list but a good place to start)

Hosticka/Augustine, June 2002

New World Carniolan Project

Sue Cobey at Ohio State Univ. has maintained this closed breeding project since 1982. She carefully evaluates and tracks a line of queens that are proven T-mite resistant, hygienic as well as maintain the traditional Carniolan characteristics of rapid spring buildup, gentle temperament and good production. She makes breeder queens available to the industry and continues to incorporate and test new traits such as SMR for inclusion in her line. Approved breeders include: Strachan Apiaries (Calif) 530-674-3881, Heitkam's Honey Bees (Calif) 530-865-9562, Leonard Pankratz (Calif) 800-228-2516, Powel Apiaries (Calif) 530-865-3346, Kona Queen (Hawaii) 808-328-9016

Primorsky Russian

This is a line that was imported and evaluated at the USDA Baton Rouge research lab and has been released to the industry. These bees have a demonstrated tolerance to varroa mites. They have been proven adequate producers and are largely used in hybrid stock development by various breeders. The line is not controlled once out to breeders but Lilia DeGuzman maintains and evaluates the stock at Baton Rouge. Many breeders have included these genetic lines including: B Weaver (Texas) 936-825-7312, A.N. Bees (Calif) 800-915-5546, Jester Bee Co. (Arkansas) 870-531-1883, Olivarez Honey Bees (Calif) 530-330-1883, Tabers (Calif) 709-449-0440, Glenn Apiaries (Calif) 760-728-3731.

Hygienic Behavior

Hygienic behavior is a combination of two genetic traits, one to uncap diseased or dead brood and one to remove it from the hive. The trait has been known since the twenties but has recently been developed and publicized by Marla Spivak at the Univ. of Minn. This is a dominant trait easily established in any breeding line in as little as two generations and should be in all breeder queens. Ask your breeder if their queens are tested hygienic and if not take your business someplace else. Glenn Apiaries in California is one of the breeders who supplies both breeder queens and production queens from the Minnesota Hygienic line.

SMR (Suppressed Mite Reproduction) or SMART

This is a genetic characteristic that results in the inability of varroa mites to successfully reproduce. John Harbo and Jeffrey Harris USDA Baton Rouge have isolated and developed this line and has released it to the industry. This characteristic is used in developing hybrid lines that demonstrate the SMaRt traits as well as maintain the other beneficial aspects of the individual queens. It is still early in the game but work continues and looks promising. Many breeders have included this line in their queens. Some include; B Weaver, Powel Apiaries, Jester Bee Co. and Olivarez Honey Bees. Glenn Apiaries in California offer both pure SMR breeder queens (non-production) and production SMR-Italian/Carniolan/Russian queens.



West Sound Beekeepers Association
10982 NE Tulin Rd
Kingston, WA 98346

Next Meeting:

Tuesday July 16th, 7:00p.m., at Stedman's

Program:

Mineral Oil as Mite Control