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Acaricide Residues

Beekeepers have been putting acaricides in their hives for Varroa mite control for over a decade. Researchers in Switzerland conducted studies on beeswax and honey from hives in which Folbex VA[®] (bromo-propylate), Perizin[®] (coumaphos), Apistan[®] (fluvalinate), Bayvarol[®] (flumethrin) were applied in the brood nest.

Sparing the details, the beeswax in the brood chambers contained the greatest residues. Some residues were found in the wax of honey supers. However, only miniscule traces, if any, of the acaricides were found in honey when the treatments were applied according to the label:

bromoprophylate	-	0.010	-	0.050	ppm
coumaphos	-	0.005	-	0.013	ppm
fluvalinate	-	0.003	-	0.005	ppm
flumethrin	-	<0.003			ppm

All these residues fall within the "tolerances" set by the Swiss government, but one

sample in the coumaphos treatments surpassed the Italian and German level of 0.010 ppm. In this study, coumaphos was applied in solution, not in a plastic strip.

For more details, consult: Bogdanov, S., V. Kilchenmann, and A. Imdorf. 1998, Acaricide residues in some bee products. J. Apicul. Res. 37(2):57-67.

Beeswax Acaricides

Many researchers have reported that residues of acaricides used for Varroa control have been found in beeswax. For closely controlled studies of mite mortality and reproduction, using combs from hives where treatments had been made was said to influence experimental results. However, what about real world effects in your bee boxes?

European researchers, I. Fries, K. Wallner, and P. Rosenkranz added amitraz, coumaphos and fluvalinate to acaricide-free African wax at levels of 1,10,100, and 100

ppm. The contaminated waxes were molded into foundation and given to bees to be drawn out. Half the combs were left in the colonies long enough for a "round of brood" to be reared in them.

Starting with control combs and working up through the concentrations of acaricides, laying queens were confined to the combs for two days. Seven days after the eggs were laid, the brood combs were moved into Varroa-infested colonies. Twelve days later, the combs were removed and cells investigated. Data was collected only from cells containing a single mother mite. After the experiment, the wax was analyzed for residues.

Of 150 mites in cells of control combs, six mites died and five failed to reproduce. Average reproductive rate was 3.77 progeny per mother. The amitraz treatment did not effect the mites. Coumaphos residues were very hard on mites if no brood had been reared in the cells. All mites died at 100 ppm, and a third of the mites died at 10 ppm. Those mites that survived reproduced normally. Fluvalinate residues at 100 ppm led to 14% mortality and a slightly greater percentage of infertility. However, after a round of brood rearing, all cells showed no effects on the mites, similar to the controls.

The results show that although the wax in the combs becomes contaminated with acaricides, cocoons and other materials in

the cells shield the mites from the residues. Neither mite mortality nor reproduction is affected after a round of brood has been reared in the combs.

The full text of this research appears in: Fries, I., K. Wallner and P. Rosenkranz. 1998. Effects on Varroa jacobsoni from acaricides in beeswax. Jour. Apicul. Res. 37(2):85-90.

Bee Kills

It is common knowledge that beekeepers do not adequately document damage and losses of honey bee colonies due to exposure to insecticides. This lack of documentation is used by regulatory and agrichemical interests to refute claims that bees are being lost.

An opportunity has developed for beekeepers to comment on their feelings and experiences with insecticides as they impact their bees. This information will, at best, be described as "anecdotal" and at worst as "fabrication." But, if similar information were submitted from all over the country, then there would be substantial grounds for suggesting that the problem is real and needs attention.

A graduate student, Lori Quillen, expressed the following sentiment. "In light of the USDA's recent proposal to weaken label direction language, I feel it is important to produce a thesis that underscores the common

occurrence of pesticide-induced bee kills in the U.S."

If you wish to share information with Lori, here are questions she wishes you would answer:

1. Which pesticides are a primary concern in your state?

2. What are the impacts of aerial insect spraying (both agricultural and municipal)?

3. What is your overall sense of the importance of this problem?

You may not have another opportunity like this in a long time. Sharpen your pencil or start up that new computer and send Lori your useful information at: Biodiversity, Conservation and Policy Program; Biological Sciences, Room 126, State University of New York, 1400 Washington Avenue, Albany, NY 12222. If you like using e-mail, her address is: taigabee@aol.com.

This information was gleaned from the Newsletter of the Mount Diablo Beekeepers Association, June 1999, Loni Reynolds, editor.

Ebelift-Barrell Handler

At a recent meeting of a local beekeepers club in Fresno, representatives from C/M Concepts demonstrated their new "drum transporter." The device has two basic sections. One section slides over the prongs of a forklift and fastens to them. The other section has adjustable width arms that clamp onto the barrel.

The "clamping" includes no springs, hydraulics or other pressure systems. The clamps hang somewhat downward when unloaded. When pushed against the barrel, they slide up and clamp underneath the barrel ridge or the top.

At the time of the meeting, the price quoted was \$429 with free delivery within a 100-mile radius of Fresno.

If you are interested in the product, please contact C/M Concepts, 7847 N. Baird Avenue, Fresno, CA 93720 [(559)323-4433] or FAX [(559)325-8321].

UC Videos and Slides

ANR Communication Services at UC Davis recently distributed a catalog listing videos and slide sets that are available to the public. The videos are on 1/2" VHS format only, while the slides are accompanied by a written transcript and an audiocassette recording with an inaudible "beep" that automatically advances the slides in a Norelco (1000 Hz tone) system.

The loan rate is \$5.00 per use of each tape or slide set. The bill comes after the materials are returned. Penalties of \$2.00 per day are charged if the materials are not returned by the due date (not to exceed \$20 in penalties). If the materials are "lost," the borrower is responsible for the cost of replacement.

Some slide sets and a few videos can be purchased. Prices range from \$10 to nearly \$200.

Slide set **#94/103** "Living with Africanized Honey Bees" contains 46 slides that compare and contrast EHBs with AHBs. Information on bee-proofing homes and how to respond to a stinging incident are included. This slide set can be purchased for \$43.

The same information, but in Spanish is available as slide set **#94/107**. It, also, can be purchased for \$44. (Cont. Pg. 6)

There are six videos available on honey bees:

V86-V "Africanized Bee Alert" - 15 minutes - USDA. Brief overview of identification, behavior, mating, genetics, and predictions of future impacts.

V94-M "Children and Africanized Honey Bees" - 9 minutes - Texas A&M University. For kids: biology of honey bees, why AHBs are dangerous, how to protect oneself. English, then Spanish, version on same tape. For sale: \$10.

V86-AD "Honey Bee and Pesticides: Understanding the Issues" - 19 minutes - Dept. Agricul. Journalism. Introduces the conflicts involved with using insecticides in areas where bees are foraging.

V94-N "Living with Africanized Honey Bees" - 24 minutes - Special News Series, KNSSD - San Diego and Fort Sam Houston, TX. Compares and contrasts EHBs and AHBs. Explains why AHBs are problematic, how to bee-proof property, what to do if bees start stinging. This tape is also available for \$10.

V86-AG "Varroa Mite of Honey Bees" - 33 minutes - Bayer Agriculture. Discusses importance of honey bees, how Varroa became associated with Apis mellifera, mite life cycle on EHBs, and various control methods.

V94-Y "Why Honey Bees?" - 29 minutes - Penn State University. Explains bee biology, the lives of beekeepers, and importance of honey bees to food production.

You can order one or more of these materials by contacting ANR Communication Services, University of California Davis, CA 95616 [(530)757-8930] or visit their web site at: <http://danrcs.ucdavis.edu>. Like e-mail? They are at csloancat@ucdavis.edu.

Imported Fire Ant

The following information was taken from Texas A&M's Extension Fire Ant Plan Fact Sheet #019.

Red Imported Fire Ant Management Considerations for Beekeepers

The **red imported fire ant**, Solenopsis invicta Buren, infests the eastern two-thirds of Texas. This species can be moved to new, non-infested areas on articles such as nursery stock, sod, hay as well as bee hives. Counties in infested states are under quarantine by the United States Department of Agriculture (USDA). Movement of imported fire ants out of these areas is prohibited. The quarantine regulations are enforced in Texas by the Texas Department of Agriculture (TDA).

Worker ants from red imported fire ant colonies can invade bee hives and feed on developing bee larvae and pupae (protein), occasionally destroying weakened colonies. They will also sting repeatedly and in high numbers when their colonies or food sources are disturbed or threatened. Bee-keepers can be attacked during hive maintenance operations.

Monitor areas where bee hives are to be located and during the period they remain on site. Identify ants present correctly. Avoid attracting foraging worker ants to hives by discarding dead brood and other material near bee hives. Keep bee colonies healthy and vigorous. To discourage ant colonies from moving into bee hives, elevate the hives several inches on bricks or stones. Prevent the spread of imported fire ants by inspecting hives and

eliminating them **before** moving bees to new locations.

If insecticides are to be used close to bee hives, use them with care because the bees can be poisoned.

Chemical control options:

1. Treat heavily-infested areas around hives using the **Two-Step Method** using products registered for the site in which hives are located. Step 1 uses a conventional bait-formulated product (e.g., those containing hydramethylnon, fenoxycarb, pyriproxifen, or s-methoprene). This should be broadcast applied once or twice per year over an area of about 1/2 to 1 acre around hives. Individual mound treatments are then used as Step 2 to quickly eliminate only those nuisance ant mounds that pose an immediate hazard. These are formulated as granules, liquids, dusts, fumigants and bait.
2. (**Optional**). The outer surface of the stand elevating hives can be carefully treated with a surface application of a non-volatile, long-residual contact insecticide. Specialty paint-on or paint additive formulations containing diazinon or chlorpyrifos (e.g. Insecta[®] Clear Finish, Killmaster[®] II) are available to produce a chemical barrier on surfaces. A registered contact insecticide also can be applied to the

ground around the hives. Apply insecticides late in the evening or early in the morning when bees are not active to prevent bees from contacting treated surfaces. Read product labels and use insecticides and formulations least toxic to bees.

The Texas Imported Fire Ant Research & Management Plan, funded by the Texas legislature for 1998 and 1999, supports the search for improved sustainable and pest management solutions for this pest. Researchers and educators at the Texas A&M University System which includes the Texas Agricultural Experiment Station and the Texas Agricultural Extension Service, the University of Texas, Texas Tech University, and the Texas Department of Agriculture are currently working together to eliminate the imported fire ant as a serious pest.

Internet Apitherapy Course

I have been contacted by e-mail a couple times about a three level course in apitherapy conducted by Dr. Stefan Stangaciu, from Constanta, Romania. Lessons are sent as attached zipped Word documents. Students study the information, then take part in a period of free discussions, questions and answers. Following a 1-2 week break the lessons for the next level arrive. There are over 90 lessons in the course.

At the end of the third level, there is a 90-100 short question "final exam." It has to be returned within 24 hours. Students obtaining a score of 70% or higher will receive a "Certificate of Completion" showing that the holder has a strong theoretical knowledge of apitherapy.

The main goals of the course are to:

- give its students all necessary knowledge in order to be able to heal most of their own possible diseases or to help the healing of their family members or close friends by using bee hive products;
- increase the exchange of apitherapy related information between apitherapists from all over the world;
- teach its students all methods necessary in order to apply apitherapy with good and very good results;
- teach its students how they can build their own Apitherapy Data Base and their own apitherapy libraries;
- prepare the "ground" for future Apitherapy Clinics or Offices and local (national) further apitherapy courses;
- to teach its students that finally they can better protect

Mother Nature and Human Being
through Apitherapy.

Obviously, the course is
not offered free. There is a
\$300 cost that includes
mailing the certificate,
likely telephone calls, and
individual counseling, etc. It
is a good idea to check with
banks to try to get the
cheapest money transfer
available. For more
information, like "Is the
course offered in English?"
contact Dr. Stangaciu at:

apither@rtns.ro.

Sincerely,

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