

# Bee AWARE



MAAREC

Notes and News on Bees and Beekeeping

March 1999

No. 80

## WHAT'S INSIDE:

- The Small Hive Beetle
- Recommendations for Using Coumaphos
- New MAAREC Slide Shows Available
- Additional Penn State/MAAREC Extension Materials for Beekeeping
- Varroa Mite Sampling
- Efficiency of Different Formic Acid Applications for Varroa Control
- The Changing Fundamentals of Beekeeping - MAAREC Short Course
- Apimondia '99
- Upcoming Events

## THE SMALL HIVE BEETLE

(*Aethina tumida*)

The small hive beetle, our newest beekeeping pest, was first identified in Florida in the spring of 1998. Before its discovery in the U.S., the beetle was known to exist only in tropical or sub-tropical areas of Africa. How it found its way to North America is not certain. Since adults will feed on fruit and are especially fond of cantaloupe, the beetles may have been accidentally introduced into this country via a shipment of fruit originating from Africa.

While the small hive beetle is not considered a serious pest in South Africa, some Florida beekeepers experiencing heavy infestations have seen the quick collapse of strong colonies. As of February 1999, the beetle has been found in apiaries in Florida, Georgia, and North and South Carolina. They were also found in supers of honey sent north from Florida but were destroyed. So far, the areas where it has successfully established itself appear to be restricted to regions along the East Coast of the U.S. This is probably due to the sandy soil conditions in these areas which allow the beetle to successfully complete its life cycle.

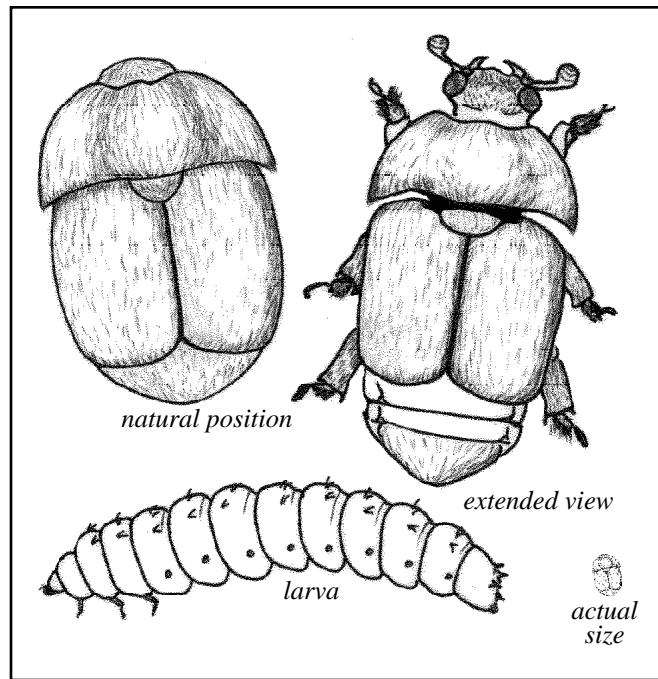
**Description:** The adult beetle is small (about 1/3 the size of a bee), reddish brown or black in color and covered with fine hair. The larvae are small, cream colored and similar in appearance to young wax moth larvae. You can differentiate the beetle larvae from wax moth larvae by examining their legs. Beetle larvae have three sets of legs just behind the head. Wax moth larvae, like all moth and butterfly larvae, have three sets of legs behind the head but in addition have a series of paired prolegs which run the length of the body. Prolegs are absent in beetle larvae.

**Life Cycle:** Adult females lay their large egg masses on or near beeswax combs. In South Africa the eggs hatch in a few days, producing a great number of small larvae. The larvae consume pollen and wax but are also reported to eat honey bee eggs and young larvae. They complete their larval stage in 10 to 16 days and then drop to the ground where they pupate in the soil. Adults emerge from the soil in approximately 3-4 weeks. The females are capable of laying eggs approximately one week after emerging from the soil. They are good flyers and easily disperse to new colonies where they deposit eggs to begin a new generation.

**Damage:** While this beetle is considered a minor pest in South Africa, the U.S. experience to date would suggest that it has the potential to be a pest of significant economic importance, in at least some areas. Whether or not it can successfully establish itself in temperate regions or in areas without sandy soil is not yet known. This information will be key to determining its importance as a pest in the northeast.

In North America beetles appear to be able to readily take over even strong colonies with little resistance by the bees. A few beetles can produce masses of larvae. In addition to consuming the resources of the colony, according to a study by Dr. A. E. Lundie (Union of South Africa, Science Bulletin 220, 1940, 30 pp.), the adult beetles defecate in the honey causing it to ferment and run out of the combs. Full honey supers stored in the honey house or on hives above bee escapes and weak hives with honey but few bees, seem most vulnerable to attack. When small hive beetle infestations are heavy, even in strong colonies, queens will stop laying eggs and the bees often abscond.

**Detection:** All spring and subsequent hive inspections should be done with an eye open for this pest. When opening a hive containing beetles, they can be seen running across the combs to find hiding places. Adults may also be detected under top covers or on bottom boards. If an infestation is heavy, both adults and masses of larvae may be seen on the combs and bottom board. These larvae do not produce silken tunnels, webbing or cocoons in the hive as wax moth larvae.



According to the Entomology Insect Information Series pamphlet, "Small Hive Beetle" prepared by Mike Hood (Clemson University), varroa mite sticky boards are ineffective for use in detecting adult beetles. The beetles move easily across the sticky material even if the boards are coated with a stickier material such as Tangle Foot®. However, corrugated cardboard with the paper removed from one side, placed on the bottom board at the rear of the hive, has been successfully used in detecting adult beetles. The beetles appear to seek shelter in the corrugations.

Fermented honey exuding from full supers in storage, waiting to be extracted, or on active colonies, is a sign that hive beetles may be present. A "decaying orange" odor may be given off by the fermented honey.

**Control:** If you find evidence of, or are concerned about the possibility of a hive beetle infestation, you are urged to contact your state apiary inspector (Department of Agriculture; see below) immediately. Pennsylvania and Maryland have recently received a section 18 (emergency use) registration for the chemical coumaphos, in the form of Bayer Bee Strips®, for use in controlling this pest (see recommendations below). It is likely that other participating states will also receive an emergency use registration for Coumaphos. However, because this pest is not yet found in the Northeast, and because heavy hive beetle infestations are destructive and likely to cause the death of the colony, beekeepers are strongly urged to take drastic measures to slow the spread of the pest if it is found. These measures may include freezing, fumigating or burning the infested hive and bees. Equipment can be fumigated by placing it in large plastic garbage bags with paradichlorbenzene (PDB) in warm temperatures (80° F). This will kill all hive beetle stages except the eggs. Freezing at 10°F for 24 hours, is reported to kill all life stages of the beetle.

Bayer Bee Strips® provide excellent control of the small hive beetle when used in accordance with the label instructions. For detailed information on the use of coumaphos, please see "Recommendations for the use of Coumaphos." Coumaphos is available from Mann Lake Supply Ltd., 501 S. First Street, Hackensack, MN 56452-2001; orders: 1-800-233-6663.

**Honey bee colonies returning to Pennsylvania from Florida:**

The Pennsylvania Apiary Inspection Service, at the recommendation of the Pennsylvania Beekeeping Advisory Board, will require that all colonies returning from Florida be inspected for the small hive beetle. If the small hive beetle is found in an operation, all colonies within that beekeeping operation will be required to be treated with coumaphos before the colonies can return to Pennsylvania.

**Nucs and packages being purchased in Pennsylvania from states where infestations currently exist:**

Small hive beetles can be easily transported in nucs and packages. We should all be concerned about the importation of beetles into PA via nucs and packages those sold to new beekeepers. The Pennsylvania Apiary Inspection Service, at the recommendation of the Pennsylvania Beekeeping Advisory Board, is requesting that all beekeeping operations located in states where the small hive beetle is currently found and producing nucs and packages destined for Pennsylvania treat parent colonies with coumaphos before making up nucs and packages. The Inspection Service will also request the names of PA beekeepers receiving nucs and packages from beekeeping operations in southern states where the small hive beetle is known to exist. These beekeepers will be sent information on the hive beetle and the recommended use of coumaphos.

**For more information please visit the  
Mid-Atlantic Apiculture Research and Extension Consortium website  
MAAREC.cas.psu.edu.**

**MAAREC Apiary Inspectors**

James Steinhauer  
Pennsylvania Dept. of Ag  
2301 North Cameron Street  
Harrisburg, PA 17110  
717-772-5225

Grant Stiles  
New Jersey Dept. of Ag  
Division of Plant Industries  
CN 330  
Trenton, NJ 08625-0330  
717-698-9229

Bart Smith  
Maryland Dept. of Ag  
50 Harry S. Truman Pkway.  
Annapolis, MD 21401  
410-841-5920

Robert Mitchell  
Deleware Dept. of Ag  
2320 S. DuPont Hwy.  
Dover, DE 19901-5515  
302-739-4811

**MAAREC Extension Specialists**

Dewey Caron  
University of Delaware  
Entomology & Applied Science  
238 Townsend Hall  
Newark, DE 19717-1303  
302-831-2526  
dmcaron@udel.edu

Maryann Frazier  
Penn State University  
Department of Entomology  
501 ASI Building  
University Park, PA 16801  
814-865-4621  
mxt15@psu.edu

Mike Emery  
Department of Entomology at  
The Wye Research & Ed Center  
PO Box 169  
Queenstown, MD 21648  
410-827-8056  
me15@umail.umd.edu

**!!! ATTENTION !!!**

*The former Apiculture Northeast website has been changed to the MAAREC website at  
MAAREC.cas.psu.edu*

**Please update your bookmark!**

# RECOMMENDATIONS FOR USING COUMAPHOS

(Bayer Bee Strips)

Jim Steinhauer

Pennsylvania and Maryland along with Florida and many other states has received approval under section 18 (emergency exemption) of the federal pesticide act to use coumaphos in the form of Bayer Bee Strips to control Varroa mites and small hive beetles. The emergency situation, leading to the registration of coumaphos, is the development of resistance to fluvalinate (Apistan) by Varroa mites and the possible introduction of small hive beetles which are established in Florida, Georgia, South and North Carolina.

In 1998 we saw a significant increase in occurrence of fluvalinate resistant mites in both migratory and resident beekeeping operations and we expect to see resistant mites more widespread this year. The registration of coumaphos is certainly timely and may play a key roll in the survival of the Pennsylvania beekeeping industry. Currently we (as well as other states) have an emergency use only label for coumaphos. This means that at this time only colonies with small hive beetle infestations or those having Varroa mites known to be resistant to fluvalinate should be treated with coumaphos. We strongly recommend that beekeepers check their colonies for effectiveness of Apistan treatments by doing an ether roll test after strips have been in place for at least one week. If Apistan is effective there should not be more than 1 or 2 mites found in the ether roll test. If more mites are found, colonies should be treated with Bayer Bee Strips strictly in accordance with label instructions:

The section 18 registration for Bayer Bee Strips is for non-food use. There is no allowance for any coumaphos residue in honey or wax. All surplus honey supers must be removed before treatment and not be replaced until after the treatment has been removed. Coumaphos is in a group of highly toxic materials called organophosphates. The dermal (absorption through the skin) toxicity of coumaphos to mammals is approximately 20 times greater than that of Apistan. It is therefore imperative that beekeepers follow all label instructions, including wearing gloves, when using Bayer Bee Strips.

With all the treatments necessary to keep bees alive over the past several years, many beekeepers have developed a very casual attitude toward the use of chemicals in beehives. Many consider that if it doesn't kill the bees, it can't hurt me. Coumaphos is not a material to be handled casually: misuse of Bayer Bee Strips can lead to serious consequences.

## For Varroa treatment:

- Remove all surplus honey supers before application of Bayer Bee Strips and do not replace them until the end of treatment period after the strips have been removed
- Wear gloves when handling strips
- Use one strip for each 5 frames of bees (deep frames or equivalent)
- Treat all colonies within the yard at the same time; treatment is most effective when brood rearing is lowest
- Leave strips in colony for at least 42 days but not more than 45 days
- Do not treat more than twice per year for Varroa mites

## For Small Hive Beetle Treatment:

- Do not treat with surplus honey supers in place
- Prepare a piece of corrugated cardboard about 4 x 4 inches by removing the paper from one side. Cut one Bayer Bee Strip in half cross ways and staple both pieces to the corrugated side of the cardboard.
- Place treatment in center of bottom board with strips facing down.
- Leave treatment in colony for at least 3 days but not more than 7 days.
- Do not treat more than 4 times per year for small hive beetles.

The section 18 registration for coumaphos expires in January 2000. Bayer will continue to work toward a section 3 (general use) registration for their bee strips. If the section 3 registration is not approved then we will apply for renewal of the section 18 registration. In the meantime, EPA through state pesticide agencies, will monitor the use of Bayer Bee Strips. **If any misuse of the product is documented or any residues are found in honey, chances for continued use of the product will be jeopardized.** If general use registration can be obtained for coumaphos, and all beekeepers would stop using Apistan for 2 to 3 years, then Apistan may regain its effectiveness. Then the two treatments could be used alternately which would extend the effective life of both chemicals.

Under the section 18 registration, the sole distributor of Bayer Bee Strips is Mann Lake Ltd, 501 S First Street, Hackensack, MN 56452-2001, orders 1-800-233-6663, office 218-675-6688. They will be required to keep records of the number of strips sold in each state.

Bayer bee Strips should provide control of both Varroa mites and small hive beetle when used in accordance with label instructions. Beekeepers must keep in mind that if they misuse the product they will lose it.

## NEW MAAREC SLIDE SHOWS AVAILABLE

**Honey Bee Diseases. 1998.** This slide show concentrates on the major honey bee brood and adult diseases. The set consists of 53 high-quality slides and is accompanied by a detailed script.

**Honey Bee Parasites, Pests and Predators. 1998.** This series of 65 high-quality slides focuses on the major parasites, pests, and predators of honey bees and is accompanied by a detailed script.

### **Where to get these slide shows:**

Copies of these slide shows have been provided to each state association and to a beekeeping specialist (extension and/or state apiary inspector) in each of the five cooperating states. In Pennsylvania, these slide shows are currently available on loan through the Penn State Cooperative Extension Service or Audio Visual Services (address and phone number at right). Your county extension agent can loan the slide shows from AV Services. It is best to reserve the slide shows

a minimum of 2 to 3 weeks ahead of your meeting. There is no cost to bee groups working through an extension office, unless materials aren't returned on time.

These slide shows can be purchased for \$60.00 each through the Penn State Department of Entomology, 501 ASI Building, University Park, PA 16802. Phone (814) 865-1896.

You can view the slide shows on the World Wide Web by visiting the MAAREC web-site at:

**<http://maarec.cas.psu.edu>**

Penn State Audio-Visual Services  
The Pennsylvania State University  
Special Services Building  
1127 Fox Hill Road  
University Park, PA 16803-1834  
(800) 826-0132 or (814) 865-6314

## ADDITIONAL PENN STATE/MAAREC EXTENSION MATERIALS FOR BEEKEEPING

### **Videos and Slide Shows**

*Why Honey Bees?* 1993. Video for the public on the importance of honey bees and the current challenges beekeepers face. Available for #35 from Ag Information Services, 119 Ag Administration Bldg., University Park, PA 16802. Phone 814-865-6309.

### **Publications**

*Fundamentals of Beekeeping.* 1984. Text covering the basics of beginning beekeeping. Information on parasitic mites is currently not included. Available for \$5 from Penn State Publication Distribution Center, 112 Ag Administration Bldg., University Park, PA 16802. Phone 814-865-6713.

### **Computer Programs**

*Bee Aware:* a management tool for the diagnosis and control of honey bee diseases, parasites, pests and predators. 1993. This computer program is currently being revised and should be available in the summer of 1999. For additional information contact The Penn State Department of Entomology, 501 ASI Building, University Park, PA 16802. Phone 814-865-1896.

### **Correspondence Course**

*Beginning Beekeeping,* AG 5126. Non-credit course. 1996. Cost \$65. Available from Penn State, Dept. of Distance Education, Independent Learning, 207 Mitchell Bldg., University Park, PA 16802. Phone 800-252-3592.

# VARROA MITE SAMPLING

**Colleen Granger, University of Delaware Science and Engineering Scholar**

One of the studies conducted at the University of Delaware apiary this past summer was a comparison of natural mite fall with mite fall of colonies receiving an Apistan® strip. The mites were collected on sticky boards (manufactured by Olson Industries, donated courtesy of USDA Beltsville, MD) placed beneath window screen frames on the bottom boards of colonies at the University of Delaware Apiary. This study attempted to determine if use of Apistan was a more reliable indicator of mite population levels in a bee colony or if natural death rate could be used to reliably monitor mite levels.

The experiment was conducted from July 28 to August 1, 1998, and then repeated during the first two weeks of September. In the fall, there are higher numbers of mites, and natural mite fall has been used to estimate the population of mites in the colony. But the number of mites collected on the sticky boards is much higher when colonies receive an Apistan strip. One question I wanted to answer was, since summer mite numbers are generally relatively low, would it be statistically better to monitor the colonies with Apistan in July, rather than simply using natural mite fall.

Results: Analysis of natural vs. Apistan-induced mite fall revealed that the two techniques gave very similar proportional mite numbers. Data shown in the two diagrams below reveal that average natural mite fall in both the July and September trials was between 18-19% of the Apistan mite fall. As shown in the graphs, relatively proportional results were obtained using either method. In July mite numbers were lower, especially on natural mite fall counts. This study suggests that even though the data demonstrate that natural mite fall results in lower numbers, the numbers are proportional to those found when placing an Apistan strip into bee hives. Natural mite fall monitoring is chemical-free and more economical than inserting Apistan strips and is also a reliable way to test colonies for levels of varroa mites. These results will help us to further develop IPM mite control techniques by enabling us to reliably determine levels of varroa mites, so we can then make a decision on whether to apply a control when numbers of mites exceed a certain threshold.

# EFFICIENCY OF DIFFERENT FORMIC ACID APPLICATIONS FOR *VARROA* CONTROL

Joerg Schmidt-Bailey<sup>1</sup>, Grant Stiles<sup>2</sup>

<sup>1</sup>Department of Entomology, Rutgers, The State University of New Jersey,  
93 Lipman Drive, Blake Hall, New Brunswick, New Jersey 08901-8524

<sup>2</sup>Department of Agriculture, Division of Plant Industry, State of New Jersey,  
Trenton, New Jersey 08625-0330

## ABSTRACT

Three different formic acid applications were tested in a field trial as control agents for the ectoparasitic mite *Varroa jacobsoni* in commercial honey bee (*Apis mellifera*) colonies. The field trial took place in New Brunswick, NJ, between 8/24/1998 and 9/22/1998. The trial consisted of five colonies treated with a single 200g formic acid 65% gel packet (Beltsville gel packet, Feldlaufer et al 1997), five colonies treated with a single 600g formic 15% / 9ml marjoram oil gel packet and five colonies treated three times at six day intervals with a single 200g formic acid 15% / 3ml marjoram oil gel packet from 8/24 until 9/10. Three control colonies were not treated at all during this period to determine the natural mite drop and the build up of the mite population. Two monitor colonies were treated with apistan throughout the trial to determine the number of mites invading the colonies.

Dropping mites during the treatment period were collected and counted. All gel packets were removed, any remaining mites and the control colonies were treated with an Apistan follow up between 9/10/98 and 9/22/98. All colonies were equipped with a "Varroa detecting screen" between the bottom board and the first hive body. This screen consisted of a 1 inch thick wooden frame with a 2.5mm wire mesh on top,

which allowed dropping mites to pass through onto a paper sheet or sticky board, but prevented any further contact of dropped mites with the bees. The removable rear bar allowed the paper sheet to be easily accessible, without any disturbance of the colony.

The average mite mortality was 39.1% in the colonies (n=5) treated with 65% formic acid (200g), 53.4% in the colonies (n=5) treated with 15% formic acid / marjoram oil (600g/9ml), and 42.6% in the colonies (n=5) treated with 15% formic acid / marjoram oil (3x 200g/3ml). The average natural mite drop in the control colonies (n=3) was 20.9%. The average daily number of mites invading the monitor colonies (n=2) was 9.

Acknowledgment: Sridhar Polavarapu, Rutgers Blueberry & Cranberry Research Center, for providing the tested materials.

Reference: Feldlaufer, M.F., Pettis, J.S., Kochansky, J.P. and Shimanuki, H. 1997. A Gel Formulation of Formic Acid for the Control of Parasitic Mites of Honey Bees. Amer. Bee J. September 1997: 661-663

# THE CHANGING FUNDAMENTALS OF BEEKEEPING

May 14-15, 1999

Room 101

Agricultural Sciences and Industries Building

The Pennsylvania State University

University Park, Pennsylvania

Sponsored by: MAAREC- The Mid-Atlantic Apiculture Research and Extension Consortium  
and Cornell University

Honey bee management is quickly changing. Not only must we manage our bees, we must also be able to effectively manage the newly introduced parasitic mites that attack them. This course is designed to cover the basics of keeping bees for the production of honey while focusing on the control of diseases and mites. Small hive beetles and their control will also be addressed. **The Changing Fundamentals of Beekeeping** is open to all interested beekeepers as well as individuals interested in becoming beekeepers.

All participants will receive an updated edition of *The Fundamentals of Beekeeping* as a course guide and a 20% discount on the purchase of all for-sale beekeeping education materials.

**Please help us prepare for your visit:** Registrations will be accepted by fax or mail through **April 29, 1999**. A minimum of 20 participants are required so register early. Walk-in registrations will be accepted only as space allows. The registration fee includes all conference fees, parking, and break service.

**ACCOMMODATIONS:** Dormitory housing will be available May 13 and 14 in North Halls on the University Park Campus. Pre-registration and one-night non-refundable payment is required to guarantee the housing reservation. Payment must be made directly to Housing Conference Services, 125 Johnston Commons, Penn State, University Park, PA 16802. Call toll free (800) 778-8006 or return the housing registration form by mail or fax (814) 865-0081. **Room reservation deadline is April 29, 1999.** A single room rate is \$34 and double rate is \$24.50 per person/night, including a continental breakfast. Check-in is 4:00 p.m. and check out is noon.

**Overnight accommodations are limited in State College and on the University Park Campus due to Penn State graduation ceremonies on May 16.** A list of alternative hotels in the State College area is available on request.

**CANCELLATION:** The University reserves the right to cancel or postpone any course activity due to insufficient enrollment (for Beekeeper's Program less than 20 persons) or other unforeseen circumstances. If the short course is canceled or postponed, the University will refund registration fees but cannot be held responsible for other costs, charges, or expenses, including cancellation/change charges assessed by airlines or travel agencies.

---

## Changing Fundamentals of Beekeeping

### Preregistration Form Due by April 29

Name \_\_\_\_\_

Accompanying name \_\_\_\_\_

Organization name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Daytime Phone (area code) \_\_\_\_\_

FAX (area code) \_\_\_\_\_

E-mail address \_\_\_\_\_

\_\_\_\_\_ \$60 Individual registration fee

\_\_\_\_\_ \$90 Couple registration fee

\_\_\_\_\_ \$40 One day registration fee

Day attending \_\_\_\_\_

ADD \$10 LATE registration fee after April 29

**Total Registration Payment** \$ \_\_\_\_\_

Please make checks payable to **Penn State** or charge by Visa/  
Mastercard.

Account number \_\_\_\_\_ exp. date \_\_\_\_\_

Authorization signature \_\_\_\_\_

Cancellations received after April 29 are not eligible for full  
refunds.

**Please return preregistration form and payment to:**

### **Changing Fundamentals of Beekeeping**

The Pennsylvania State University

306 Ag Administration Building

University Park, PA 16802-2601

Telephone: (814) 865-8301

FAX: (814) 865-7050



**PROGRAM**  
**THE CHANGING FUNDAMENTALS OF BEEKEEPING**

**Friday, May 14**

**8:00 a.m. Registration—Lobby, ASI Building**

8:30 *Welcome & Course Instruction*  
Maryann Frazier (Penn State)

8:45 *Biology—Our Basis for Management*  
Maryann Frazier

9:30 *Seasonal Management*  
Dr. Dewey Caron

10:15 Break

10:30 *Honey Bee Behavior—How Do Bees Make Choices?*  
Dr. Scott Camazine

11:15 *Techniques of Queen Rearing*  
Dr. Jeff Pettis

12:00 p.m. Lunch—Provided

1:00-4:00 Apiary/Lab Workshops (select 2 of the 3)

*Bees Inside and Outside—Honey Bee Dissection*  
Dr. Diana Sammataro,  
**108 Headhouse III**

*Queen Rearing Techniques in the Field*  
Dr. Jeff Pettis, **University Apiary**

*Bee Aware, Making the World Wide Web Work for You, Record Keeping*  
**Computer Lab**

5:00-6:30 Reception and Tour of Penn State Research Labs, **504 ASI Building**

Nick Calderon-Honey bee research specialist at Cornell University. His research has focused on improving mite sampling techniques and novel mite control techniques.

Scott Camazine-Honey bee research specialist at Penn State. His research focuses on the control of honey bee mites and diseases and on how social insects make decisions.

**Saturday, May 15**

**Room 101, ASI Building**

8:00 a.m. *Marketing Hive Products*  
Dr. Dewey Caron

9:00 *Brood Diseases and Small Hive Beetles*  
Jim Steinhauer (PA Dept. of Ag)

10:00 Break

10:15 *Tracheal and Varroa Mites: Their Impact and Control*  
Dr. Diana Sammataro and Jennifer Finley (Penn State)

11:00 *Pollination and Pesticides*  
Dr. Nick Calderone

12:00 Lunch —On your own

1:00-4:00 Apiary/Lab Workshops (select 2 of the 3)

*Mite and Disease Diagnosis in the Lab*  
Dr. Diana Sammataro,  
**108 Headhouse III**

*Mite and Disease Diagnosis in the Field*  
Jim Steinhauer and Grant Stiles  
(NJ Dept. of Ag), **University Apiary**

*Honey Bee Pollination and Pesticides in the Field*  
Dr. Nick Calderone, **University Apiary**

4:30 p.m. *Adjourn*

Dewey Caron-University of Delaware, Apiculturist, specializes on novel extension and teaching approaches, research on the marketing of hive products and varroa mite sampling.

Jeff Pettis-Research specialist, USDA, Beltsville Bee Lab. His research focuses on chemical and biological approaches to the control of honey bee mites.

Diana Sammataro-Honey bee research associate at Penn State. She leads the applied research program at Penn State and is the author of "The Beekeeper's Handbook".

## APIMONDIA '99 PROGRAM A GEM IN THE HISTORY OF BEEKEEPING



Scientists, beekeepers, extension workers, honey packers, and marketing personnel of the highest calibre will speak in Vancouver at the Apimondia '99 Congress, September 12 - 18, 1999.

"We've put together a program that will set a new standard for such international meetings in the future," says Program Coordinator, Dr. Mark Winston of Simon Fraser University, Burnaby BC.

"We're very proud of how our program has developed. We consulted the beekeeping communities in over 40 countries to find the most exciting new research, the best speakers, the most highly esteemed scientists. Over 85% of the speakers we invited have already accepted - an unheard-of response for an international meeting - and indicative of the kind of support we have been receiving. Whether a participant's interest is in bee biology, queen rearing, beekeeping equipment, management, pollination, diseases and parasites, or apitherapy - there will be significant sessions on the subject, delivered by extraordinary speakers."

Winston is well known in Canada as a masterful organizational force. Add an elite group of provincial apiculturists,

university and research experts to the planning committee and the energy is nothing short of volcanic. It is highly unusual for a conference this large to be this well organized this far ahead of time. The scope and sheer mass of information speaks volumes about the organizers' commitment to producing the finest Apimondia Congress ever seen, and is reflected in the early, positive response.

Over 200 speakers, representing virtually every part of the world where bees are kept, will be participating in over 30 plenary and symposium sessions. This part of the program is nearly complete. With the addition of submitted papers and posters, organized through the International Federation of Beekeepers Associations in Rome, and which should be complete by the end of March, some 350-400 papers will be presented at the meeting.

"Clearly," says Winston, "We're well on our way to fulfilling our goal of making this the most spectacular meeting ever held in the history of world beekeeping."

To receive more information, including the program outline and current list of confirmed speakers, check the website at <http://www.apimondia99.ca>. To receive the 2nd circular, with meeting details, contact Venue West Conference Services, #645 - 375 Water St., Vancouver, BC, Canada V6B 5C6; Fax: 604-681-2503; E-mail: [congress@venuewest.com](mailto:congress@venuewest.com)

## APIEXPO'99 WILL ACTIVELY COMPLEMENT APIMONDIA CONGRESS

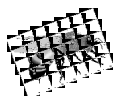
The ApiExpo trade show accompanying Apimondia'99 will be every bit as exciting as the other aspects of this huge international congress, planned for the Vancouver Trade and Convention Centre from September 12-18, 1999. Under the glistening white sails of the west coast's premier convention facility are over 6,000 square metres (60,000 square feet) of exhibit space, with wonderful natural light provided through translucent ceilings up to 150 feet high, all in the same grand facility as the convention sessions, lounge and food courts. Roomy, carpeted and fully air-conditioned, the trade show area will provide convention participants, whether exhibitors or registrants, with comfortable access to the best the beekeeping world has to offer.

"We have incorporated other elements of Apimondia, especially the posters for research projects, right onto the ApiExpo floor," says trade show coordinator Paul van Westendorp. "By having this seamless connection between the scientific program and the trade show, all in one envelope, in such incomparable facilities, we have made ApiExpo a deliberately active and integrated part of the Congress."

From educational displays by such groups as the International Bee Research Association and the US National Honey Board, to equipment, publications, pharmaceuticals, beverages, cosmetics and anything else concerning the bee industry, exhibitors are vying for position. Already, organizers are fielding requests for larger booth space from early registrants.

We've deliberately kept our exhibitor rates low enough to encourage anyone in commercial beekeeping to display their wares," van Westendorp says. "Everyone should get involved."

Check the website regularly for updated information about the congress: <http://www.apimondia99.ca>



## Upcoming Events



### **Western Pennsylvania Beekeeping Seminar**

March 12 - 13, 1999 Penn State University, Beaver Campus, Monaca, PA. For more information contact Lee Miller, Beaver County Extension Office. 724-774-3003. beaverext@psu.edu

### **Chester Co., PA Beekeepers Meeting**

March 13, 7:30 P.M. West Chester Borough Hall. For more information contact Tom Hochheimer at 610-458-0159.

### **Delaware Beekeepers Association State Meeting**

March 27, 1999. New Castle County Cooperative Extension Office at 910 S. Chapel, Newark, DE. For information contact Warren Seaver at 302-674-8969.

### **Beekeeper's Meeting at Delaware Valley College**

April 16, 1999. 7:00 P.M. in Mandell Science Bldg., Room 114 on the campus of Delaware Valley College. Speaker: Dr. Robert Roeshman. For more information contact Dr. Berthold at 215-489-2285.

### **Changing Fundamentals of Beekeeping Short Course**

May 14 - 15, 1999. Sponsored by MAAREC and Cornell University. Penn State University Park Campus. Contact Penn State Short Course Office at 814-865-8301 for more information.

### **Joint Beekeeping Meeting (Delaware & Maryland Beekeepers Associations)**

June 12, 1999. VFW Hall near Denton, MD. Contact Dewey Caron at 302-831-2526 or Dave Simmons at 410-734-4188 for more information.

### **Delaware Valley College Beekeeping Short Course**

June 25, 26, 27, 1999. Contact Dr. Berthold at 215-489-2285 for information.

### **PSBA '99 Summer Picnic**

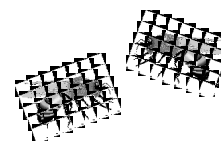
July 11, 1999. Morris Arboretum, Montgomery Co. For more information contact Jennifer Finley at 814-865-1731.

### **Eastern Apiculture Society Conference & Short Course**

July 26 - 30, 1999. Knoxville, TN. For information contact John Skinner at 423-974-7138  
jskinner@utk.edu or Marlene Thomas at 423-376-1838  
gleuman@mindspring.com

### **PSBA '99 Winter Meeting**

November 12 & 13, 1999. Country Cupboard, Lewisburg, PA. For more information contact Jennifer Finley at 814-865-1731.



Prepared by:

**Maryann Frazier  
Sr. Extension Associate  
Department of Entomology  
501 Ag Sciences & Industries Bldg.  
University Park, PA 16802  
814-865-4621**



This publication is available in alternative media on request.

Where trade names are used, no discrimination is intended and no endorsement by The Pennsylvania State University or Pennsylvania Department of Agriculture is implied.

Issued in furtherance of Cooperative Extension Works, Acts of Congress May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture and the Pennsylvania Legislature. R.D. Steele, Director of Cooperative Extension, The Pennsylvania State University.

The Pennsylvania State University is committed to the policy that all persons shall have equal access to programs, facilities, admission, and employment without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. The Pennsylvania State University does not discriminate against any person because of age, ancestry, color, disability or handicap, national origin, race, religious creed, sex, sexual orientation, or veteran status. Direct all inquiries regarding the nondiscrimination policy to the Affirmative Action Director, The Pennsylvania State University, 201 Willard Building, University Park, PA 16802-2801: Tel. (814) 865-4700/V, (814) 863-1150/TTY.