


Mid-Atlantic Apiculture Research and  
Extension Consortium  
Delaware, Maryland, New Jersey,  
Pennsylvania and West Virginia cooperating

MAAREC

# Bee AWARE



Notes and News on Bees and Beekeeping

November 1998

No. 79

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## APICULTURE FOR THE 21ST CENTURY

Summary of talk given at the Symposium  
Michigan State University, East Lansing, June 1997

### Feasibility of Apicultural Tools for a Non-chemical Varroa Control

#### Summary

The integration of biological Varroa control by drone brood trapping combs (DTC) into a swarm prevention method was tested in fifteen *Apis mellifera* colonies between May and August 1996 in Germany (J.W. Goethe Universitaet Frankfurt - Insitut für Bienenkunde - Polytechnische Gesellschaft, Oberursel). The fifteen colonies were divided into ten experimental colonies and five control colonies. All colonies became temporarily broodless during the swarm prevention by colony-splitting. During this broodless time drone brood combs (produced within the colonies) were inserted into the ten experimental colonies and became therefore the only remaining brood for Varroa mites to invade. Each colony had to produce three drone brood combs for the use of trapping combs. All trapping combs were removed immediately after being sealed and stored in a freezer. Later all cells were uncapped and the numbers of invaded mites were counted. The remaining mites in the experimental colonies and the mites in the control colonies were killed with Bayvarol®. All split colonies were reunited at the end of the experiment.

Results: The number of mites in the trapping combs (sum of all three trapping combs) was  $963 \pm 362$ . The number of the remaining mites in the experimental colonies was  $49 \pm 22$ . The efficiency of the control method (sum of all three trapping combs) was  $94.9 \pm 2\%$ . The number of mites in the control colonies was  $1393 \pm 304$ .

For a copy of the complete paper please contact:

Joerg Schmidt-Bailey  
Rutgers University  
Department of Entomology  
New Brunswick, NJ 08903  
(joerg@aesop.rutgers.edu)

Contribution deadline for February issue  
January 15, 1999

# DELAWARE HONEY MARKET SURVEY II

Dewey M. Caron & Maryann Li, University of Delaware

The last BEE AWARE reported the results of the Roadside Market portion of a Delaware honey marketing survey spanning 60 years. Our survey surprisingly found an 18% decrease in roadside markets (surveyed in October) offering honey for sale in Delaware. This is due in part to the changing roadside market. They are larger and open longer so local beekeepers may not be able to market their honey crops at such sites.

During our surveys, information about honey sale markets in competition with roadside stands was also collected and is included here in summary form. The price of a one pound jar of extracted honey at 3 markets - supermarkets, neighborhood markets and roadside markets - is compared over the 4 survey years 1982-1997 in the graph at left below. The average price for a 1 pound jar of honey has increased nearly 2 fold at roadside markets (median price increased from \$1.61 in 1982 to \$3.00 in 1997 - a 98% increase); price increases over the same 15 year interval were smaller at supermarkets (57% increase of medium price from \$1.43 in 1982 to \$2.24 in 1997) and at neighborhood outlets (58%).

Comparison of honey prices at 5 competing markets at a 10-year interval (1987 and 1997) is shown in the graph at the right below. One pound jars of extracted honey sold in Delaware cost less at supermarkets; roadside markets and temporary outlets exhibited the highest median price in our survey in October 1997. All price comparisons here were of the same size (1 pound) container; a similar relationship held for honey in 8 oz, 12 oz or 2 pound containers. Of the various markets included in our survey, supermarkets carried the greatest diversity of containers and had the largest price range followed by roadside outlets. Convenience stores usually had a smaller number of offerings and only in a single size package. Over the 10 year survey period, convenience store and neighborhood outlets increasingly offered honey only in an 8 or 12 oz. container.

The price range of honey offered for sale within individual market types was extensive when same size containers were compared. In supermarkets, for example, honey bear price ranged from a low of \$1.19 to as much as \$2.89 during the October 1997 survey. Dutch Gold brand honey bear prices in supermarkets ranged from \$2.69 to \$2.99. In neighborhood stores, 8 oz jars of extracted honey ranged from \$1.59 to \$1.85. Three of the surveyed neighborhood stores carried the exact same Dutch Gold brand at three different prices (\$1.65, \$1.79, or \$1.85). Convenience store variation in 8 oz jar prices ranged from \$1.79 to \$1.99. Delaware labeled honey always sold at a higher price than store or regional brand honey at supermarkets and neighborhood roadside outlets.

Roadside markets offer local honey retailers the greatest opportunity for a decent retail return on honey but it is not a market being fully utilized. Our survey found fewer roadside markets selling honey in 1997 compared to other survey years despite the fact that price increases for honey the past 15 years have been larger at the roadside stand compared to other outlets and the opportunities are good for sales in various size containers. The entire survey is being prepared and will be published later this year.

## THE SMALL HIVE BEETLE

*(Athina tumida)*

The small hive beetle, our newest beekeeping pest, was first found in Florida in the spring of 1998. This pest originated in Africa and how it found its way to North America is unknown. The adult beetle is small (about 1/3 the size of a bee), black and covered with fine hair.

It lays its eggs on or near beeswax combs. The eggs hatch, producing small larvae, similar in appearance to wax moth larvae. You can differentiate the beetle larvae from wax moth larvae by examining their legs. The 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.

Small hive beetle larvae consume pollen and comb but also will eat larval honey bees. After completing the larval stage, they crawl out of the hive and pupate in the soil. Adult beetles will feed on honey bee eggs.

This beetle is not considered a serious pest in South Africa, however, some Florida beekeepers experiencing heavy infestations, have blamed it for the quick collapse of strong colonies. According to a study by Dr. A. E. Lundie (Union of South Africa, Science Bulletin 220, 1940, 30 pp.) the beetle also defecates in the honey and in some way alters the honey causing it to ferment and run out of the combs. Full honey supers stored in the honey house or above bees escapes and weak hives with honey are most vulnerable to attack.

As of the fall of 1998, the beetle appears to be restricted to colonies in areas along the east coast of the US. This is probably due to the sandy soil conditions in these areas which allow the beetle to pupate successful.

## PENN STATE ESSENTIAL OIL STUDY UPDATE

Earlier this fall, Penn State led an extensive field test of essential oils for Varroa mite control. One of the limiting factors of any bee research is the practicality of closely observing large numbers of colonies. However, for this project, we were fortunate to obtain the help of 17 cooperators from 10 different states. This allowed us to gather data from 355 colonies located in the MAAREC states of PA, NJ, MD, and DE, as well as colonies in MA, ME, MN, NY, VA, and OH.

We conducted tests of 6 compounds which showed promise from previous laboratory trials. The field study portion of the test was completed early in the fall 1998. Each participant tested colonies for approximately three and a half weeks during August and September. They placed oil-soaked cardboard strips in colonies and collected Varroa mites on sticky boards.

We are now in the process of counting Varroa mites on the sticky boards. We expect to have results early next year.

# MARYLAND STATE BEEKEEPERS ASSOCIATION

Founded in 1908

26626 Howard Chapel Drive, Damascus, MD 20872

(301) 414-2317

**Subject:** Fall Meeting and Honey Show of the Maryland State Beekeepers Assoc.  
**Date:** November 7, 1998  
**Time:** 11:00 a.m. to 6:00 p.m.  
**Location:** Maryland Department of Agriculture Headquarters  
50 Harry S Truman Parkway  
Annapolis, MD.

**Cost:** Free; open to the public  
**Refreshments:** Coffee, tea and light refreshments will be provided during breaks  
**Lunch:** There will not be a lunch break. Please be sure to have a bite to eat before the meeting to tide you over until the Pot Luck Dinner  
**Dinner:** A Pot Luck Dinner will follow the conclusion of the meeting. Refrigeration and ovens are available. Please bring a dish large enough to provide for yourself and your guests. MSBA will provide drinks and utensils. Refrigerator, oven, stove and microwave are available.

**Honey Show:** Entries are accepted from 10:00 a.m. to 11:15 a.m.  
**Contact:** For further information, contact:  
Program: David Bernard, MSBA President, (301) 414-2317,  
or David Morris, (301) 725-6185 OR beefriend@aol.com.  
Honey Show rules: Bart Smith at smithib@mda.state.md.us,  
or David Morris at beefriend@aol.com  
Election & Nominations: Steve McDaniel (410) 239-7496 or  
smcdaniel@smartnet  
Directions: Bart Smith at smithib@mda.state.md.us,  
or David Morris at beefriend@aol.com

## Schedule:

10:00 - 11:15 a.m.	Honey Show entries received
11:00 a.m.	Opening Remarks and Welcome David Bernard, President, MSBA
11:15 a.m.	Md. Inspector's Report I. Barton Smith, MD Apiary Inspector
11:30 a.m.	Beekeeping History: A look into our past Dr. Wyatt Mangum, Mary Washington College, Fredericksburg, Va.
12:30 p.m.	Break & Refreshments
1:00 p.m.	Birth of a Bee Business Steve Forrest, Brushy Mountain Bee Farm
2:00 p.m.	Working With Beeswax Bob Wellmeyer, Va. State Apiary Inspector
3:00 p.m.	Annual Business Meeting Elections Committee Chair and Elections
3:15 p.m.	Break
3:30 p.m.	Queen Cell Biology and Management Dr. Wyatt Mangum

4:30 p.m.	The Future of Beekeeping Steve Forrest
5:30 p.m.	Honey Show Awards Bart Smith, Honey Show Chairman
5:45 p.m.	Pot Luck Dinner and Social. Bring your favorite dish. MSBA will provide drinks, plates & utensils.

Summary:

- The Maryland State Beekeepers Association is pleased to announce its Fall Meeting and Honey Show to be held on November 7, 1998. The meeting will include annual Elections followed with a Pot Luck Dinner. The meeting will be held at the Maryland Dept. of Agriculture Headquarters, Annapolis, Md. The featured speaker will be Dr. Wyatt Mangum, a regular contributor to the American Bee Journal on bee biology and beekeeping history. Dr. Mangum has an extensive collection of antique beekeeping equipment which he has written about in numerous articles.
- Steve Forrest, owner of Brushy Mountain Catalog and Bee Farm, will recount for us how he built his bee business.
- Robert Wellmeyer, Virginia Apiary Inspector will demonstrate working with beeswax.
- Annual Elections for officers will be held. Nominations for an office should be made to Steve McDaniel at smcdaniel@smartnet or 410-239-7496.
- Entries for the Annual Honey Show will be accepted between 10:00 a.m. and 11:15 a.m. Awards include the “Best Club Showing” award. Last year’s winner was the Central Maryland Beekeepers Assoc.
- The annual Pot Luck Dinner will follow directly after awarding of the honey show prizes. Coffee, tea and light refreshments will be available during breaks.
- Directions:  
From Baltimore: Take Interstate 97 south toward Annapolis. When I-97 intersects with Rt. 50, take the first exit, Exit 22 (Rt. 665 to Riva Road). Follow the directions for “At Riva Road” directions below.  
From the Eastern Shore: Take Rt. 50 West through Annapolis to Exit 22 (Rt. 665 to Riva Road). Follow the directions for “At Riva Road” directions below.  
From the Washington Beltway: Take Rte 50 East to Annapolis, to Exit 22 (Rt. 665 to Riva Road). Follow the directions for “At Riva Road” directions below.  
At Riva Road: Turn right and go west on Riva Road toward Harry S Truman Parkway. At the stoplight, turn right onto Harry S Truman Highway and go about 1/2 mile to the Md. Dept. of Agriculture building. Watch for the yellow “BEE MTG” signs.

# The PA State Beekeepers Announce Their Annual Winter Meeting, November 13 & 14, 1998

## Mark Your Calendar & Reserve A Room

Our Annual Winter Meeting is fast approaching! It is time to reserve your hotel room at The Country Cupboard in Lewisburg if you haven't done so already. You will find an article describing the meeting and how to make reservations below. Call today!!

Look for a complete schedule of events and more details on the other side!!

As with all of our activities, we encourage you to 1) come and show your support and maybe learn something new or meet a new friend 2) bring a friend and help connect them to the wonderful world of beekeeping and 3) volunteer to help with a small piece of this meeting and PSBA. You'll be glad you did!! To volunteer, please call any PSBA officer.

## Hope to see YOU there!!

**Jennifer Finley, PSBA President** 627 Hubler Road State College, PA 16801

W phone (814) 865-1731 W FAX (814) 865-3048 H phone (814) 466-6604 email: [jfinley@psu.edu](mailto:jfinley@psu.edu)

## Lewisburg Will Be Buzzing With PSBA Annual Winter Meeting

Plans are underway for another great winter meeting. We will be following a format similar to last year's, but hopefully with better traveling weather. On November 13th, our meeting will kick off with a special Friday afternoon session for beginning beekeepers and those of you who like to learn more about the basics. Lectures will focus on bee biology, basic seasonal management, disease and mite recognition and treatments. We all know that the best time to start beekeeping is really in the WINTER! By starting in winter, new beekeepers will be armed with the necessary knowledge and equipment to enjoy successful beekeeping by the time the spring bee season rolls around. If you know of someone who is thinking about becoming a beekeeper, please encourage them to attend this special part of our program. It's a great introduction to beekeeping as well as to our state bee association.

Friday afternoon will also feature an alternate workshop for leaders of county bee groups. Many of you have asked for advice on organizing your group, program ideas, finding helpful resources and more. Let's put our heads together in a group discussion to learn from our best source of information — other beekeepers!!!

Friday evening will feature our Annual Banquet. Don't miss the crowning of our new 1999 PA Honey Queen, the special awards, entertainment, honey exchange and door prizes. And, of course, make room for the great Country Cupboard buffet!!

For our Saturday line-up, we welcome back Dr. Dewey Caron from the University of Delaware. Jim Steinhauer, PA's Chief Apiary Inspector, will present his annual inspection report and will bring us up to date on a new bee pest — the small hive beetle. And we will also have a "Research Round-Up" of honey bee research updates from the Mid-Atlantic Bee Research Consortium, which includes scientists from Pennsylvania, Delaware, Maryland, New Jersey and West Virginia. We also have revived our Ladies' Program with a special Saturday afternoon honey cookery demonstration led by Ann Harmon, honey cookery writer for *Bee Culture* magazine!!!

And don't forget about our apiary products show where your best honey, beeswax, and honey baked goods can win a ribbon. We have added a new contest to the show especially for county bee groups — enter our newsletter category!! Watch for the complete rules next month.

The Annual Winter Meeting will take place on November 13 & 14, 1998, at The Country Cupboard (Best Western) Inn and Restaurant on Route 15, just north of Lewisburg, PA. For hotel room reservations, please call (717) 524-5500. This is a Penn State Nittany Lion football weekend in State College. Hotel rooms within a 90 minute drive of State College (includes Lewisburg!) will be VERY hard to find. **If you forget to mention that you are with the beekeepers, the hotel will tell you that they are full.** Special rates for the PSBA are \$69 for a double room. Reserve your room today!!! **PSBA Annual Winter Meeting**

## 1998 Program & Events Schedule

### Friday, November 13

#### 10:00 am PSBA Executive Board meeting

All county groups should send a representative. Each county group commands one vote on the PSBA executive board. All committee chairs should prepare reports of committee activities since our last meeting and your plans for the next

year. Agendas for this meeting were mailed to board members. If any PSBA member or any PA county group would like to add an item to the discussion agenda, please call Jennifer Finley before November 1st.

### **Special Friday Afternoon Program**

Noon to 1:00 pm Winter Meeting Registration  
1:00 -1:15 Welcome — Jennifer Finley, PSBA President

#### **Option #1: Seminar for Beginning Beekeepers**

*Winter is a great time to get started in beekeeping. You'll have lots of time to read & learn & prepare for spring bees! For others, winter is a good time to brush up on the basics.*

- 1:15- 2:00 The Biology of Bees - Maryann Frazier  
Extension Specialist, Penn State University
- 2:00 - 2:45 Management through the Seasons — Jerry Ely  
EAS Master Beekeeper from Susquehanna County
- 2:45 - 3:00 Break
- 3:00 - 3:45 Mite & Disease Management - Jim Steinhauer  
PA Dept. of Ag., Chief State Apiary Inspector
- 3:45 - 4:30 Honey Production - speaker to be announced
- 4:30 - 5:15 Uses of Honey - Ann Harmon  
Honey Cookery writer for *Bee Culture* magazine

#### **Option #2: Great Groups: County Leaders' Workshop**

*Many county groups have asked for advice on how to do better. Let's put our heads together! This will be an interactive group discussion format. Please bring your ideas, experiences and suggestions to share.*

- 1:15 - 5:30 pm
- How Organized is Organized Enough?
  - Golden Resources to Draw On
  - Getting the Word Out
  - Putting Some Buzz in Your Newsletter
  - Motivation and Drafting Volunteers
  - Experiences: The Good, the Bad and the Ugly

**5:30 -6:30 APIARY SHOW ENTRIES OPEN**

**7:00 PM ANNUAL BANQUET**

Entertainment, auction, doorprizes and more!

### **Saturday, November 14**

- 8:00 - 8:50 Winter Meeting Registration  
**8:00 APIARY SHOW ENTRIES OPEN**
- 8:50 - 9:00 President's Welcome & Comments - J. Finley
- 9:00 - 9:15 1998 Honey Queen Report - Sara Fisher
- 9:15 - 9:45 The Formation of MAAREC (Mid- Atlantic Apiculture Research and Extension Consortium) - Maryann Frazier, Extension Specialist, Penn State
- 9:45 - 10:30 Roadside Marketing - Dewey Caron  
Apicultural Specialist, University of Delaware
- 10:30 - 10:45 Break
- 10:45 APIARY SHOW ENTRIES CLOSE**
- 10:45 - 11:15 National Honey Board Update - Jill Clark,  
Marketing Specialist, Dutch Gold Honey
- 11:15 - 12 :00 Business Meeting**  
Introduction of 1999 Honey Queen
- ◆◆◆ **12:00 HONEY EXCHANGE AUCTION**
- 12:00 - 1:30 Lunch - On your own**
- 1:30 - 2:15 Possible alternatives to Apistan treatments -Joerg Schmidt-Bailey, Instructor, Rutgers Univ.
- 2:15 - 2:45 Apiary Inspection Report - Jim Steinhauer  
PA Dept. of Ag., Chief State Apiary Inspector
- 2:45 - 3:00 Break **Apiary Show Ribbons Presented**
- |  |                    |
|--|--------------------|
| 3:00 - 4:30 Penn State Honey Bee Research Round-up |                    |
| Introduction                                       | Dr. Scott Camazine |
| Immune System work                                 | Jamie Fisher       |
|  | Erin Grossi        |
|  | Xiaolong Yang      |
| How Bees Respond to Diseases                       | Dhruba Naug        |
| Apistan-Resistant Varroa Mites                     | Dave Bell          |
| Queens in Transit                                  | Jennifer Finley    |
| Essential Oils                                     | Jennifer Finley    |
- 4:30 to 5:30 Title to be Announced — Robert Skidmore  
West Virginia University

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### **For the Ladies in the Crowd:**

#### **Saturday Afternoon Ladies' Program**

*Get some new ideas from an expert in action!*

- 1:30 to 2:45 Honey Cookery Demonstration - Ann Harmon  
Honey Cookery writer for *Bee Culture* magazine
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## CANDLE MAKING WORKSHOP

On Saturday, December 12, 1998 a candle making workshop will be presented at Delaware Valley College. Dr. Berthold and the College's Apiary Society will be presenting the workshop in the Mandell Hall Auditorium starting at 7:00 p.m. Directions to the building can be obtained by stopping at the Security Office when entering the campus. The college is located on Route 202 and about one mile south of Doylestown. For further information, please call Dr. Berthold at 215-489-2285.



### Upcoming Events



#### Fall Meeting & Honey Show of Maryland State Beekeepers Association

November 7, 1998. 11:00 a.m. - 6:00 p.m. Maryland Department of Ag Headquarters, 50 Harry S. Truman Dr., Annapolis, MD. Call 301-414-2317 for more information.

#### Pennsylvania State Beekeepers Annual Winter Meeting

November 13 & 14, 1998. The Country Cupboard Inn & Restaurant, Rt. 15, Lewisburg, PA. Contact Jennifer Finley for more information at 814-865-1731.

#### Candle Making Workshop

December 12, 1998. 7:00 p.m. Delaware Valley College, Mandell Hall Auditorium, Doylestown, PA. Call 215-489-2285 for more information.



#### 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

#### Delaware Beekeepers Association State Meeting

March 27, 1999. For information contact Warren Seaver at 302-674-89691

#### 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

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