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BEEaware

NOTES & NEWS ON BEES & BEEKEEPING

April 2002

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MAAREC, the Mid-Atlantic Apiculture Research and Extension Consortium, is an official activity of five state beekeeper associations, the state Departments of Agriculture, land grant universities and the U.S. Department of Agriculture. The following are cooperating members: University of Delaware / Newark, DE; University of Maryland / College Park, MD; Rutgers University / New Brunswick, NJ; Penn State University / University Park, PA; West Virginia University / Morgantown, WV; USDA/ARS Bee Research Lab / Beltsville, MD

Requests for information or publications should be sent to: MAAREC, 501 ASI Building, University Park, PA 16802 Phone: (814) 865-1896 Fax: (814) 865-3048 Web site: <http://MAAREC.cas.psu.edu>. This publication is available in alternative media on request. The mention of trade names or commercial products in this publication is for illustrative purposes only and does not constitute endorsement or recommendation by the Mid-Atlantic Apiculture Research and Extension Consortium or their employees. The U.S. Cooperative Extension Service and the U.S. Department of Agriculture provide Equal Opportunities in employment and programs.

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FOCUS ON:

Africanized Honey Bees in the Americas

UD Scientist Writes Book about America's Most Notorious Bee

Teaching others about beekeeping has long been a way of life for Dr. Dewey Caron, professor of apiculture at the University of Delaware, College of Agriculture and Natural Resources, who undoubtedly is one of the most prolific writers on campus. Caron's latest book, however, *Africanized Honey Bees in the Americas*, may well have a popular appeal unmatched by anything else he has written. That's because Africanized bees have the reputation for being "killer bees" – a reputation Caron wants to challenge—or at least to qualify. You be the judge.

"The first thing people want to know when they learn I keep bees is whether I have any 'killer bees,'" says Dr. Caron. Avoiding the K word, he refers to them as Africanized bees—a bee so sensationalized by the popular press that nearly everyone has heard about them, is fearful of them but are also anxious for information about them.

While the bees haven't arrived in Delaware yet, Caron first became acquainted with them 20 years ago in Panama and has worked with them continuously ever since in development work he has done throughout Latin America. This book is a result of that association. It is an attempt to sort fact from fiction and to paint a true portrait of these honey bees. They are here to stay in the United States and we need to learn to live with them.

According to Caron, honey bees are indispensable

pollinators, essential to agriculture and to the production of more than 100 common fruits and vegetables in our everyday diet. The gentle, European honey bees, the familiar flower-visiting bee in our backyards and meadows, are not natives—they were brought to the U.S. by colonists hundreds of years ago. In 1956, a geneticist from Brazil set out to improve the Brazilian bee stock by breeding bees carried from the tropical areas of Africa with those brought earlier by colonialists from Italy and Germany, expecting that they would be better suited genetically to the tropical conditions in Brazil.

"The African bees were exceptional producers in parts of their native Africa," says Caron, "so outstanding that they held the Ripley's *Believe It Or Not* world record for honey production. "The African bee, however, is also well known in its native eastern Africa as very defensive," says Caron. "In other words, it has one good trait and one bad trait."

The plan was to initiate a honey bee breeding program that would result in a new bee, productive like the African bee but gentle like the European bee. The newcomers, however, escaped before the program got underway. And when they mixed with the feral population of gentle European bees, the unexpected happened—the African bee genetic material was not diluted as anticipated. Instead, the gentle bees become Africanized and all the survivors took on the more defensive demeanor.

Caron explains that accidental/intentional releases of non-native animals and plants are not unusual. What usually happens is the invasive species perishes or does not reproduce because they are not adapted to the new area. Only one in a thousand becomes a problem. "The Africanized bees are an exception. They're so well adapted they spread rapidly on their own."

His new book, *Africanized Honey Bees in the Americas*, explains the science of Africanized bee colonization and the human side of the story as well. For ex-



ample, it illustrates the relationships of Africanized bees with their environment or, more precisely, with elevation. In an extraordinary series of studies in Bolivia, Caron carried the same queen bees up and down the mountains of that country to observe the behavior of their progeny – the female worker bees – in each location. Depending on elevation, he found that bees had a personality reversal within about five to six weeks.

“We can notice it in a month,” he says, “and the change is apparent whether going from higher elevations to the tropical lowlands, or the other way around. “The same bees that are defensive in the lowlands are much easier to handle in the mountains.” Such studies predict that the Africanized bee will be less defensive and easier for beekeepers and the general public to deal with in more northern latitudes (north of Florida, the Gulf Coast states and Southwestern US.)

The book is also rich in human interest stories that document how people in different countries triumph over adversity, actually profiting from the uniqueness of the Africanized bees. In some countries, Caron points out, beekeepers not only harvest honey but, because these bees carry more pollen than European bees, they harvest and sell both pollen and honey.

“The Africanized bee is a most unique phenomenon,” Caron concludes. “It is not all good, nor is it all bad. It has caused some problems for bee-

keepers, some real tragedies for families of victims and economic hardship for beekeepers and others whose lives have been touched by this population of bees. It has also become a resource for the rural poor to rob for honey and beeswax.” And the “best” news — “it has not proven to be a significant health hazard — you give them a little distance and you won’t even notice they are around.”

“The bees – now established in six states (Texas west to California), and expected to colonize the southeastern United States in the next decade – will not go away. “We need to learn to better live with them. This book is dedicated to that goal.”



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To order *Africanized Honey Bees in the Americas*, please contact Dr. Dewey Caron at the University of Delaware by e-mail at dmcaron@udel.edu, or by phone at (302) 831-8883.

Invasive Species – Are they all Bad?

Recently, invasive species have attracted considerable negative attention from both professional biologists and the “save the earth” segment of the general public. This article is not a defense of invasive species in general, but rather, a call for reason in determining which species are good and which are bad.

Biodiversity seems to have become the buzzword with the “save the earth” crowd, but I wonder if most people really understand its complexity. I am not against biodiversity, but I question whether it is really the Holy Grail, which will save the earth.

Since time began, evolution has led to extinction of species, as well as the development of new species. The world is constantly changing and those species which can’t adapt to the changes will become extinct. Those species which can adapt will survive and take their place. Currently, the rate of extinction is higher than at any time in recorded history and this should be cause for alarm. However, the blanket attitude that extinction of any species is a bad thing may be counterproductive.

Purple loosestrife (*Lythrum salicaria*) has been declared a noxious weed in Pennsylvania and many other states. I will not attempt to refute the data about how this species has had a

negative impact on wetlands, which led to this decision, but I wonder if any of its attributes were considered before it was declared a noxious weed? It certainly provides color to formerly nondescript wetlands and as beekeepers quickly realize it is a good source of forage for honey bees.

Japanese bamboo (*Polygonum cuspidatum*), also known as Japanese knotweed, is not on the Pennsylvania Noxious Weed list yet, but, there is growing concern about its invasive nature and it could find its way onto the list in the future, unless someone comes to its defense. Japanese bamboo grows mostly in creek bottom flood plains and mine spoil areas, but may also be found along roadsides and right-of-ways. It spreads by rhizomes and

forms dense thickets, which out-compete other plants, creating a monoculture. This has not endeared it to the anti-invasive folks. However, it is not a problem in agricultural crop areas or maintained landscapes (it can’t survive repeated cutting). Its extensive rhizome system stabilizes stream banks helping prevent erosion during high flow/flood periods. It also grows in mine spoil areas, where little else will grow, providing habitat for wildlife while building soil. It is also very attractive to bees and can produce a honey crop during August when there is usually very little bee forage.

It may be that the decision makers never heard from anyone extolling the positive attributes of purple loosestrife. I suggest that we not let that happen with Japanese bamboo. MAAREC beekeepers should find out who decides what plants are on the Noxious Weed list (probably in the state agriculture or natural resources department) and let them know the positive attributes of Japanese bamboo, including that it is a wonderful honey plant.

Jim Steinhauer, PA Dept. of Agriculture



Standardization within Beekeeping - Pat Henderson, NJ Beekeeper and chair of MAAREC Task Force

One of the things that makes me tick is my belief there is structure and order to our lives. More so for some than others, however. Sometimes I really become frustrated within our world of keeping bees. I never seem to get the same answer from different beekeepers. I know this hobby traverses many lifestyles, but there still needs to be commonality or some degree of standardization within beekeeping.

There are numerous beekeeping items that we can consider; the use of queen excluders; how different people grade honey; package bees versus nucs; wax foundation versus manmade; advantages of Duragilt, Plasticell, or all plastic frames and foundation; belonging to a beekeeping organization or not; how different organizations display honey for judging; why so many different Master Beekeeper programs?; why beekeepers apply their medicinal treatments at different times and vary amounts from the legal rate?; and so many more. Some variation is warranted because of location, but why such variety within the same county?

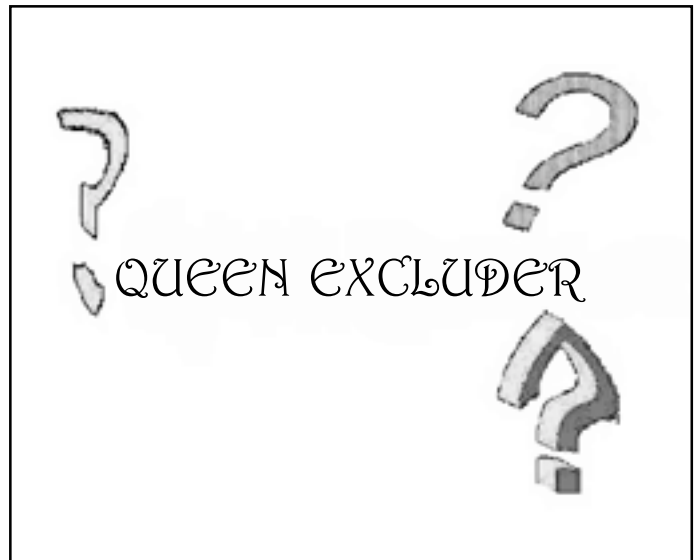
For this issue, I want to discuss the use of the queen excluder. This is probably the single most controversial piece of equipment used in keeping bees. For years I used a metal queen excluder. Why? Because that was the way I was taught. That reminds me of an old wives tale about cutting off the end of a ham before you cook it. This mother was asked by her daughter why she always cut off the end of the ham before she cooked it. She said that was the way her mother had taught her. When the young girl went to her grandmother and asked the same question she got the same answer. So then the young girl queried her still-living great grandmother and discovered the answer — the end of the ham was cutoff because her pan was too small to hold the whole ham! Do we operate as beekeepers in a similar fashion?

I recently decided use of the queen excluder may not be in my best interest. I am not a pollinator; I'm more interested in producing honey. I keep my bees in two standard hive bodies. My mentor taught me to use the queen excluder above the second hive body to keep the queen out of the honey supers. However, I sometimes believe I'm excluding worker bees from storing honey above the excluder; i.e., the queen excluder becomes a honey excluder. In fact, some of the more successful beekeepers in New Jersey do not use queen excluders.

There are times when beekeepers might benefit from using an ex-

cluder. If I moved the bees around for pollinating services and only used one standard hive body, then I certainly understand the use of the queen excluder. Use of an excluder to help locate the queen in a two-hive body colony or placing the excluder on the bottom of a stack of honey supers to keep out mice might be two such instances. But is the way I learned the best use of an excluder? Why is there no standardization with the use of the queen excluders?

I do, however, see some standardization within the publishing community; they prefer an article be limited to approximately 600 words. For some of us, that is difficult. So I must conclude this article, just one of many subjective issues within the non-standard world of beekeeping. I hope to discuss other somewhat frustrating issues at a later date.



NEW JERSEY BEEKEEPERS CENTENNIAL 1902-2002 ANNIVERSARY ACTIVITIES

Annual NJBA Picnic/Auction/Meeting/Pig Roast, July 27, Bob & Joan Hughes Yardville
contact Bob Hughes: (609) 585-4359 or Pat Henderson: (973) 644-9024 or e-mail: PatHender@aol.com.

The **NJBA Fall Meeting and 100th Year Celebration**, Oct. 4-5, Ramada Inn, Hightstown, NJ

For more information contact Bob Hughes: (609) 585-4359 or Dave Wasitowski (908) 806-7611 e-mail: David@sfhoneyfarm.com
or Pat Henderson: (973) 644-9024 e-mail: above

Friday – All Day Workshops featuring Dr. Dewey Caron (University of Delaware), Dr. John Skinner (University of Tennessee), Ms. Susan Cobey, (Ohio State University), Mr. Tony Jadczyk (Maine State Apiarist), Dr. Sridhar Polavarapu (Rutgers University), Dr. Mark Feldlaufer (USDA Bee Laboratory, Beltsville MD), and Dr. Medhat Nasr (Rutgers University)

Friday Evening – NJBA Business Meeting and Social Hour

Saturday – Chatsworth trip for tours of Haines Cranberry Farm, Tours of the Ocean Spray Plant, and Tours and Bee Workshops at Rutgers Blueberry & Cranberry Research Center

Saturday Evening –Cocktail Hour & Dinner/Dance Ramada Inn, Hightstown, NJ

This two day event is very reasonably priced (\$130) and Ramada is offering a special room rate (\$79)for this event.



Beekeeper Assistance Programs

At the recent MAAREC Task Force meeting, held in conjunction with the annual regional Apiary Inspectors meeting/workshop at USDA Beltsville, MD, each of the 5 member states was able to report on significant new efforts to assist MAAREC beekeepers. Here are summaries of the programs:

Delaware

The DE administrative division that conducts mosquito control spraying (DNREC) has developed a rapid response system to enable beekeepers to determine what areas will be sprayed in the West Nile virus mosquito control program. Decisions are made in mid-afternoon (by 3 p.m.) on the same-day as spray applications which are performed in the early evening (7-9 p.m.) Beekeepers can get 3-4 hours notice of areas to be treated by telephoning a hotline number. Unfortunately with such short notice bees will still be outside foraging — covering or moving colonies will result in having to leave field foragers exposed if beekeepers elect to cover/move.

Annual apiary registration renewal has been sent. Bob and Jeff have pheromone lures available for beekeepers from DDA. Dewey is conducting a 2002 Winter loss survey. Preliminary reports indicate losses were under 20% for this past winter.

Pennsylvania

The state has filled a new position funded by a Penn Dept Agriculture. The new hire will be Dennis van Engelsdorp. Dennis comes to Pennsylvania from Cornell where he served as Extension Associate in Apiculture and was instrumental in developing the Master Beekeeper Program in New York. He holds both a BS in Agriculture and an MS in Environmental Biology from the University of Guelph where he studied resistance of honey bees to tracheal mites.

Dennis will begin his new position on May 1, 2002. He will be assisting Jim Steinhauer in the apiary inspection program, conduct varroa IPM field studies and pollinator protection studies. The position will be administered through Penn State but the individual will work for PDA in Harrisburg. Jim Steinhauer is also looking for full-time summer Apiary Inspectors in south-east and south central regions of the state.

Diana Sammataro has left Penn State for a new position at the USDA Bee Lab in Tucson, AZ. Beth Corocan has been hired as a bee technician on the PMAP project (with UDEL and UMD). She has a MS and studied tracheal mites with Steve Sheppard at Washington State University. The Dept. of Entomology is hoping to maintain a bee research position at Penn State but a hiring freeze and budget short fall may delay action on this happening right away. Post-doctoral Joachim Miranda has been assured of adequate funding for at least one more year to continue work on bee virus research. Nancy Ostiguy and Maryann Frazier have submitted two grants for funding of regional MAAREC mite and IPM objectives. Maryann and Dewey will revise the *Fundamentals of Beekeeping* booklet as a MAAREC for-sale publication.

New Jersey

Grant Stiles now is a USDA APHIS employee — the NJ Bee Inspector position is on hold due to state financial woes. Tim Schuler a beekeeper and NJ Dept. of Agriculture employee in a different division will do a few necessary inspectors (such as certifying AFB-free bees for nuc sales). Hopefully the inspector position will be resolved by summer when migrating colonies must be certified for inter-state movement.

There is a strong effort to obtain a better funding base for Medhat Nasr. There are enough funds now for 2 additional years but the expectation is to be able to obtain a permanent position for a bee scientist. Medhat has established a number of projects and is already presenting results to beekeepers and fruit growers in cranberry pollination and bee mites control. He gave a summary of his current research at the MAAREC sponsored IPM workshop that proceeded the spring Task Force meeting in Beltsville, MD.



Beekeeper Assistance Programs (con't)

Maryland

The Plant Protection and Weed Management Section has obtained a grant of \$55,000 from the Maryland Department of Agriculture to support beekeeping in Maryland. These funds originated from a "one time" grant from Congress for specialty crop promotion. The grant will be used to promote the purchase of new colonies to increase the supply of bees for the pollination of crops, home gardens and wild flora in the State.

This grant will subsidize half the purchase cost for up to 5 packaged bees or nucs per beekeeper/family that are obtained through Maryland bee dealers. In addition, the grant will assist with the distribution of education material (a new Varroa information sheet is now ready), provide Varroa mite control medication to beekeepers at no cost, and will pay for the purchase of a replacement observation bee hive used by the MD Dept. of Agriculture.

To participate, beekeepers had to arrange purchase of up to 5 packaged bees or nucs from a dealer on the list of 2002 Maryland Sources of Packaged Bees and Nucs. The beekeeper will pay the dealer for half the cost of the bees and the dealer must then obtain reimbursement for the remaining 50 percent cost of the bees from the grant money. (The purchase price of bees obtained from other sources will not be subsidized.)

To qualify for Varroa mite control medication, Maryland beekeepers need to fill out and return a Varroa Mite Control Medication Request Form. Medications will be sent during July and August, 2002. If you are a Maryland beekeeper and did not receive information by mail from Bart Smith contact him for details.

Barton will be able to hire part-time apiary inspectors again this summer thanks in part to nearly \$5000 voluntarily contributed to the apiary inspection program by beekeepers who register their bee colonies. Barton also is distributing pheromone lures - over 13000 were given to beekeepers last year for swarm capture.

USDA

The USDA Beltsville Bee Lab situation is still not clear. Dewey, Bart Smith and Danny Weaver (commercial beekeeper/queen breeder from Texas) completed a lab review in mid-February. Hopefully the lab will not be closed as per President Bush's appropriations bill recommendation. The BRL is proceeding with efforts to replace the microbiologist position (open due to retirement of Akey Hung) and has a subcommittee prepared to recommend a candidate. They are also seeking a support scientist to assist Anita Collins in her germplasm research effort and to do the bee colony manipulations/maintenance work ½ time. Jeff Pettis was awarded funding as co-Principal investigator on a regional IFAFS grant (with Nick Calderone of Cornell) to work on IPM of bee mites and small hive beetle.

West Virginia

The West Virginia Beekeepers Association successfully petitioned the state legislator to make the honey bee the official state insect. The resolution listed how important bees are to the economy in crop pollination and honey production. Beekeepers hope now to convince legislators that additional state money will make their growing industry an even greater source of revenue.

The number of bee colonies dropped dramatically in 1995 to fewer than 3,000 when parasitic mites and diseases ravaged hives. But "they have made a strong comeback", said George Clutter, chief bee inspector for the state Department of Agriculture. There are now in excess of 20,000 colonies kept by over 1250 beekeepers. To keep pace, the legislators are being encouraged to agree to the Department of Agriculture's request for an additional full-time inspector and two part-timers.

The Association is also asking for \$20,000 in state money to match a \$42,000 federal Specialty crops grant to convert Weston Farmers Market into an apiculture center for providing supplies to beekeepers at much lower rates than out-of-state suppliers. The apiary program also has a large number of bee talk/demonstrations scheduled and they have a version of Beekeeping in West Virginia and 4-H Beekeeping manuals in preparation along with a publication on dimensions/directions for making woodenware.

New apiary inspector George Clutter is seeking grant assistance from the Claude W. Benedum Foundation to help establish beekeepers and provide for educational assistance in additional counties along with seeking Heifer International to expand their support program in West Virginia.





U P C O M I N G E V E N T S

- July 11-13 — **HA\$ (Heartland Apicultural Society)** – 8 states serving the heart of America. – First Conference
- July 27 – **Annual NJBA Picnic/Auction/Meeting/Pig Roast** - Home of Bob and Joan Hughes. (See page 3 for details)
- August 5-9 – **EA\$ Conference and Short Course** at Cornell University.
- September 13 – **Delaware Fall Open Hive** - Ellendale, DE.
- September 27-28 – **West Virginia Beekeepers Fall Meeting** - Cedar Lakes Conference Center, Ripley, WV.
- **New Jersey Centennial Activities** - see page 3.

JOINT CANADA/US APICULTURAL MEETING

There will be large gathering of beekeepers for a Joint meeting Dec 2-7 at the Sheraton Fallsview Hotel & Conference Centre in Niagara Falls, Ontario. Groups joining to co-sponsor the event are the AAPA (American Association of Professional Apiculturists), AIA (Apiary Inspectors of America), CAPA (Canadian Association of Professional Apiculturists), Canadian Honey Council and both the Empire State (NY) and Ontario Beekeepers Associations. Rooms are specially priced at \$104 (green view) or \$124 (falls view - which is outstanding) in Canadian \$. Contact them at 877-353-2557. Meeting details at www.honeycouncil.ca or www.ontariobee.com.



For an up-to-date listing of MAAREC regional events and for a complete list of MAAREC task force representatives, visit the MAAREC website at <http://maarec.cas.psu.edu/events.html>



FACE LIFT

If you have not visited the MAAREC web site recently, please do. The site has been given a complete overhaul. The old site was difficult to navigate and it was hard to find specific information. The new site has fewer sub pages but clearly (we hope) separates on-line information and for-sale publications. We hope that you will visit the site and let us know what you think about the new look and whether or not our changes have made the site more user-friendly. MAAREC web site address: <http://maarec.cas.psu.edu/>

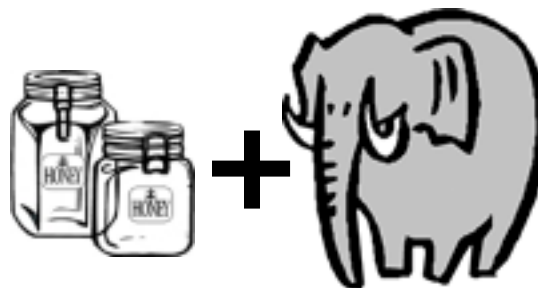
ELECTRONIC NOTICE

We have started a new email list of individuals who would like to be notified when important changes or additions have been made to the site (such as posting the *BeeAware Newsletter* to the site). If you would like to be added to this list, please send an email message to mxt15@psu.edu.

Honey-Scented Elephants

Ancient Hindu poetry referred to bees gathering “sweetness” from elephants. A NATURE (Feb 28) report says when testosterone begins spiking in young Asian bull elephants, they secrete a liquid from their facial glands that smells like honey. The chemical is a junior version of musth, the weeks-long phase of testiness and heightened interest in mating that characterizes adult males. Musth is typically the only time an Asian elephant secretes liquid from glands on its temples. Analysis of secretions from young males contained compounds known from bee honey and bee pheromones. These compounds dwindle in musth secretions as the males mature, while other, pungent compounds appear.

The researchers hypothesize that the honey-like scent in a youngster’s secretions indicates to its elders that this sexually mature male is still basically a kid. Mature males didn’t pay much attention to the secretions of the youngsters, but young



(con’t. page 9)

USE IT WISELY

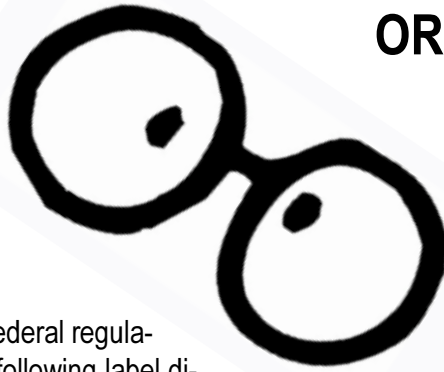
Perhaps you missed the letter from Richard Hack, Product Manager of Bayer Corporation (the manufacturers of Checkmite+ strips). Richard writes:

"I am writing to inform you of concerns communicated to us by state and federal regulatory agencies regarding beekeepers not following label directions with the use of Checkmite+ Bee Hive Pest Control Strips. Bayer Corp and beekeepers have worked together to request and obtain Section 18 Emergency Exemptions. Such registration provides beekeepers with an effective treatment for hives infested with varroa mites and /or African hive beetles.

"The concerns are that Checkmite+ strips are being misused and label directions for the product are not being followed. There are reports that the strips are used during honey flow, strips are either removed from the hive prior to the time interval required to provide optimal mite control, or strips are left in the hive for intervals longer than specified on the label. There are also reports of using fewer number of strips per hive than indicated with the labeling. Misuse of the strips by not following the label instructions may result in exposing mites or beetles to sub-lethal concentrations of active ingredient. Based on experience with other products, sub-lethal dosing speeds up the varroa mite's ability to become resistant to the product.

"Bayer will be submitting a complete Checkmite+ registration package for EPA's review soon. Once the full registration package is reviewed and accepted by EPA, Section 18 state authorizations will be eliminated. Registration of Checkmite+ by EPA is not certain, especially if it is suspected that the product is not being used according to label directions.

"We at Bayer are confident that when used as labeled, Checkmite+ Strips can provide excellent control of varroa mites and hive beetles for many years. The loss of the product at this time would severely limit the options available to beekeepers for effective pest control and resistance management. Please assist your industry by using Checkmite+



OR RISK LOSING IT

according to label directions. Keep Checkmite+ a viable product for beekeepers for as long as possible."

Comments from Dewey Caron - *We do not recommend colony treatment with the organophosphate Checkmite+ unless monitoring reveals high mite levels and Apistan resistance has been demonstrated in your bees. Our MAAREC IPM approach is to apply various non-chemical mite suppression methods during the season then to check colony varroa mite levels in late summer (August) to determine if colony and/or apiary treatment with a miticide is warranted. Rechecking mite levels post-treatment is also advisable. In Maryland and Pennsylvania, resistance to Apistan is more the rule than the exception and if mite levels exceed the economic threshold and chemical treatment is necessary, coumaphos is recommended. New Jersey is treating their*

Section 18 registration as a restricted use pesticide requiring sale and use only by certified commercial applicators or dealers. (In the other four MAAREC states - DE, MD, PA and WV use is not restricted to certified applicators). Since virtually no NJ beekeepers are certified, Bob Balaam, Director of NJ Plant Industry intends to work with beekeepers to find ways of getting beekeepers certified

in a timely fashion.

Coumaphos resistance has been documented by Jeff Pettis, USDA Beltsville, in apiaries in both Maine and Florida, and Patti Elzen, USDA Weslaco with D. Westervelt, Florida Dept. of Agriculture, in four Florida apiaries (ABJ April 2002, pages 291-292). Medhat Nasr has discovered (and confirmed by Jeff Pettis) coumaphos resistance in NJ honey bees. Use of coumaphos (under several trade names) sold for livestock pest control is not a legal use because honey bees are not on the label. Beekeepers are advised that coumaphos use is not nearly as inconsequential to honey bee or applicator safety and residue problems have surfaced in beeswax along with documentation of greater difficulty in rearing of queens in colonies being treated.



⌘⌘⌘ WORKING AT BEES FOR DEVELOPMENT ⌘⌘⌘

Iraq and Afganistan are two countries much in the US news these days. However, the effect war and civilian disruption is having upon beekeepers in both countries is not making much news nor is the fact that Bees for Development (BfD) is working to assist beekeepers in both countries.

EAS & WAS (Eastern and Western Apicultural Societies) invited BfD co-founder and director Nicola Bradbear to the US last summer to hear about the work of BfD. While I was asking Nicola to be part of the EAS Beekeeping Short Course, I followed up on Nicola's offer to come learn more about beekeeping development work. Nicola needed to return to Uganda in Eastern Africa to continue with her assessment of Uganda's beekeeping industry and bee product market opportunities.

So in January I went to Wales, UK, headquarters of BfD, to prepare the next edition of the *Beekeeping & Development* magazine with co-editor Helen Jackson and to carry on the daily routine of the BfD office. Bees for Development was once part of IBRA (International Bee Research Association publishers of *Bee World*, *Journal of Apicultural Research* and *Apicultural Abstracts*). In 1992 IBRA terminated development efforts, so Nicola and Helen, who were doing the development activities for IBRA, established BfD. The BfD office now is The Elms, a 17th century house near the Wye river in Troy outside of Monmouth, Wales, about 40 miles from Cardiff, 3 hours west of London.

A not for profit NGO (Non-Governmental Organization), Bees for Development promotes sustainable beekeeping practices world-wide and serves as a unique international resource for beekeeping development. Their primary mis-

sion is to assist people in poor and remote countries of the world with beekeeping information and training in beekeeping skills so their standard of living and health might be improved. Their focus is on assisting beekeepers with local sales of quality bee products using appropriate technology available within the community. On any one day calls may come from several countries seeking resources or information. The office has files on the status of beekeeping in developing countries with information such as development projects completed or in progress, people and general beekeeping information.

BfD communicates mainly through its magazine *Beekeeping & Development*, issued 4 times per year. One specific task I assisted with was production of the March 2002 edition. [If you are not aware of this publication and would like to receive a complementary copy please contact me or the Wales office of Bees for Development]. I solicited articles, including one from Mike Embrey of University of Maryland, wrote book reviews, gathered news notes from around the world, and prepared articles on Africanized bees and observations hives.

Another important activity of Bees for Development is to organize training courses and assist with development of appropriate educational materials. Such training is offered in both Wales (at Cardiff University) and in Africa. I reviewed a book resulting from a BfD development symposium on Sustainable

Livelihoods organized in the fall of 2000 that brought together 50 beekeeping development specialists, other development scientists and social scientists from 14 countries. The symposium and the resulting book, due out this spring, both examined the process and structure of development while focusing on case studies of successful, and less than successful, beekeeping development projects in Africa, Asia and the Caribbean.

I additionally used the opportunity to visit with IBRA director Richard Jones (who I had invited to the 1997 EAS in Delaware) in Cardiff. I also had a pleasant visit with Karl Showler, a well-known used bee book vendor and skeptic-maker in Hay-on-Wye [and EAS visitor in the 80's], a nearby historic town [Karl is the town's Mayor]. I even found time to visit with and look at apiaries with several area beekeepers and give a talk to the Wye Valley and Gwent (Welsh) beekeepers. The meeting was in an old jail room over the top of a pub - those who attended stopped downstairs first and several brought their pints upstairs for a jolly good time.

All in all it was quite a pleasant experience visiting and working at the BfD office. Wales is misty and cloudy with short days in January but it is also an extremely interesting area of Roman, Norman, Welsh and, of course, British occupation and history with plenty of historical sites dating back over the last 2000 years. I was able to experience some of this history in addition to assisting a top-notch NGO conduct their development program. I learned a lot from the experience.

Dewey M. Caron, University of Delaware



Beltsville Bee Lab Review

The Federal USDA, ARS research labs are regularly reviewed by outside peers. The Beltsville Bee Research Lab (BRL), last reviewed in 1998, was scheduled for review in April of this year but with the President's proposed elimination of Beltsville and two other bee labs, the review was moved up to mid-February. MAAREC played a major role in the review - Dewey Caron, University of Delaware and I. Barton Smith, MD Apiary Inspector, joined by Danny Weaver of Texas, conducted the review. Several invited guests (Pat Henderson, NJ beekeeper and chairman of MAAREC, Barry Thompson, MD State Beekeeping Association president, David Simmons, MD beekeeper and MD representative to MAAREC, Ann Harman, VA beekeeper and author, David Bernard, past president MD State and EAS Beekeepers and Bob Harvey NJ commercial beekeeper) assisted with the review. We heard each of the 5 BRL scientists give an overview of their projects and future research direction and then visited individually with them.

It can fairly be said that the BRL is synonymous with bee research in the U.S. The BRL research program includes a balanced mix of short and long-term research objectives with additional public service and technology transfer objectives directed toward the development of solutions of importance to the beekeeping industry, pollination dependent agriculture, the environment and the general public.

The review team concluded that the BRL integrated program is quite timely and properly focused on important objectives addressing current problems that answer our industries most critical needs. Examples of excellence since the last lab review were: development of a formic acid

gel for control of parasitic mites; evaluation of screened bottom boards as part of an IPM strategy for control of *Varroa destructor*; the generation and compilation of data required for the registration of alternative antibiotics for treatment of American foulbrood, *Paenibacillus larvae*; documentation of the spread of antibiotic resistant foulbrood through their honey bee disease identification service; identification of acaricide resistant strains of Varroa mite; and development of a non-chemical method of controlling small hive beetles in honey houses.

Since the last Beltsville bee lab review 4 years ago, when the lab had 8 scientists and 1 vacant position, the Research leader position has changed with retirement of Dr Shimanuki, two scientists have retired (Akey Hung and Suzanne Batra) and there was one new hire (Jay Evans for honey bee genome work.) The lab is currently evaluating candidates to hire a microbiologist to replace Akey and they have the okay to hire a support scientist; half of this support position will be responsible for bee wrangling, critically needed for the field work with colonies.

The review team and guests strongly believe that closure of the lab, with elimination of one of the two CRIS projects would severely and permanently debilitate the USDA bee research program as little of the valuable BRL research program and scientific expertise would survive the proposed consolidation, personnel elimination and research program termination. Rather than closure we recommended that ARS complete the hiring of the vacant positions identified as a microbiologist and a support technician as quickly as possible and also consider funding and equipping a honey laboratory at Beltsville to provide a service to the honey industry analogous to the services that BRL now provides for bee disease and AHB identification. The honey industry desperately needs a testing facility to ensure that the U.S. honey consumer is assured that honey is the purest and safest in the world.

Dewey M. Caron

Honey-Scented Elephants (con't from page 6)



males grew agitated when sniffing samples from adults. The honey-scented compound may help young males avoid attacks from older males. At a foraging spot in India, a mature bull sniffed in the direction of a young male secreting the honey scent. The adult bull didn't pursue the youngster but stalked and attacked a slightly older elephant already secreting some of the grown-up compounds. Perhaps the sweet secretions save the youngsters from battle while they present no mating competition Anyone care to sample ELEPHANT HONEY?.





MID-ATLANTIC WINTER LOSSES SURVEY RESULTS

Better Service to Beekeepers & the Industry

Last spring at this time we conducted a survey of colony losses during the winter of 2000- 2001. This, as well as other surveys on winter losses conducted in the past, are designed to help us understand what is happening to bee colonies, what individuals are doing to control mites and disease and how this may be affecting the ability of their colonies to survive the winter.

2000-2001 Winter Losses

A total of 125 beekeepers owning a total of 3,207 colonies returned the completed survey. Of these 92 were from PA, 17 were from DE, 9 were from MD, 6 were from NJ, and 1 was from WV. Combined, these individuals lost a total of 1,492 colonies - 40% of the total. Respondents reported 150 colonies died in October, one half of one percent (183 colonies) starved and 7 were killed by bears. Results from a similar survey of 36 Delaware beekeepers (2,914 colonies) conducted by Dewey Caron reported a winter loss 31.7%.(ABJ Nov 2001, pp. 778-779.)

Controls utilized

Beekeeper participating in the survey were asked about the specific tactics they used to control mites and diseases. We isolated the different treatments and then compared number of colonies that survived versus not surviving for that control tactic alone. We need to analyze the responses further as some beekeepers used a combination of treatments.

Control used (No.- % beekeepers, total # colonies)	% winter loss of those who	
	Used	Did not Use
Apistan (91 - 73% beekeepers - 1978 colonies)	45%	32%
Coumaphos (29 - 23% beekeepers - 1099 colonies)	26%	48%
Menthol (40 - 32% beekeepers - 1129 colonies)	37%	42%
Grease patties (38 - 30.5% beekeepers - 507 colonies)	40%	40%
Grease patties + Teramycin (20 - 16%- beekeepers - 943 colonies)	33%	43%
Fumidil-B (31 - 25% beekeepers - 493 colonies)	43%	37%
IPM tactics (53 - 43% beekeepers - 1656 colonies)	43%	37%
Screen bottom boards (28 - 22% beekeepers - 344 colonies)	37%	41%

We consider Varroa mites to be the most important malady for beekeepers to control to increase overwintering success. This survey points out our standard treatment of Apistan was not an affective treatment this past season while Coumaphos was nearly twice as effective. Losses were still high - reflective, we feel, of the 2000-01 season. Some of this ineffectiveness with both compounds could be due in part to inappropriate timing of the application.

The other survey finding illustrated that use of terramycin in grease patties apparently helped increase colony survival. We hope to determine if multiple ontrols increased survival rates as we have reported in the past (ABJ Nov 1996, pgs 805-806)

We would like to take this opportunity to sincerely thank all of you who participated in the survey. Because this winter appears to be such a contrast to the last, we would like to conduct another similar survey and would welcome your participation. If you would like to participate in the survey please visit the MAAREC web site at <http://maarec.cas.psu.edu> or fill out and return the survey that is included in this *BeeAware Newsletter*.

Maryann Frazier



Honey Bee Colony Losses Survey 2001-2002

This survey on winter losses is designed to help us understand more about why we continue to see honey bee colonies die during the winter. We appreciate your participation in past similar surveys and hope you have read the results of these survey which where published in the American Bee Journal and the Bee Aware newsletter.

Please answer all of the questions and return the survey to :

Dewey Caron, Dept. of Entomology, Univ. of Delaware, Newark, DE 19717

Where are your apiaries located (check)? PA ___ MD ___ NJ ___ DE ___ other _____

How many colonies did you have last summer (June or July 2002)? _____

How many died between last summer and this summer? Total dead colonies = _____

Of the colonies that died (listed above):

How many died late last summer or early fall (Aug., Nov. 2001)? _____

How many died in late last winter or early spring (Feb., Mar., Apr. 2002)? _____

How many died at other times? _____ specify month (s) _____

How many starved (dead clusters with no honey remaining)? _____

How many were killed by bears? _____ specify month (s) _____

How many colonies do you have now (1998)? _____

How many are overwintered colonies that survived the winter of 2001-02? _____

How many are new (spring 2001) splits from your own bees? _____

How many are new (spring 2001) packages or purchased nucs? _____

How many are new (spring 2001) swarms? _____

Did you apply any medications last year? Please indicate ALL treatments that you applied during 2001 but only if you applied the treatment to all of your colonies. (specify the month that you applied each treatment).

powdered sugar & Terramycin (for foulbrood)? If yes, when? **month(s)** _____

Apistan (for Varroa mite)? If yes, when? **month(s)** _____

Menthol (for tracheal mite)? If yes, when? **month(s)** _____

plain grease patties (for tracheal mite)? If yes, when? **month(s)** _____

grease patties with Terramycin? If yes, when? **month(s)** _____

Fumidil-B (for Nosema disease)? If yes, when? **month(s)** _____

other? _____ When? **month(s)** _____

Integrated Pest Management

Did you practice any IPM tactics for mite control during 2000? YES or NO _____
If yes, which of the following methods did you use and when?

did you monitor varroa mite levels If yes how _____ when _____
screen bottom boards If yes, when? **month(s)** _____
drone brood removal If yes, when? **month(s)** _____
resistant queens Whose queens _____ When introduced _____
essential oil feeding Which one _____ and how was the material applied

_____ **others** _____

Please include any comments here. We designed this survey to be anonymous, but you may include your name and address here if you wish. All of the information that you provide on this form will remain confidential.

We appreciate your help! Thanks for taking the time to complete this survey.

After completing survey, remove from Beeaware, fold on dotted line, affix postage, and return.



Postage
here

**Dewey Caron
Department of Entomology
University of Delaware
Newark, DE 19717**