

APIS



Apicultural Information and Issues

From IFAS/University of Florida
Department of Entomology and Nematology

July 1997

Inside APIS:

Hive Choice

Do bees really care? *Page 1.*

Lavender

Provence's prime, problematic honey plant. *Page 2.*

Medfly on the Move

Follow its track on the World Wide Web. *Page 2.*

Radioactive Bees

Tracking pollution using nature's dustmop. *Page 3.*

Transgenic Plants

A Pyrrhic victory? *Page 3.*

Apimondia in Antwerp

Celebrating 100 years. *Page 3.*

Paris Bee Venues

Urban beekeeping in the city of light. *Page 4.*

APIS Volume 15, Number 7

ISSN 0889-3764

Copyright© M.T. Sanford "All Rights Reserved"

Hive Choice

ONE THING IS NOTICEABLE when you come to Europe: Lots of different beehive equipment is for sale. Two hive types here in southern France have become most prominent, the Dadant and the Langstroth, or standard, hive. A recent reflection by Roland Stell, 49400 Distre, France in *Revue Francaise D'Apiculture*, No. 572, April 1997, p. 179, discusses the choice between the two. Mr. Stell began his apiculture in Alsace in 1944-45 with a local, rustic hive. He later used almost exclusively Langstroth equipment, but now prefers Dadant, the hive of choice among professionals in his region, he says.

Mr. Stell has suffered through the problem of nonstandard equipment. Beginning with Dadant, he had to change suppliers and was stuck with Langstroth frames that were not interchangeable. Surprisingly, he has no complaints about the inability to exchange frames, calling the practice the best way to disperse disease throughout a beekeeping operation. He concludes that the Langstroth does not support hobby beekeepers well in France, and that one only has to use it a while to appreciate the advantages of the Dadant style.

THE REFLECTIONS BY MR. STELL are interesting and provide some food for thought here in France. Many operations seem to be stocked with some of both hive types. Of more interest to me is the almost-exclusive use, by professional beekeepers, of frame spacers and frames that do not have the wide Hoffman end bars. Frame differences cause manufacturers here to have to cope with designing uncappers and other equipment of several sizes. Mr. Stell does not address frame types, but he suggests that queen excluders be replaced by a separator of holes 5 to 6 centimeters in diameter, and he recommends rubber-tire hive stands for concrete blocks.

In the United States, of course, there is less controversy over hive type because so much is standard Langstroth equipment. The wide Hoffman bars are also more generally in use. There is an incipient movement to keep bees in the top bar hive, however, which is about as nonstandard as one can get (see November 1996 *APIS*). In the end, although the beekeeper may be passionate about equipment styles, as one wag said, the bees don't care. Generally, the insects will work hard and be productive no matter what equipment they are housed in. ■

Lavender —

Provence's Prime, Problematic Honey Plant

EVER SINCE I CAME to southern France, lavender has been on my mind. That's because it's a prime nectar source in much of the Mediterranean Basin. It is in Provence, where much is grown commercially, however, that it is most highly sought after by both producer and consumer. The honey is extra-light amber to white, has that unique lavender essence, and crystallizes into a very smooth texture.

Lavender blooms in southern France beginning the first week in July. The bees are attracted to it, but so is a host of other insects. This leads to a major problem, use of pesticides on the crop. A leaflet published by the Secretariat: ARDEPPAM in Manosque, France, is titled *Recognize the pests of Lavendes and Lavandins*. It provides pictures and descriptions of the larvae of several beetles and moths that attack this plant. Plant bugs of various types are also listed. The insecticides recommended for control are generally toxic to bees.

UNFORTUNATELY, the lavender plant is not grown for bee forage only. Its first use is for the perfume trade. Much of the material stays in France, but a large portion is exported. The high value of the crop makes pesticide application economically feasible, sometimes obligatory, if a good crop is to be realized. Farmers, therefore, often give honey bees short shrift in their decisions to apply chemical control. This leads to the standard problems seen all over the world between beekeeper and grower when it comes to pesticide application. French bee-

keepers do have some protection in the form of insurance, which is available in case of colony damage, but this is only a Band-Aid approach and not a final solution to the problem (see http://www.ifas.ufl.edu/~mts/apishtm/letters/aix2_11.htm).

Perhaps the most complete study concerning the lavender plant and its effects on beekeeping was published by E. Barbier (*Annales de Labeille*, Vol. 6, No. 2, pp. 85–159, 1963). According to this document, the genus *Lavandula* is represented by three species in southeastern France: *L. latifolia*, *L. vera*, and *L. stoechas*. The most important plant, however, is the hybrid of these, grouped under the name lavandins. The hybrid produces more essence and so has been cultivated since 1925 throughout the region.

Unfortunately, the plant also produces very little pollen, and practically none is gathered by the bees. This results in a reduction in colony growth during the time bees are on the lavandins. It also means that colonies on lavandins have limited populations for any succeeding nectar flow. In addition, colony strength can be so low that the bees cannot remove the optimum amount of moisture from the nectar, which can lead to deterioration of the subsequent honey crop. These elements, together with possible pesticide damage to colonies, makes going to the lavender for honey production a risky business in southern France.

The honey from lavandins is, however, highly sought after. In general, it commands a premium price. Unfortu-

“

Going to the lavender for honey production is a risky business in southern France. ”

nately, it, like many premium honeys, is prone to abuse in the form of mislabeling. As a consequence, a Red Label has been adopted for this particular product to ensure customers that the product is as advertised (see http://www.ifas.ufl.edu/~mts/apishtm/letters/aix2_22.htm). Unfortunately, the limited amount of pollen in the product acts against effective certification of the honey as monofloral. According to Y. Loublier and colleagues (*Grana*, Vol. 33, pp. 231–238, 1994), the characterization of monofloral lavender honey (*Lavandula spp.* and their hybrids) is based on a 10- to 20-percent pollen content. This level is set by the International Commission of Bee Botany. Their study using 36 commercial samples did not reveal enough pollen to enable certification of these as monofloral.

One remarkable conclusion found by E. Barbier was that honey bee visitation results in an increase in essential oils in the lavandins. This is evidence that honey bee foraging can be beneficial in fields, whether or not pollen is actively gathered and transferred. The same phenomena appear to be true for other cultivated plants, like seedless watermelons in Florida (see November 1990 *APIS*). Taken together, these other effects are good arguments for beekeepers to make to growers during bloom time in an effort to keep pesticide application to a minimum. ■

Mediterranean Fruit Fly on the Move

I HAVE BEEN INFORMED that the Mediterranean fruit fly continues to spread in Florida (see May 1997 *APIS*). Up-to-date information is available through the Department of Entomology and Nematology website (<http://www.ifas.ufl.edu/~entweb/entomolo.htm>). This includes late-breaking developments of Division of Plant Industry control efforts and newspaper coverage in the *Tampa Tribune*. Click on the photo of the medfly, then on the DPI page to begin a search.

Radioactive Bees

ACCORDING TO THE *Albuquerque Journal*, July 13, 1997, page B2, "Tim Haarmann's honeybees are full of the stuff of thermonuclear weapons. No surprise — the bees drink and cool their hives from a waste lagoon at one of Los Alamos National Laboratory's hottest

facilities. Plus they feed on pollen and nectar from nearby wildflowers. ... His hives at the lab appear as healthy as normal hives he keeps at home near Jemez Springs. They're just radioactive. They could shed light on ways by-products of nuclear of nuclear research

travel through the environment. That makes the bees watchdogs for a larger family of plants and animals."

Humans have looked at honey bees as barometers of change for centuries, the article says. Calendars from the Middle Ages foretold war, pestilence and famine based on bee behavior, according to the article. Honey bees began signaling environmental problems as early as the 1800s, when farmers began spraying insecticides that contained trace metals. Accumulation of these has been the focus of much of Dr. Jerry Bromenshenk's work at the University of Montana (see May 1994 and 1995 *APIS*). Dr. Bromenshenk says honey bees pick up lots of stuff while foraging, then haul it back to the hive. They are covered in tiny, branched hairs, making them like airborne balls of Velcro. He calls them "nature's dust mop," the article concludes.

Radioactivity has been monitored in Europe ever since the Chernobyl accident, but levels have not been considered high. The article also states that this is the case in Haarmann's honey bees. One focus of his research is to determine why this is so. There is evidence that bees can eliminate some of the buildup through respiration.

Meanwhile Haarmann is also looking at other animals living in the environment. This, too, has been continuing in Europe. Earlier in the year, local newspapers in southern France reported the first finding of radioactive boar meat. Many people here hunt wild hog and eat them. These animals (*sanglier*) eat acorns and mushrooms, perfect collectors of the residues of air and radioactive pollution. Authorities are investigating the source of the flesh, which might have been hunted locally in southern France or brought in across the border. The findings will be important in this country that also has one of the most developed nuclear power programs in the world. ■

Transgenic Plants: A Pyrrhic Victory?

FROM SCIENCE WRITER Jonathan Beard via Internet discussion list, Entomo-L, comes the following warning concerning use of transgenic cotton:

Agricultural pests could build resistance to a pesticide implanted in genetically altered cotton sooner than anticipated, according to a five-year study led by NC State entomologist Dr. Fred Gould. The study, published in the *Proceeding of the National Academy of Sciences*, shows that a cotton-eating moth called *Heliothis virescens* could become resistant within 10 years to *Bacillus thuringiensis* (Bt), a naturally occurring, pest-killing soil bacterium that has been encoded into the transgenic cotton.

Gould's team studied 2,000 mated moth couples and two generations of their offspring, and found that about 1.5 of every 1,000 moths carry a gene for Bt resistance. Previous estimates had

put the frequency at one in a million. This underscores the need for caution in deploying transgenic cotton to control pests, Gould says. Some scientists worry that overuse of Bt in transgenic crops may speed pest resistance to it, robbing organic growers, who rely on it, of one of their best means of pest control.

If resistance to the control methods bred into transgenic plants can be easily acquired, this would be another reason to closely examine the technology's effect on other phenomena before adopting it wholesale. This is especially true with reference to its effect on pollinating insects. Premature use of the technology, in a worst-case scenario, would be to develop transgenic plants to which insect pests become resistant and at the same time discourage pollination by beneficial insects (see April 1997 *APIS*). ■

Apimondia in Antwerp

THE 35TH Apimondia World Apicultural Congress is scheduled to celebrate 100 years of worldwide beekeeping Sept. 1 – 6 in Antwerp, Belgium. There will be the usual plenary sessions — bee biology, bee pathology, beekeeping technology and equipment, apitherapy, and melliferous flora and pollination. Varroa tolerance by honey bees and sessions on Africanized bees, bumblebees and stingless bees will round out the meeting.

For further information consult the Apimondia web site, maintained by Mr. Gilles Ratia in France (<http://ourworld.compuserve.com/homepages/APISERVICES>). The site is in two languages, English and French. It also includes a word from President Raymond Borneck, a list of member associations, catalog of books published by Apimondia, resolutions from the XXXIV Congress in Lausanne, situation of the world honey market, and a listing of world bee museums. Finally, it contains the Codex Alimentarius used in international trade of honey.

Paris Bee Venues

THERE WAS SOME DISCUSSION early this year on the Bee-L Internet discussion list concerning beekeeping in cities. I have always heard that some people keep bees on top of Manhattan high-rises; several persons confirmed this fact in their posts. Paris, too, has its bee venues. One is atop the Opera, one of the city's great tourist attractions. Although I was unable to see the actual colonies, the evidence of this activity is found in the gift shop in the form of Paris Opera Honey. This is *tres chic* honey; it costs 50FF (US \$8) for a quarter of a kilogram, or 250 grams. On the other hand, the beekeeper who sells this honey is probably not getting rich. He only has two colonies, according to a guard at the museum.

Henri Hamet had an idea. He proposed to the city fathers of Paris a bee school. They gave him a spot in Luxembourg gardens for twenty hives; his first bee school was given in 1856. This was only four years after Langstroth was reputed to have found out the significance of the bee space. One wonders what that first bee school might have been like. The visitor is surprised to find that it still exists; a sign nearby provides a phone number to enroll. The site was renovated in 1991, according to posted information, and the honey that is collected each year is sold to the public.

The location of the Rucher de Luxembourg is posted on the maps present

at each gate. The apiary consists of modern equipment with a unique cover that looks very appropriate for this site in the Latin Quarter. A display of log hives and skeps is also displayed for visitors. Millions of tourists and residents pass by these bees each year; many probably don't even know the insects are there. A small sign on the grass reads DANGER, HONEY BEES. In spite of this warning, youngsters and oldsters alike crowd up to the fence when they see this exhibit; the oohs and aahs are audible. Visitors are fewer than 15 feet from the nearest active entrance, which points away from them. No one gets stung. The bees go about their business; the visitors move on. Mr. Hamet's legacy, therefore, still lives in one of Paris's finest parks, providing ample evidence that urban beekeeping was and is an integral part of one of the world's greatest cities.

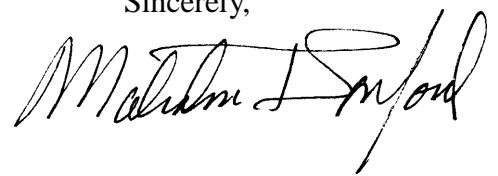
Most discussion on urban beekeeping revolves around bees stinging residents. There is much less concerning what the urban environment might be doing to the bees. Air quality was 6 out of a possible 10 yesterday; it has been as low as 2 during my visit. Subtle evidence of this is found in the wonderful stone sculpture found here, inexorably deteriorating because of pollution generated by a modern urban society. I wonder what Drs. Haarmann and Bromenshenk (see page 3) would find in these *abeilles Parisiennes*. ■

Extension Apiculturist Activities in France

THE APIS-L ELECTRONIC MAILING list continues to grow. There are more than 600 subscribers worldwide. As this newsletter is read, I will have published my last letter to the list on my sabbatical study in France. Unfortunately, I was unable to see and talk to everyone in France I wanted to. That's as it should be; I will have good reason to return again to this most interesting and welcoming country. Thanks to all my French friends and colleagues for their hospitality during my visit.

For those with interest in the subject of French beekeeping, my letters back home as published to the Apis-L mailing list are available on the world wide web (<http://www.ifas.ufl.edu/~mts/apishtm/letters/aixind.htm>). Fortunately, those without Internet access will be able to see these communications as excerpted by Mr. Troy Fore in *The Speedy Bee*.

Sincerely,



APIS, a monthly newsletter, is celebrating its 15th year of service to beekeepers. For subscription or other information, please write, phone, fax or e-mail.

Malcolm T. Sanford
P.O. Box 110620, Building 970
University of Florida
Gainesville, FL 32611-0620

Phone: (352) 392-1801, Ext. 143
Fax: (352) 392-0190
Internet: MTS@GNV.IFAS.UFL.EDU

Back issues are available on the World Wide Web:
<http://gnv.ifas.ufl.edu/~entweb/apis/apis.htm>.

For an electronic subscription, send a subscribe message to:
listserv@nervm.nerdc.ufl.edu.

The Cooperative Extension Service, Institute of Food and Agricultural Sciences, is an Equal Employment Opportunity - Affirmative Action Employer authorized to provide research, educational information and other services only to individuals and institutions that function without regard to race, color, sex, or national origin.