

# Hi-BEE NEWS



The Newsletter of the Hawai`i Beekeepers' Association

Volume XIV Number 4

Michael M. Kliks, Editor

Prepared by Dovlyn L. Shyer

APRIL 2000

## ROSTER OF NEW MEMBERS

Owing to the HBS's increased public exposure through our newsletter and media coverage of our members' activities, we continue to grow at a healthy rate. Our 14 new members since the beginning of the 21<sup>st</sup> Century (including 3 from neighbor islands) are:

Suzanne Chang	Jay Osbourne
Richard Jackson	Lau Tovi
Randy Lau	Greg Yee
Homer Leong	Rod & Enid Frank – Kaua`i
Thomas Likos, Jr.	Gary Grieve – Maui
John McHugh	Misha Sperka – Big Island
Gail Noblessa	

## THE PRESIDENT'S CELL

"Pesticide Kills, Diversified Ag and the Agriculture Ohana"

By Michael M. Kliks, PhD

The first quarter of the year is always a busy one for beekeepers: late winter feeding and protection from both rains and wind and early spring cleaning of bottom boards, equalizing brood chambers, and replacing those tired queens, requires many hours of work in the apiaries.

For some of our members on O`ahu and Kaua`i these routine tasks of preparing for the spring buildup and early *kiawe* nectar flows were made much more difficult by the tragedy of pesticide kills that devastated our foragers.

I experienced moderate kills in about 25 of my colonies in urban Honolulu. A commercial scale beekeeper on Kaua`i recently experienced the loss of the entire field force of foragers in about 200 hives! The growers who had applied an insecticide were not aware that there were major apicultural assets located within a few hundred feet of many of their fields. The beekeeper was not aware of the type and scheduling of pesticide applications by the growers.

Apiculture must assume a more visible and more influential role within the greater agricultural community. Growers and beekeepers should have a **mutually beneficial symbiotic relationship**, though here in Hawai`i both parties have been slow to realize it.

Most of us have experienced minor to significant kills when we place our colonies on the farmers' fields in exchange for a fee in cash or in nectar. Even when no fee is earned, and hives are on lands somewhat distant from commercial farming operations, the beekeeper is always reluctant to complain to growers, to the landowners, or to regulatory agencies for fear of losing access to scarce accessible sites for apiaries. Hence, pesticide kills are under reported and almost never investigated. To my knowledge, no beekeeper in Hawai`i has ever received just compensation for the loss of assets and potential earnings.

Fortunately, the incident on Kaua`i was widely recognized as a wakeup call by the **Diversified Ag Ohana**. This costly and avoidable event has resulted in the initiation of cooperative interaction to prevent such events and to appropriately respond to those that do occur. For the first time growers, beekeepers, landowners, integrated pest management specialists, the **Hawai`i Farm Bureau Federation**, and the state regulatory agency met and shared their collective *mana`o* in a very positive, non-retaliatory, 'no fault' way that is very promising.

It is important that all beekeepers overcome their inherent "shyness", assume a proactive stance in the ag community, and interact directly with all members of the **Diversified Ag Ohana** in their area. All beekeepers must **immediately** report any significant pesticide kills to all nearby growers and to the **State Department of Agriculture, Pesticides Branch** (808 973-9404).

We are essential to the future of agriculture in Hawai`i. **Onipa`a na Kahu Nalo-meli o Hawai`i Nei! O ma kau kau!**



## CALENDAR OF EVENTS

**SUNDAY, APRIL 23:**  
**Field SunDay at Greg Yee's Home in Hau'ula**

**MONDAY, MAY 22**  
**HBA Meeting, 19:30**  
**Moanalua Valley Pentecostal Church**

## THE POETS CORNER

*"The Lake of Innisfree"*

By W.B. Yeats

*I will arise and go now, and go to Innisfree.  
And a small cabin build there, of clay and wattles made:  
Nine bean-rows will I have there, a hive for the honey bee,  
And live alone in the bee-loud glade.*

*And I shall have some peace there, for peace comes dropping slow,  
Dropping from the veils of the morning to where the cricket sings;  
There midnight's all a glimmer, and noon a purple glow,  
And evening full of the linnet's wings.*

*I will arise and go now, for always night and day  
I hear lake water lapping with low sounds by the shore;  
While I stand on the roadway, or on the pavements gray,  
I hear it in the deep heart's core.*

## HONEY CRYSTALLIZATION

By Fred Salassa

Honey sometimes takes on a semi-solid state known as crystallized or granulated honey. This natural phenomenon happens when glucose, one of three main sugars in honey, spontaneously precipitates out of the supersaturated honey solution. This supersaturated state occurs because there is so much sugar in honey (more than 70%) relative to the water content (often less than 20%). Glucose tends to precipitate out of solution and the solution changes to the more stable saturated state. The glucose loses water and takes the form of a crystal.

Honey, which includes sugars other than glucose and more than 180 identified substances such as minerals, acids and proteins, also influences crystallization. Additionally, crystallization can be stimulated by any small particles (dust, pollen, bits of wax or propolis, air bubbles) that are present in the honey. These factors are related to the type of honey and are influenced by how the honey is handled and processed. Storage conditions (temperature, relative humidity and type of container) may also influence the tendency of honey to crystallize.

When granulation is incomplete, the crystalline layer is overlaid by a layer of liquid with a water content higher than that of the original honey. This creates a favorable environment for the growth of yeast and may lead to fermentation.

Controlled crystallization can be used to make a desirable product. This product is known as creamed honey, spun honey, whipped honey, churned honey, or honey fondant. Spontaneous crystallization results in a coarse and grainy product which is usually undesirable. When honey is heated, the sugar crystals re-dissolve to a liquid state. Controlled crystallization results in a smooth, spreadable consistency.

Having the texture of butter, finely granulated honey makes an exceptional spread. Worldwide, in fact, creamed honey is consumed more often than liquid honey. The Dyce process is often used to make creamed honey. The method involves adding starter nuclei to honey after it has been heated twice -- to 120° F (49° C) and 150° F (66° C) -- and then strained. Chilled, dried and finely ground honey (serving as the starter seed) is mixed into the cooling, liquid honey. The product is firm in 3 days and in 6 days it has a creamy, spreadable consistency.

Spontaneous crystallization is controlled primarily through proper storage, heating and/or filtering. Holding honey at temperatures in the range of 104-140° F (40-71° C) during bottling also slows the rate of crystallization. Mild heat treatment delays crystallization by dissolving crystals and expels incorporated air (which can also stimulate crystallization). Filtering removes particles that can act as nuclei that might initiate crystallization. Honey with a low glucose-to-water ratio is likely to remain liquid, avoiding crystallization.

At room temperature, crystallization begins within weeks or months (but rarely days). The crystallization process can be avoided with proper storage, with emphasis on proper storage temperature. For long term storage, the use of air-tight, moisture-resistant stainless steel drums are recommended.

Cool temperatures – below 50° F (10° C) – are ideal for preventing crystallization. Moderate temperatures – 50-70° F (10-21° C) generally encourage crystallization. Warm temperatures – 70-81° F (21-27° C) – discourage crystallization but degrade the honey. Very warm temperatures – over 81° F (27° C) – prevent crystallization but encourage spoilage by fermentation as well as degrading the honey. Processed honey should be stored between 64-75° F (18-24° C). Unprocessed honey should be stored at or below 50° F (10° C).

Does the container in which the honey is stored affect crystallization? Honey is sensitive to moisture in the surrounding atmosphere. During storage, low-density polyethylene containers can allow moisture to escape, which may contribute to the crystallization process.

### REFERENCES

- 1] National Honey Board, "Honey Hotline Fact Sheet".
- 2] Assil, H.I. et al. 1991. *Crystal control in processed liquid honey. Journal of Food Science* 56(4):1034.
- 3] McGee, H. 1984. "On Food and Cooking: The science and lore of the kitchen." Macmillan Publishing Company, New York.
- 4] Crane, E. 1980. "A Book of Honey" Charles Scribner's Sons.
- 5] Graham, J.M., ed 1992. "The Hive and the Honey Bee" Dadant & Sons, Inc, Illinois.
- 6] Townsend, G.F. *Processing and storing liquid honey. Chpt. 9 in "Honey"*.



## HOT WEB SITES



[www.nass.usda.gov/hi](http://www.nass.usda.gov/hi)

The National and Hawaii Agriculture Statistics site has annual reports on honey production and other info of interest to beekeepers.

[www.sun.ars-grin.gov/ars/Beltsville/barc/psi/brl](http://www.sun.ars-grin.gov/ars/Beltsville/barc/psi/brl)

The site of the USDA's Bee Research Laboratory – among others, our member Dr. Hachiro Shimanuki works there.

[www.nhb.org](http://www.nhb.org)

The site of the National Honey Board has many pages of useful info on honey.

[www.afbnet.org](http://www.afbnet.org)

The site of the American Federation of Beekeepers.

[www.apiservices.com](http://www.apiservices.com)

Probably the largest apiculture site on the web with links to almost all of the other sites – has free advertising spaces and chat rooms – and will host your web site for a fee.



## LEARNING ABOUT THE BUZZ AND THE BEES

*By Ian Baker*

*Six years ago, a swarm of bees settled onto a palm branch in our backyard when we used to live in Mililani. A beekeeper removed the swarm and that began my family's interest in bees. At last year's Farm Fair my family met Dr. Michael Kliks at the Beekeeper's booth. He provided us with information on bees and allowed us to taste the different types of honey. Later my parents contacted him and he invited us to his home. Upon arrival we prepared the equipment that we would use in the field, dressed ourselves in bee suits and headed to his apiary in Diamond Head Crater. As we walked around the hives we recorded information about their activities.*

*On our last visit to Dr. Kliks' house we harvested honey. First we washed and cleaned everything we were to use. Then we learned to pry the frames loose with a hive tool and uncap the combs using a hot knife. Lastly we put the frames into the centrifugal extractor and strained the honey into clean buckets. After the honey was extracted from the frames we scraped off the burr comb and propolis and put them back into the supers. Extracting honey is a difficult process and takes patience, but when you taste the honey, it's worth all of the hard work.*

FROM THE HAWAII AGRICULTURAL STATISTICS SERVICE:  
HAWAII HONEY

(the full report is on line at

[www.nass.usda.gov/hi/lvstk/honey/htm](http://www.nass.usda.gov/hi/lvstk/honey/htm))

### 1999 Hawaii Honey Production Lowest Since 1975

Hawaii honey production is estimated at 640,000 pounds for 1999, down 32 percent from the 1998 total and declining for the second year, according to the Hawaii Agricultural Statistics Service. Prolonged dry weather conditions during the year were the main contributing factors for the lower output. The number of colonies producing honey totaled 8,000 colonies, unchanged from the previous year. Only colonies producing honey are included in this total. Honey yield per colony dropped 38 pounds to average 80 pounds. Producers received an average 78.0 cents per pound in 1999, up 3 cents from the 1998 average. The lower production reduced the farm value to \$499,000, down 30 percent from the 1998 value. In 1999, beeswax production remained unchanged from the previous year at 15,000 pounds. The average price was \$1.73 per pound, unchanged from the 1998 total. Beeswax value totaled \$26,000 remaining the same as last years total. The value of queen bee sales is not included in this release to avoid disclosure of individual operations.

### United States Honey Production Down 7 Percent, Prices Down 8 Percent

Honey production in 1999 from producers with five or more colonies totaled 205 million pounds, down 7 percent from 1998. There were 2.69 million colonies producing honey in 1999, up 2 percent from 1998. Yield per colony averaged 76.3 pounds, down 7.4 pounds from the 83.7 pounds in 1998. Colonies that produced in more than one State were counted in each State and yields per colony may therefore be understated. Colonies were not counted if honey was not harvested. Producer honey stocks were 79.4 million pounds on December 15, 1999, down 2 percent from a year earlier. Prices for the 1999 crop averaged 59.9 cents per pound, down 8 percent from 65.5 cents in 1998. Prices are based on retail sales by producers and sales to private processors and co-ops. At the State level, prices reflect the portions of honey sold retail, coop and private.

### Imports of Foreign Honey Up

Two of the world's largest honey producers, China and Argentina, are expecting higher production, which will more than offset production declines in the United States and Canada. China, the world's largest honey producer, is expected to recover from a significant production decline in 1998, rising 16 percent to 180,000 metric tons. Honey exports for 1999 from selected countries are forecast to increase by about 6 percent to 215,000 metric tons. Argentina is forecast to increase exports in 1999 to 75,000 tons, as domestic production is forecast at record levels. Production in the United States is forecast to decrease by 10 percent to 90,000 tons due to unfavorable weather conditions in 1999.

**APRIL FIELD SUN-DAY  
IN THE BEE YARD**

**SUNDAY, APRIL 23, 2000**

**11:00 AM - 6:00 PM ... Rain or shine!**

**In beautiful rural Hau'ula at the apiary of**

**GREG YEE**

**54-023 KALAI STREET**

**(side trips to apiaries in**

**Punalu'u, Ka'awa and Malaekahana)**

SPONSORED BY:

HAWAII BEEKEEPERS' ASSOCIATION

and hosted by Greg Yee (232-2208)

RSVP: Emiko Baker ph # 842-8409

Or e-mail: [Nobaker@KSBE.EDU](mailto:Nobaker@KSBE.EDU)

THINGS TO BRING: Veil, gloves, smoker, sunscreen, bee-suit, hive tools, honey samples, new gadgets and books to demonstrate. Don't forget anything for sale or trade!

LUNCH: Potluck main dish, salad or dessert and BYO beverages (please, no alcohol).

**HBA OFFICERS**

President: Michael M. Kliks 988-7203, Fax 988-5151

Vice President: Dennis Takata 595-3452

Secretary: Emiko Baker 842-8409

Treasurer: Charles Wong 488-4355

Spokesperson: Robert Chang

Board Members At Large: Ian Damon



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SALE**

**MASTER and SPEED KING ELECTRIC KNIVES**

New, with built in thermostat, the best un-capping tool ever!

Same as Dadant #MOO339 and 340,

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All sizes, both 1 piece and plastic foundation

only around 20% off usual catalog prices to HBA members.

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**CLOSE OUT SALE!**

A variety of Beekeeping Supplies - Incl. deep and western

boxes, frame parts, foundation, tools, smokers and more!

Only cost + S & H. **LEE ONG CHUN 841-6440**

**2-STORY HIVES in Good Condition with Bees**

10 frames each box, unified hive body and honey super

with entrance door, suitable for use as pollination units.

Field sites can be arranged.

**\$ 150 MICHAEL KLIKS 988-7203**

**ADVERTISING RATES**

BUSINESS ADS

Bus card size \$ 7.50

Quarter page \$ 20.00

Half page \$ 35.00

Full page \$100.00

CLASSIFIED ADS

(30 words)

HBA members \$ 2.00

Non-members \$ 3.00

Rates are per issue. Copy, art and payment must be submitted by the 15th of the month prior to publication. Contact the editor for any special requirements and mechanical information.

**MEMBERSHIP AND PUBLICATIONS ... HAVE YOU RENEWED FOR 2000 ?!**

Membership in the Hawaii Beekeepers' Association is open to anyone who has an interest in bees and beekeeping! You do not need to own bees or reside in Hawaii to join. HBA membership is \$12 per person - includes a vote in HBA elections, discounts on other bee-related publications, and a subscription to *HiBee News* and more! Foreign membership is \$20.

Name \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_ Fax (\_\_\_\_) \_\_\_\_\_ Email < \_\_\_\_\_ >

Address \_\_\_\_\_ City, State, & Zip \_\_\_\_\_

Additional Voluntary Contribution \$ \_\_\_\_\_. Please apply to (circle one) Research / General Fund.

*Start your savings now! Get a discount on the following subscriptions through the HBA:*

*AMERICAN BEE JOURNAL*       1 yr. \$14.44       2 yrs. \$27.38       3 yrs. \$38.96

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Send form with check payable to HBA: Charles Wong, Treasurer 99-1049 Aiea Hts Drive Aiea, HI 96701

\*\* Meetings are usually held the 4<sup>th</sup> Monday of each Month at the Moanalua Valley Pentecostal Church. \*\*





***The HIBee News***

3081 G. Paty Dr

Honolulu, HI 96822