

GLEANINGS IN



MAR. '88

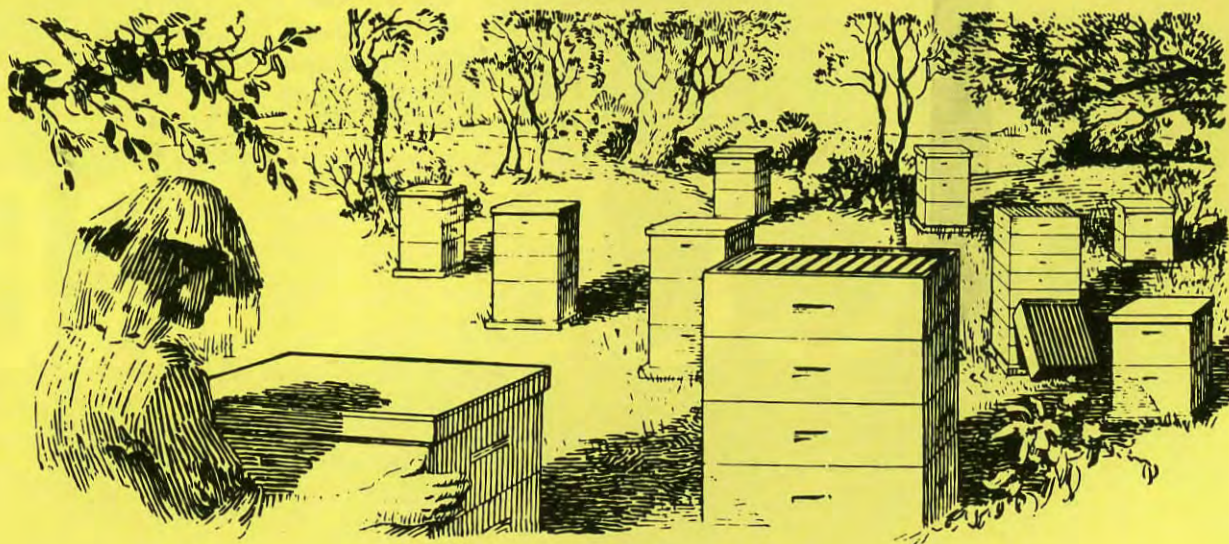
# BEE CULTURE

**INSIDE:**

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125 YEARS FOR PROGRESS IN BEEKEEPING



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(ISSN 0017-114X)

Vol. 116, No. 3

115 Years Continuous Publication by the Same Organization



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*An exclusive interview with Dr. James E. Tew, The National Apicultural Extension Agent, and Dr. Fred Westbrook, Program Leader, Federal Extension Service.*



- **SUPER SIDELINER**..... 144  
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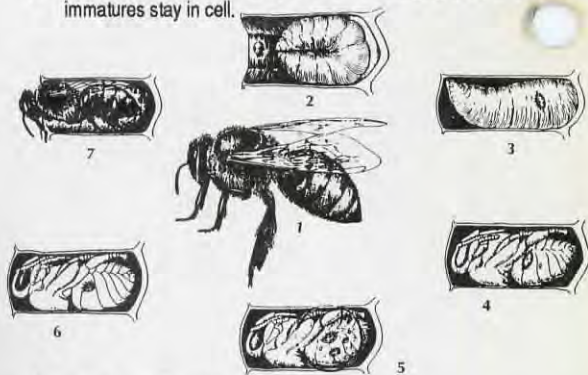
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# BASIC BIOLOGY

- **SIZE** — 1.2mm W x 1.6mm L. Visible without mechanical assistance.
- **APPEARANCE** — Medium to dark brown, oval.
- **LOCATION IN COLONY** — Drone and worker brood, (under capped cells) and on adults.
- **LOCATION ON ADULT BEES** — Normally found between the head and thorax, or between the thorax and abdomen.
- **LOCATION ON BROOD** — In cells, attached anywhere.
- **LIFECYCLE:**
  1. Adult Bee
  2. Mite enters cell with 5 - 5.5 day old larva.
  3. Mite feeds on larva.
  4. Female lays eggs after cell is capped.
  5. 1-6 eggs develop from egg to larva to deutonymph.
  6. After reaching maturity, males and females mate.
  7. The new adult females leave cell with emerging bee; males and immatures stay in cell.



Drawings by Henderson and Alexander.

- **CONTROLS:** Presently, there are no approved chemical controls. This will undoubtedly change by the fall of 1988, if not sooner. Keep informed of these changes by reading *Gleanings in Bee Culture*, attending local and state meetings and contacting your nearest **Root Dealer**.

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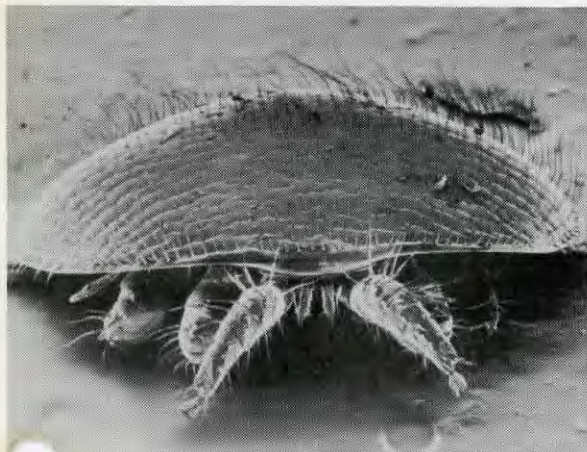


Photo Courtesy Dr. M. Burgat

## VARROA

POCKET GUIDE

FOR

TESTING METHODS AND

BIOLOGICAL INFORMATION ON *VARROA JACOBSONII*,  
COMMONLY CALLED VARROA MITE.



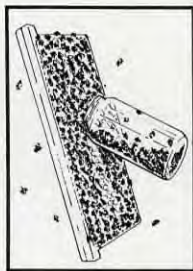
COMPLIMENTS OF

*Gleanings in Bee Culture*

## ETHER TESTING METHOD

### STEP 1

- Remove 600 to 1000 bees from a center comb from the brood nest. Place into a quart jar.
- Place lid on jar, tap jar to settle bees to bottom.



### STEP 2

- Using a can of aerosol ether-based starter fluid (used to start cars in cold weather), spray into jar for approx. 1 (one) second.
- Close jar immediately and gently shake/roll bees for 15-20 seconds.



### STEP 3



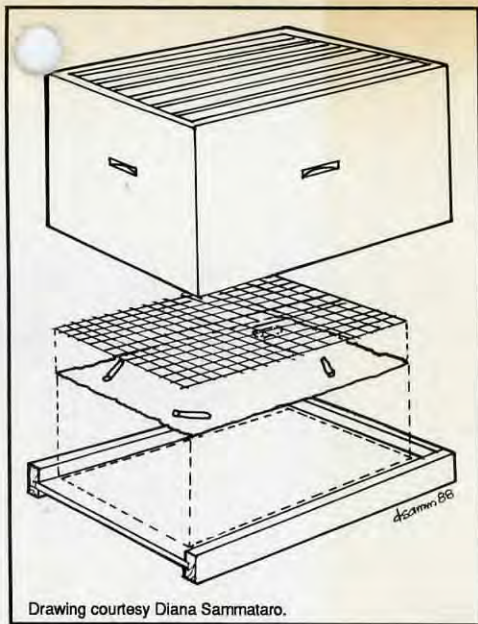
- Then, turn jar on its side and gently roll bees.
- Any mites present will adhere to the film left on the sides of the jar.
- Mites will be about the size of a common pin head, and a bright, medium to dark brown color.
- If you suspect mites to be present, empty the bees and rinse the film with 70% (rubbing) alcohol. Take, or send, to your local inspector.
- Remember, this test is **NOT** foolproof. You need to check **SEVERAL** colonies in your apiary. Also, **varroa** infestations will not show up on this test.

Drawings courtesy of Oregon State University.

## PAPER TESTING METHOD

To check for mites that have died naturally:

- Clean bottom board of all large, foreign objects — dead bees, wax, dirt, etc.
- Cut a piece of clean, white paper to fit on the bottom board. It should be large enough to cover the board, but small enough to insert and remove easily without moving the above super. Insert the paper so it rests on the bottom board.
- Cut a piece of 8 mesh wire (8 wires/in. each way) to fit on the bottom board, so it too can be inserted and removed easily.
- Place several 1/4" sticks (pencils are nearly 1/4") on top of the paper to keep the mesh from resting on the paper. This keeps the bees from removing any debris that falls on the paper.
- Check your colony in about 7-10 days.
- Mites are readily seen, but if you have doubts, place all debris on the paper in 70% (rubbing) alcohol and send, or take, to an inspector.
- Dead varroa mites are about the size of a common pin head and medium to medium to dark brown in color.



Drawing courtesy Diana Sammaturo.

# NEXT MONTH

April — The Golden Month. All the planning and scheming, work and thought pay off starting in April. And *Bee Culture* has plenty in store for making it even easier.

Starting with Pollination — 3 articles. One from the sideline side, one from the academic side and one from the commercial aspect — we've got it covered.

Then, Queen Rearing. Two large queen suppliers will be spotlighted next month — one from the U.S. and one from Australia — good reading and good information.

You want more? How about a how-to for making bait hives, from the experts at Cornell University?

Still more? O.K.! The how's and why's of American Foulbrood. Nasty stuff, but the more you know, the better prepared to avoid, or to deal with.

Even more? Africanized honey bee foraging — are they as good, or better, than Europeans? Find out here next month.

All this, our regular columnists, games, the latest on Varroa and other industry news, local meetings and events, honey reports — and last, but certainly not least — our annual Who's Who in Apiculture!

All of this — next month!

## VARROA CARD

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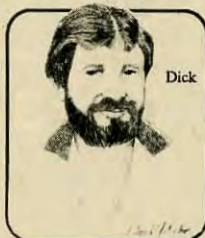
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## THE INNER COVER

There is a quiet, nearly invisible force at work out there — every day, every month. Like the phone, light switch, or your trusty old pick-up, they're always around, always ready and willing to do just exactly what you want. Almost always they are taken for granted, only a part of the background. In fact, they only get noticed when one thing happens — you need them, and what they have to offer.

Who is this silent group, this force unseen? Haven't you guessed? Think a bit.

They lurk on nearly every page, hoping for your attention — in fact, shouting to be noticed.

They are a stalwart bunch. Always there when you need them — and when you don't, but it's good that they are, anyway. Through thick and thin, good times and lean, ready to help if they can, very often above and beyond the call of duty.

Commonly called 'the advertisers', they are the substance of any and all industries, and beekeeping is no exception. They are the innovators, the leaders, the spark plugs, the backbone, the substance of beekeeping.

They are where we all go when we need that tool, that book, that box, that replacement part. I mean, where can you go for a hive tool or a box of frames, or . . . ? I've never, ever seen a smoker on the shelf at the local A & P, right? Or honey jars at the 7-11?

At the same moment they control what you can get, and need you to get it — it is a paradox that benefits us all.

You can, I suppose, look at this relationship in a number of ways. There is one incredibly short sighted way I've heard. It goes something like this; if you are a beekeeper, those advertisers have you over a barrel. You play their game, or you don't play. Sound familiar?

Another way this is viewed, on occasion, is just the opposite. If you're an advertiser, no matter what you do, beekeepers can't be pleased. I sure hope this isn't too popular.

Actually, reality is somewhere inbetween. Advertisers need customers and customers need supplies. Almost all advertisers are honest, upstanding businesses. Almost all beekeepers are regular customers, looking for a fair price on good stuff.

Think about it. Think about the range of prices, quality and models you can find for something as simple as an extractor. There is exactly what you want, at the price you want to pay lurking on these pages each month. Nowhere in the world is there a better, more democratic service available to a consumer.

And, likewise, the audience for these businesses is large. It waxes and wanes, but it is always there.

If you've guessed by now that this is a plug for those people selling their wares each month, you're partly right. It's also a plug for those who use their service — seller and customer can't be separated, there can't be one without the other. And we all benefit.

### **CXLD—Some thoughts on the 2 weeks I spent one day in Dallas, on the way to Albuquerque.**

For those fortunate enough to not know what CXLD means, it is the generic term airlines use when a flight has been cancelled. The four letter abbreviation just fits in the Departure Times column on the TV monitors spread throughout most airports.

I was heading to the AHP meeting in New Mexico at the end of January. When I left Cleveland it was certainly winter — cold, but clear.

*Continued on Page 167*

**COVER . . .** Daffodils are a sure sign of spring, and foraging bees are the clincher. By March, winter has worn out its welcome.

Photo by Diana Sammataro

# March Honey Report

March 1, 1988

The following figures represent current prices reported by our contributors. They are based on reports from many states averaged out for each region. Where insufficient information is received, no price is shown. The retail prices represent the price of each size jar.



Wholesale Extracted		Reporting Regions									
Sales of extracted, unprocessed honey to Packers, F.O.B. Producer.											
Containers Exchanged	1	2	3	4	5	6	7	8	R	A	
60 lbs. (per can) White	43.50	41.78	24.00	28.20	22.04	36.80	37.80	41.50	24.00-44.06	37.18	
60 lbs. (per can) Amber	42.50	36.13	22.80	25.20	20.19	32.04	36.25	34.50	22.80-43.00	33.92	
55 gal. drum/lb. White	.55	.63	.41	.44	.46	.60	.62	.47	.38-.66	.54	
55 gal. drum/lb. Amber	.51	.48	.39	.42	.40	.55	.55	.41	.33-.60	.49	
<b>Case lots — Wholesale</b>											
1 lb. jar (case of 24)	27.45	28.42	23.10	22.95	25.92	23.98	25.38	30.12	22.80-35.04	26.04	
2 lb. jar (case of 12)	25.75	27.28	24.00	21.75	23.76	22.71	27.83	29.40	21.00-32.40	25.19	
5 lb. jar (case of 6)	30.00	26.15	23.00	22.95	23.00	24.09	25.65	29.76	22.95-34.02	25.88	
<b>Retail Honey Prices</b>											
1/2 lb.	.93	.85	.79	.79	.86	.88	.93	.89	.79-.95	.88	
12 oz. Squeeze Bottle	1.40	1.52	1.25	1.29	1.27	1.22	1.25	1.30	1.12-1.79	1.30	
1 lb.	1.50	1.64	1.41	1.57	1.54	1.50	1.58	1.54	1.40-1.89	1.53	
2 lb.	2.78	2.99	2.68	2.75	2.59	2.59	2.80	2.31	2.25-3.70	2.69	
2-1/2 lb.	3.35	3.80	3.39	3.09	—	3.18	3.71	—	2.75-4.85	3.42	
3 lb.	4.10	4.19	3.49	3.25	3.54	3.90	3.77	3.77	3.25-4.62	3.83	
4 lb.	5.00	4.25	4.49	—	4.79	4.67	4.80	3.59	4.25-5.00	4.60	
5 lb.	6.25	5.40	5.49	5.25	—	5.48	5.76	5.92	5.20-7.00	5.72	
1 lb. Creamed	1.75	1.65	1.35	1.55	1.69	1.46	1.63	1.57	1.29-1.75	1.58	
1 lb. Comb	2.37	1.85	2.89	2.25	2.00	2.00	2.00	2.19	1.85-2.50	2.16	
Round Plastic Comb	2.00	1.95	1.99	1.85	1.78	1.88	1.75	1.59	1.59-2.25	1.88	
Beeswax (Light)	1.05	1.25	1.00	.95	.87	.86	.97	1.25	.80-1.25	1.05	
Beeswax (Dark)	.92	1.10	.90	.85	.80	.78	.85	.95	.75-1.10	.89	
Pollination (Avg/Col)	27.50	—	—	27.50	18.00	18.50	23.00	26.50	18.00-30.00	23.78	

## Honey Report Graph Features

On the far right hand side you will see two different columns. The first, labeled "R", is the price range of prices reported from all contributors — lowest to highest. The second column, labeled "A", is the average price of a particular commodity across all regions. Example: the range in price of a 1 pound jar of honey sold retail is \$1.40-\$1.89 and the average price across the country is \$1.53.

In the comments section you will see a figure called the "Price Index". This figure is only a descriptive statistic that compares ALL regions to the highest region of the month.

Example: Region 2 has a price index of 1.00 this month and remaining regions are compared to that index.

## Region 1.

Price Index .94. Sales steady to slowing a bit, prices steady to low. Colonies in most areas able to fly in January. Many light due to short fall crop. May need feeding. Varroa regulations mixed and not firm in many areas for spring bee purchases.

## Region 2.

Price Index 1.00. Sales steady to increasing with a corresponding increase in prices. Colonies in good condition generally, some will need feed so check soon.

## Region 3.

Price Index .76. Sales slow, prices steady to declining. Bees in good shape generally.

Adequate snow cover has helped, along with relatively mild temps.

## Region 4.

Price Index .75. Sales steady to increasing, but prices declining. Short fall crop will mean some spring feeding. Varroa regulations on hold until questions regarding chemicals answered.

## Region 5.

Price Index .70. Sales increasing along with prices, finally. Most of region has had adequate to excellent moisture, ensuring good crops this season. Colonies should be checked for feeding.

## Region 6.

Price Index .88. Sales steady for this time of year. Prices steady to increasing a bit. Shortages in some areas helping prices. Winter about normal, moisture levels good to excellent generally. Check for feeding.

## Region 7.

Price index .95. Sales good to excellent. Prices reflect sales - increasing. Winter moisture good to excellent except in parts of MT. Could be severe problems in NE and W. MT this summer if condition doesn't improve. Cold weather generally, colonies in good shape.

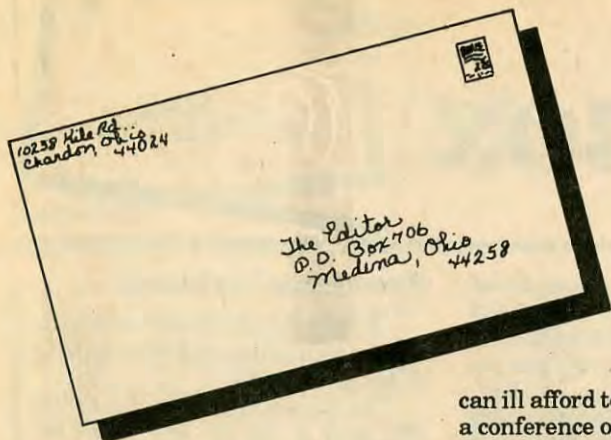
## Region 8.

Price Index .99. Sales normal to increasing, with prices steady to increasing slightly. Colder than normal winter in most areas. Winter losses higher than normal due to weather. Pollination in full swing in CA. Some colony shortages and much confusion regarding colony movement regulations.

Next month we will focus on pollination.



# MAILBOX



## Who's Right?

"When I read that beekeepers reverse their broodchambers, I shudder. When you reverse . . . you turn everything topsy-turvy. What a mess." (Koover's Korner, Oct. '87)

" . . . it doesn't make a bit of difference to the bee which part is on top." (Bee Talk, Nov. '87)

" . . . why (is it) that so many people take up beekeeping but so few stay with it." (The Bee Specialist, Dec. '87)

"Maybe we newcomers are just too easily confused." (Wm. J. Healy, Mar. '88)

Wm. J. Healy  
42W631 Plank Rd.  
Hampshire, IL 60140

## Not Convinced . . .

I have just finished reading the January issue of *Gleanings in Bee Culture*, and was appalled at the comment made by Mr. Alan L. King when he quoted Joanne Weber, chairperson for the state of Wisconsin, with the American Beekeeping Federation. Her comment that "bee-haver qualifications (should) include people who are part of the beekeeping industry, but who do not support the well-being of the industry in any way, such as ABF membership".

In the article, the "bee-haver" is made to be derogatory in nature of those who have bees but do not take care of them. Now, I only have 7 hives and I do this strictly part-time for the benefit of friends and family to get some honey for ourselves. I also try to further the cause of beekeeping whenever I am asked and expound the virtues of these little wonders of nature. But, I took it to heart when I, being I am not a member of ABF, was called, by the article, of not managing my bees or taking pride in the beekeeping industry because of not belonging to a group that I probably will never see. I

can ill afford to take off work to attend a conference or whatever to listen to a group of "experts" tell me a bunch of information that I probably will never use.

It is my understanding that, for the small operator, the benefits of the ABF is the thrill of a bi-monthly newsletter that "usually includes a special feature for smaller beekeepers". "Usually" is not a sufficient reason for me to pay membership dues to an organization.

In conclusion, I don't know whether to sell off my bees because of someone's opinion of my operation, or to go on the campaign trail to tell the world what the part-time non-member of the ABF is thought of by the ABF. Believe me, I won't sell my bees, and I probably won't hit the trail of resentment toward this organization, however, they will NEVER get any positive comments from me, nor my \$15.00.

In-fighting such as this will not further the cause of the beekeeper or strengthen our position to importation of overseas honey. I ask that comments such as these be kept out of the industry and let's maintain the good will of beekeeping.

H. Ray Johnson  
4655 Hussey Rd.  
Jamestown, Ohio 45335

## Help For 4-H'ers

My local Agricultural Extension Agent asked if I had any information on beekeeping as a 4-H project. I have searched through my literature but could find nothing.

Is there a booklet on 4-H beekeeping? Many experienced beekeepers could derive added pleasure by working as advisors with 4-H'ers on a beekeeping project. This is also a good way to expose a portion of the public to honey, honey bees and beekeeping. A few may continue beekeeping after completing the 4-H project.

Walter H. Danlgren  
R.D. 3, Creek Road  
Jamestown, NY 14707

## AHP and the "Little Guy"

In January 1987, we knew that Congress was going to levy an unfair double whammy on the larger honey producers in this country. That double whammy consisted of \$250,000 in payment limitations, and a \$250,000 loan cap. In doing so Congress singled out the honey industry as the only commodity group to be saddled with both. This was, of course, grossly unfair. But surprisingly, very little noise was heard from the leaders of the Beekeeping Industry . . . except for the AHPA.

Some in the industry may have thought "Well, of course you would expect the AHPA to scream and holler! They only represent the 'big guys' who will be affected! The majority of the honey producers in this country can live with what congress has done, so let's not rock the boat!" I can only guess that those who thought this way were they might make somebody mad at us . . . mad enough to kill what little we had left. Fortunately, the leadership of the AHPA was farsighted enough to see what was going to happen. They went to work to talk sense into those in congress who make these decisions! What we had was not going to work, and the eventual result was going to be the ruination of the honey loan program, anyway.

How? When the larger honey producers in this country reached the loan cap, they would have no choice but sell their honey to the highest bidder. Unfortunately, nobody was bidding! The producers were told what they would have to settle for for the buyer to do them the 'favor' of buying their honey! These producers had no choice but to sell their honey at below government buy-back rates. Before long, everyone would be forced to sell at below buy-back rates in order to sell their honey!

And yes, that even included us 'little guys'! Like the majority of honey producers in this country, I did not have to worry about hitting the loan cap . . . and yet I was facing the same problem that the large producers were. I was either going to have to discount my unsold crop, or turn it over to the

*Continued on Next Page*



# MAILBOX



government. I don't know about you, but I shudder to think about having to deliver to the government again! (The many sleepless nights wondering if they were going to find something that they thought was wrong with my honey — moisture, adulteration, etc. . . Remember?). But primarily to the efforts of the AHPA at least the loan limitation aspect of the program was lifted at the last minute (quite literally the last minute!). This allowed the larger producers to place the remainder of their crop in loan, and gave them the time they needed to find a market for their crop . . . in effect preventing the dumping of millions of pounds of honey at whatever price they could get, and at the same time stabilizing the market for all of us.

What did we give up to convince Congress to lift the loan limitation? Well, in fact, nothing we weren't faced with losing anyway. Indeed, had the AHPA followed the advice of some we would have probably lost a great deal more than we did!

Under the budget deficit reduction efforts implemented to avoid the Gramm-Ruddman act, agriculture was asked to come up with over a million dollars, in addition to the 5% cut we will receive for our 1988 crop. We were all going to lose something anyway, it just became a question of how much.

Had nothing been done, we were most likely going to have to suffer a 3% cut in 1988, another 3% cut in 1989 . . . and this in addition to the 5% cut we already have for both of those years! This meant that we were all going to be cut by at least .02/lb. more for our entire '88 crop, and then .02/lb. more in 1989!

However, the AHPA was able to convince Congress to shift most of that additional reduction to the remainder of the '87 crop, reducing the amount of reduction for the '88 and '89 crops to 3/4 of a cent for '88, and 1/2 cent for '89. What that meant for the 'big guys' was a .02/lb. loss for most of their '87 crop, since many had not put the biggest portion of their honey into loan yet due to the 'double whammy'. The bigger producer has actually been paid less for the '87 crop than those who already had most of our '87 crop in loan.

If you are a small to average producer and already had all of your '87 crop in loan before the .02/lb. reduction went into effect (don't worry, the reduction became effective Dec. 23, 1987, and is not retroactive), then what the AHPA has gotten for you is a savings of .0275/lb. over the next two years! If your honey nets 620 lbs./barrel, that equates to \$17.04 per barrel saved! Multiply that figure by the number of barrels your operation produces each year, and you will see how much AHPA's help in Washington means to you!

With everything that is happening to our industry, now more than ever before do we need the type of leadership that the AHPA has shown in the last few years. The American Honey Producers Association is exactly what the name implies, an organization dedicated to the betterment of honey producers in this country, large or small.

T. Ray Chancey,  
an American honey producer

## Free Bees No More!

I am writing about the outsiders that come into our area from the south to get good honey.

A couple of years ago one outfit did not have a net on and must have dropped bees when they stopped on Main Street. A woman with two small children was stung terribly. This year, a truckload of bees was parked at a truck stop and bees were leaving the load. The driver was asked to move his truck and did, but the same outfit parked on the same property after dark, further away. The bees went to the light that was close by and covered it. They then went to the 4 island lights and covered them, also. The bees dropped in clusters and covered the island, causing the customers to drive on. The lights on the island were cut, so the bees headed for the lights of the cafe. They turned the island lights back on and called me.

I got the call at 11:30 p.m. and went down to survey what needed to be done. I told them that if I could get help, I'd load my large vacuum and would come back. An hour later I had the bees cleaned up and was putting my things away when the bee people came back and entered the cafe. I was

## School Search

A Swiss Agriculturalist working in Bhutan has requested my help in locating an American school for two of his students.

He would like to send two young men, ages eighteen and twenty, here to study beekeeping. They are already experienced at handling bees.

The Bhutanese project needs practical knowledge of diseases of bees and of queen rearing. They are using Italian bees and the Langstroth equipment.

The young men read and write English but need more experience in the use of the language. They would need a special work-study or apprenticeship program rather than just attending college classes.

Thank you for your help.

Francis J. Baron  
159 - 15th Avenue  
San Francisco, CA 94118



sure that the manager would walk over and tell them they had to settle for the mess but he did not. He never said thank you or anything. Again I got the (dead) bees.

Several weeks later they parked up town by the stop sign and left the truck set for quite awhile. The next morning I got a call from a man to come



# MAILBOX

and take the bees from a stop sign by his place of business. The sign was covered and it was attached to a 4" steel pipe that was also full of bees. Again, no thanks, or what do I owe you. A couple of weeks later the mayor who has a business across the street wanted to know who and where he could find these outsiders that parked, without a bee net. I told him I did not know but glad he brought it up as I wondered who was going to pay me for my work? He said he didn't know. I told him somebody better get it figured out before there was another time as I was through with this free bee gathering.

Walter Prahl  
P. O. Box 356  
Murdo, SD 57559

## Growing Up No Spoof!

When I first read "Growing Up Growing Bees" in the November *Bee Culture*, I thought, "This man is really mixed up!"

When I read it a second, and then a third time, I concluded that I was reading a spoof written by a beekeeping psychologist or perhaps one of your staff to see what the reaction would be? What was the reaction?

I have always believed that beekeepers were among the most rational of people.

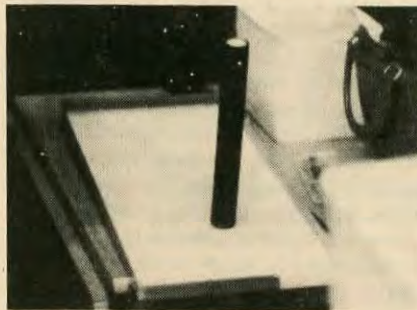
James I. McCaskill  
1239 Highland Ter.  
St. Louis, MO 63117

## Foundation Update

Reference my article, "Making Foundation — at Home?" (GBC, September 1986, p. 448) I had noted therein that one of the drawbacks to the Herring SP72 wax press for producing foundation domestically — it consists of two, hexagon-embossed plastic sheets, onto which liquid wax is poured — was the difficulty in obtaining a wringer for the final step.

In my October trip to London, I met the manufacturer, Mr. H. T. Herring, at the National Honey Show where he was demonstrating his device. He was not using a wringer but a short piece of heavy hose which he

rolled by hand over the top plastic sheet after the liquid was poured. I must admit that this is a major improvement over having to find/pur-



chase a costly wringer for such a simple operation. He did note, however, the new price of his product: \$80 postpaid versus \$25 as listed in my article (I can partly blame the falling dollar but refuse to believe that it has collapsed that much!)

John Iannuzzi  
RD 8  
Ellicott City, MD 21043

## 5000 and Counting!

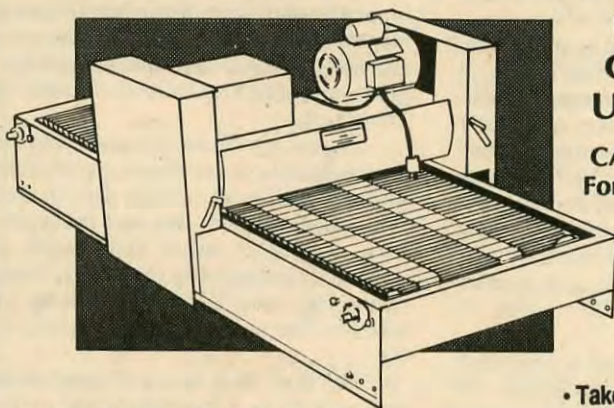
In the January *Bee Culture*, you asked the question, "Do you have any influence with young people these days?" I would like to answer that question in the affirmative.

First, and of considerable importance to me, I try to have a definite influence on my seven grandchildren and my five great-grandchildren. However, I am sure you had in mind young people and beekeeping. I can answer that in the affirmative, also.

About thirty years ago, a Cousin who was a teacher in our public schools asked me to bring some bees and talk to her class about beekeeping. That was the start of my efforts to spread some enlightenment about beekeeping to our school children.

Since then, every fall and spring I have gone to our elementary schools with an observation hive of bees, a number of articles, veil, hat, smoker, gloves, candles, pictures, small models of log, box and modern hives, five samples of our local honey, and of

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course, a sample of our best honey for their lunch.

The children are always interested and some have expressed a hope to become beekeepers in the future.

During this time I have talked to at least five thousand school children. Also, at least five hundred Civic Club Members, and about an equal number of Garden Club Members.

I know of no better way to increase knowledge of beekeeping than to start with our school children.

G. W. Barkley  
3796 Sandalwood Lane  
Winston-Salem, NC 27106

## Serious Stuff!

The beekeeping industry and the National Honey Board have been working hard to promote the use of honey. Considering the problem with mites and the current lack of an accessible, legally registered, chemical for control — the potential of misusing potentially toxic materials in an attempt to control infestations may lead to contamination of honey.

**BE RESPONSIBLE!** Honey is highly valued as a healthy, natural food. Please avoid chemical misuse, this creating a negative public perception of honey.

The California Food and Agriculture Code 12996 states that chemical misuse is a *misdemeanor* and punishable by:

- Destruction of the contaminated crop and: **FIRST OFFENSE** - A minimum fine of \$500, and a maximum fine of \$5000 and/or 6 months in jail. **SECOND OFFENSE** - A minimum fine of \$1000, and a maximum fine of \$10,000 and/or 6 months in jail.

- Intentional misuse of a chemical that poses a potential health or environmental threat is a *felony* and punishable by: A minimum fine of \$5,000 and a maximum fine of \$50,000 and/or 1 year in prison.

Susan Cobey, Chairman  
California State Bee. Assn., Inc.  
19980 Pine Creek Road  
Red Bluff, CA 96080

## Dirty Tricks?

What an interesting letter in The Dec. Mailbox written by Geo. Imirie. For those who missed it, the message was that he overcame impending serious bees sting reactions by intentionally allowing himself to receive stings regularly. It was not mentioned what protocol he followed from the time he was tested and treated with pure venom by an allergist, to the point where daily natural bee stings were welcomed without reactions. I would be interested to know more of the details.

I do not have venom allergies but I do make it a point to be stung at least once (and usually more) each and every time I handle the bees. This is done to satisfy my own very unscientific, unproven and, yes, possibly stupid belief which I call my "Filth Theory". This theory in a nutshell says that exposure to many foreign proteins, organisms, weather conditions, and whatever else nature throws at us *within reason* triggers our body to respond in a protective fashion via the immune mechanism, physiologic feedback responses, physical conditioning, etc.

Conversely, we know that SPF (specific pathogen free) lab animals raised in sterile surroundings succumb to the most common, non-pathogenic organisms and subtle changes in husbandry.

Hence, my "Filth Theory" dictates that we 1) allow occasional insect bites and stings, 2) eat a little dirt on our root vegetables, 3) use our musculature regularly rather than push a button, 4) get outside in the air, rain, snow, fog, etc., 5) don't overdress in cold weather or keep the thermostat on 80°.

Let your body swing through this wide spectrum of variables and enjoy good health. Don't be too protective of natural stimuli or you may become a SPF person.

Garrison Brown  
Peconic Bay Boulevard  
Aquebogue, New York 11931

## Permacomb Praise

My back yard has always been a haven for critters. In addition to the usual dogs and cats, I've shared myself with chickens, ducks, geese, turtles, goats, and even a wounded gull.

However, until some bees swarmed in my lemon tree, I didn't know what true love was. Six months later I had hives all over my half acre.

To get to know the 'boys' from the 'girls' and how to do what was right for them so they'd be healthy and happy, I read every book or magazine article on *Apis mellifera* I could find. I also ran into Joanne Wyse. A hobbyist like me, but an old-timer because she'd been at it an hour longer than I, Joanne became my close friend. We extracted together. We still do. We share 'bee' stories and drink lots of coffee, kept company by honey cookies, breads, tarts, rolls and cakes.

As soon as I felt like a veteran hobbyist I joined the Los Angeles Beekeepers Association. I met Dr. Herb Drapkin at my first meeting. I found him intensely devoted to the welfare of both bees and the beekeeper. He was bright, direct, and seemed to know what he was talking about. Among other things, he hinted strongly that an invention of his — Permacomb — would make the hobby easier and more pleasurable. I bought Permacomb. I'm glad I did.

The first extraction after installing these plastic frames was a delightful revelation to both Joanne and me. We'd heard rumblings about bees rejecting plastic frames. My bees enjoyed keeping house in Permacomb. I didn't find one sign of rejection. Also, one time I put ten frames instead of nine into a hive. The bees adjusted beautifully. I had more honey, that's all.

When we extracted, I found that Permacomb helped to speed up the process. Because the material is practically unbreakable the frames could be spun much more rapidly. The resultant honey was cleaner than any we'd extracted previously.

Now, many hives later, and with a little voice in the back of my head whispering a suggestion that I enter the commercial field, Permacomb is truly a friend. Since our extraction

# BOOK REVIEW

*Honey Wines and Beers. With short historical notes on these ancient beverages.* 1987. Clara Furness. Northern Bee Books, Scout Bottom Farm, Mytholmroyd, Hebden Bridge, West Yorkshire, UK. 32 pp. £3.95. Paper.

It is clear from reading this thin but large format book that the author speaks from long experience in making mead, beer and other drinks based on honey. She has won many honors with her products, including two first places in the Amateur Winemakers' National Show. From the history of mead to judging and tasting it, Furness shows her pleasure in making and drinking honey wine and beers. She conveys it to the reader in an interesting manner.

The book includes simple instructions for making honey wines, beers and non-alcoholic drinks and mixtures. There are good explanations of the need for and use of the additives for honey wines including yeast nutrients, acids and tannin. Author Furness also points to ways to avoid the hazards of spoilage, oxidation and "pectin haze". Advice is given on making and preparing meads for competition.

## MAILBOX . . . Cont. from Page 120

time is lessened and no longer tedious, Joanne and I now have time for more of my coffee and her incredible honey concoctions.

Because my commitment to Permacomb is intense, I wonder if my words don't sound like those in a paid political announcement. Dr. Drapkin is a good friend but I wouldn't praise Permacomb unless the plaudits were deserved. Moreover, I know that Dr. Drapkin wouldn't let me. He is too dedicated to the hobby and the industry to allow even one iota of false information to be disseminated.

Judy Lynn Rosen  
17200 Sunburst St.  
Northridge, CA 91325

**Ed. Note:** Only a comment — why did you wait until you were a 'veteran' to join a club? I hope more people don't wait that long.

The variety of combinations of honey with fruits, flowers and grains for preparing beverages is limitless. Some of the more unusual ones include apricots, pineapple, red currants, rhubarb, rose hips, dandelion and elderberry flowers, rose petals, nettle shoots, bananas and marigolds.

Clara Furness believes that good mead can be made for almost any honey, but that flavors may vary and even a good-tasting honey may not make the best of mead. She also debunks the idea of using special water for making mead. Ordinary tap water is perfectly adequate, according to Furness.

Although we all speak the same language, you may find a few places

where English usage and names are not quite clear to the American reader. However, the directions are supplemented by large illustrations of equipment and techniques. The book has inspired me to try again to make some good mead. The first, and only, batch made without the essential yeast nutrients, tasted like silage. I'm sure that no such thing will happen with Clara's book at hand. §

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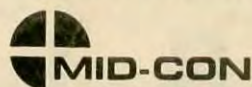
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Consists of 2 frames of brood, 1 frame of honey/pollen and 1 frame of foundation plus bees and queen. All prices are in U.S. dollars F.O.B. Swanton, VT.

1 - 5	6 - 24	25 - 99	100 plus	Nuc Box Non-Refundable
\$39.75	\$39.00	\$38.25	\$37.75	\$3.75

For delivery by truck (Min. 50) to Eastern NY, VT, NH, South ME and MA, Add \$2.75 / nuc.

### Canadian Italian Queens

Available beginning June 1. All prices in U.S. dollars F.O.B. Swanton, VT.

1 - 5	6 - 24	25 - 99	100 plus	For shipment by mail,
\$6.75	\$6.40	\$6.20	\$6.00	add \$ .25 / queen.

Available April 19, 26 and May 1 approximately. No clipped or marked queens. For shipments by mail from Swanton, VT, please add the following charges.

	VT, MA, E.NY, NH	CT	ME
	Zone 1-2	Zone 3	Zone 4
1 Nuc, 15 lbs.	\$5.10	\$5.75	\$6.75
2 Nucs, 30 lbs.	\$6.05	\$7.00	\$8.40

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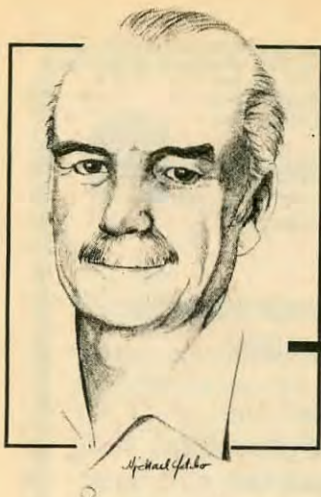
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# THE BEE SPECIALIST

By ELBERT R. JAYCOX • 5775 Jornada Road North • Las Cruces, NM 88001

*"The best swarm prevention is the selection of genetic strains that are less inclined to swarm; some American strains show evidence of such selection."*

## Our Need For Swarm Prevention Will Soon Change — Are We Ready?

**W**e are looking toward a time when prevention of swarming will become much more important than at present. Up to now, swarms generally have been a beekeeper's, or a beekeeping, problem; they will become a more public problem when we begin keeping African/Africanized bees. At that time we will need to be more knowledgeable about the causes of swarming and will no longer accept the usual list that gives equal importance to a lack of queen substance as well as the number of drones, lack of ventilation, size of the hive entrance, etc.

Dr. James Simpson estimated in England that of colonies given adequate room and otherwise left alone, 10 to 40% would swarm. I have not seen good figures for African bees, but several authors have indicated that the combination of swarming and absconding may reach a very high percentage when no attempts are made to prevent their occurring. However, Roger Silberrad, writing about beekeeping in Zambia, says that people who contend that African bees swarm throughout the year do not know what they are talking about. Instead, Silberrad says that they may abscond at any time that "conditions are uncomfortable", but they can swarm *only* after a period of breeding during which they can raise new queens. And breeding is possible only when fresh pollen is available. There is a definite swarming season in Zambia, which occurs at the expected start of the nectar flow. If this is true also for the African bees in this hemisphere, we will see far less swarming than expected in areas with only one major

nectar flow. Naturally, that is with plenty of space given to the colonies as they increase in size. We must be prepared to prevent swarming in the most efficient manner possible.

The best swarm prevention is the selection of genetic strains that are less inclined to swarm; some American strains show evidence of such selection. By now, some of the bees being managed in Brazil undoubtedly also show some progress in that direction. With such strains to work with, we could prevent much swarming simply by providing young queens and plenty of space for adult bees within the hive *before* it is needed. Keep in mind the fact that colonies with African blood buildup much faster and to greater strengths than European stock.



But what about space for brood rearing? With such prolific queens, we will surely need bigger brood nests, right? Wrong. Based on research and observations with European bees, the amount of space for the queen to lay has no effect on the desire of a colony to swarm. "But," you say, "all the books say that lack of laying space is a common and important cause of swarming." The trouble is that not all of those authors have read the literature thoroughly enough to suggest anything different. They usually take the same old list we've seen for a century and add the effect of queen substance as the only new item. Lack of room for the queen to lay is high on that outdated

list of reasons why bees swarm.

James Simpson has given us our best information about swarming behavior of honey bees. He concluded that restricting the space available for the *adult bees* of a colony led to swarming, but restricting the number of cells available for *egg laying* by the queen did not. When he confined the queen to 5 combs rather than 11, the colonies were smaller and grew more slowly, but swarming was not accentuated. He also noted that honey and pollen are not barriers to expansion of the brood nest; when necessary, the bees eat the pollen and move the honey to more distant parts of the hive.

**I**n New Zealand, Ivor Forster subjected his colonies to five different treatments that compared the effect of confining queens to a single hive body with giving unlimited space for brood rearing. He kept an open brood nest in some colonies and also tested the effect of leaving or removing drone brood. After a thorough, three-year test, Forster found no significant effect on swarming or honey production from any of the treatments. In other words, colonies with queens confined to a single Langstroth brood chamber produced as well and did not swarm any more than colonies with an unlimited area to lay in and with laying space available at all times.

Forster is not the only one to find production as good with queens confined by an excluder as without. W. J. Diehelt in Wisconsin has always operated bees with the queen in a single hive body. He likes to move brood to keep laying space open for the queen, a practice Forster found unnecessary. But the results can be envied. Swarming is kept as low as 2 to 3 percent (over 40 years), and the 40-year average production is 120 pounds (54.5 kg).



The ultimate test of the effect of restricted laying space on swarming can be done with observation hives where I have always had problems with too many bees and too few frames. I made such a test in Illinois by establishing observation hives with the queens confined to one-half, three-fourths, and one complete 6-5/8-inch comb. I fully expected all of them to swarm immediately or at least after the queen filled the one little comb of the brood nest and had to sit idle until the brood began to emerge. But none of the colonies swarmed and, for the first time, I had colonies that did not out-grow their hives. They also stored honey. There was congestion on the single brood comb, but, otherwise, the colonies were as useful as any others in observation hives.

Now, what is the object of this discussion? It is to point out some ways we might better manage the bees we have and the African bees we will have before long. With good, fairly new combs, we can do as well in managing queens in a single deep body as we can by letting them run free. If you now

prefer the ease of manipulating 9-comb brood nests, you could retain their advantage while using 10 combs in a single brood chamber. All you need to do is to narrow the end bars of the frames to 33 mm from 35mm (1-3/8 to 1-1/4 inch) as the New Zealanders have.

With African colonies, having queens in a single body may offer several advantages: 1) queens easier to locate visually, making their replacement easier, 2) better adapted for the use of black combs in the second story as an aid in keeping the brood nest clear of nectar, thus overcoming one objection to the use of excluders. By judicious use of a special brood nest of less than 10 combs (6 or 8?), we may be able to have productive colonies without "explosive" buildup and swarming. The higher laying rate of African queens, and shorter developmental time of the workers may make an 8-frame brood nest more suitable than a larger one when we first begin to manage the Africanized strains in this country. As we gain experience, we can adjust our management to fit our

needs and the needs of the bees.

What we need most right now are some management studies to learn how well these ideas gained from European bees fit African bees and how we can best prevent swarming and absconding of the latter. We also need research on ways to find *unmarked* queens quickly in excitable, defensive colonies in order to replace them. There would be money available if less were spent on how to identify African bees. Consider why we are spending so much on identification: because it will be used later to impose and enforce regulations and quarantines on beekeepers. It will not have any other practical value to the honey producers of the United States. Those beekeepers will need the results of applied research, not outlandish schemes for how to contain the movement of African bees in this country.

I would be pleased to read your thoughts on the topics discussed here, and feel sure that the editor would welcome your letters. §

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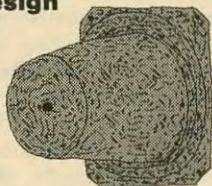
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# Testing Your Beekeeping Knowledge

By CLARENCE H. COLLISON  
 Pennsylvania State University • University Park, PA 16802

Spring management of honey bee colonies is primarily concerned with early spring survival and the development of strong productive colonies. The arrangement of food stores and cluster location is normally determined as early as the weather permits. Both pollen and nectar are necessary for colony development. Colony stores can be evaluated by merely lifting the hive, or checking to see if the winter cluster is close to the top of the upper most hive body. It is important to have adequate supplies of food located above and to the sides of the winter cluster since the cluster will not leave the brood area to maintain contact with its food reserves.

Please take a few minutes and answer the following questions to determine how familiar you are with the basic principles of early spring management and early season bee biology. The first seven questions are true and false. Place a T in front of the statement if entirely true and a F if any part of the statement is incorrect. (Each question is worth 1 point).

1. \_\_\_ In northern temperate climates, colonies normally start to raise brood in early March.
2. \_\_\_ Queens can be reared at any time during the brood-rearing season.
3. \_\_\_ European foulbrood, chalkbrood, and Nosema levels are normally most prevalent in the spring.
4. \_\_\_ Varroa mites normally overwinter in colonies as eggs laid in the bottom of cells in the brood-nest area.
5. \_\_\_ Chalkbrood is normally most prevalent in the center of the broodnest.
6. \_\_\_ Hive top feeders are used in the spring for the purpose of feeding a pollen substitute.
7. \_\_\_ Colonies found short of honey in the spring are normally fed sugar syrup made by dissolving cane or beet sugar (sucrose), brown sugar, molasses or corn syrup in water.

## Multiple Choice Questions (1 point each)

8. \_\_\_ Colonies should not be opened to check cluster location and determine if emergency feeding is necessary until the temperature reaches a minimum of: A) 20° F. B) 40° F. C) 60° F. D) 30° F. E) 50° F.
9. \_\_\_ Colonies should not be torn apart and thoroughly inspected in the spring until temperatures are at least: A) 60° F; B) 80° F; C) 40° F; D) 70° F; E) 50° F.
10. \_\_\_ The temperature of the outer surface of the winter cluster is normally maintained at approximately: A) 73-76° F; B) 53-56° F; C) 83-86° F; D) 63-66° F; E) 43-46° F.
11. What is the name of a sugar syrup feeder that replaces a frame in the broodnest? (1 point).  
 \_\_\_\_\_  
 \_\_\_\_\_
12. Name three components normally used in the making of sugar candy (3 points).  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
13. Please give three reasons why dead colonies should be removed from the apiary when they are discovered. (3 points).  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
14. What is the primary function of the bees found on the outer surface of the winter cluster? (1 point).  
 \_\_\_\_\_  
 \_\_\_\_\_
15. Please indicate what happens to the fecal wastes that are produced by the bees during the winter. (1 point).  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

16. Please explain why high-fructose corn syrup (HFCS) or isomerized syrups are not used as bee feed by hobbyist beekeepers. (1 point).  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## EXTRA CREDIT QUESTIONS

Physiologically, honey bees found in the colony during the summer are different than workers removed from the winter cluster. These two groups of bees differ in the amount and chemical composition of fat bodies present.

17. What body region of the adult honey bee is the primary area in which fat bodies are located? (1 point).  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
18. What is the primary function of fat bodies in the honey bee? (1 point).  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_
19. High protein content in fat body cells results in an increase in honey bee longevity. (True or False, 1 point).  
 \_\_\_\_\_  
 \_\_\_\_\_
20. During active brood-rearing periods, fat bodies of nurse bees are swollen with protein compounds and are almost devoid of fat. (True or False, 1 point).  
 \_\_\_\_\_  
 \_\_\_\_\_
21. In the winter and early spring, the fat bodies of bees are usually depleted of fats. (True or False, 1 point).  
 \_\_\_\_\_  
 \_\_\_\_\_

Answers on Page 162



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# Southern States Visit ENGLAND

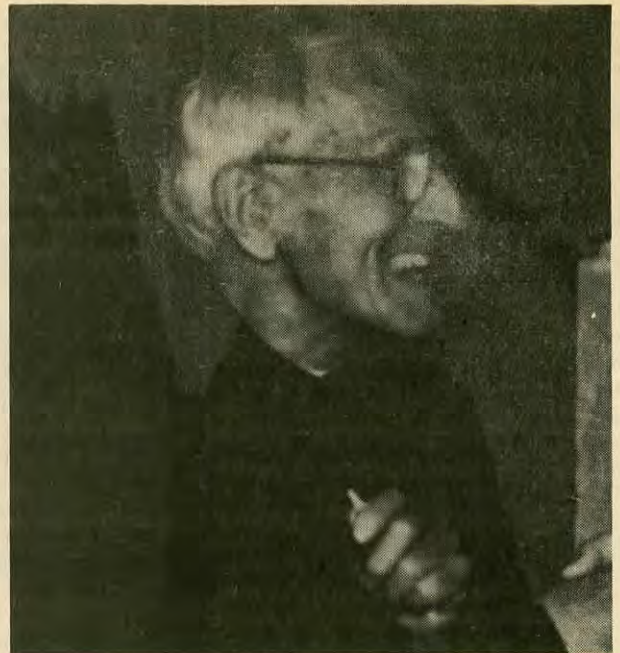
By JOHN IANNUZZI

THE FIRST Southern States Beekeepers Federation's international trip, studded with top names in American bee culture, is now pleasant history. Some 80 apiculturists and friends from Washington state, California, Texas, Arizona, New Mexico, Illinois, Vermont, Connecticut, New York, Delaware, Maryland, Virginia, Florida and the Tar Heel State (28 strong) visited Cardiff, Plymouth and London, hosted by the Welsh and English beekeepers (of course, they are all properly called "British"). This is what you missed in the ten days of fun, October 17-26, 1987.

At the first stop in Cardiff, Wales, representatives of the Welsh Beekeepers, International Bee Researchers and Robert Pickard's research group at the University of Wales, cordially welcomed us with speech, food, jokes, harpist melodies and mementoes. The next morning the conferees heard talks on Anglo-American Apiculture in the 1980's, given by Tecwyn Jones, Tim Dadant, John Free, Roger Morse, Eva Crane, SSBF president Steve Forrest and IBRA chief Vince Cook. That noon they visited the headquarters of



SSBF President, Steve Forrest, addresses joint meeting of British - U.S. beekeepers, Cardiff, Wales.



Brother Adam, Buckfast Abbey.

the International Bee Research Association in Cardiff — where one could personally inspect the very first issues of *Gleanings in Bee Culture* (1873) and *American Bee Journal* (1861) as well as the latest copies — in what is probably the best international library around. A visit to the University of Wales bee research unit, headed by Dr. Robert Pickard — the same scientist who gave the brilliant kick-off talk at the Eastern Apicultural Society meeting in Blacksburg, VA in August, 1987, capped a very informative day.

**T**he next stop was at St. Mary's Abbey at Buckfast, County of Devon, where Brother Adam himself was waiting to receive us. After his welcoming speech in the chapel he was mobbed by autograph seekers for his books on sale there, including Charles Mraz, Steve Forrest, John Ambrose, and many others. A tour of his extracting facilities — a hydraulic press is used to remove the thixotropic heather honey from the combs, and not the jumbo mechanized A. I. Root extractor nearby — was followed by a visit to his home apiary of 40 colonies. The remaining 280 colonies are kept in the grassy meadows called "the moors". This is the home of the famous Buckfast queen that cannot be purchased here. The weather is not conducive to queen-breeding on a large scale here so they must be purchased from Weaver Apiaries, in Navasota, Texas, the only licensed producer in the world. To do this, eggs and frozen semen are shipped regularly by the most famous British beekeeper. That is, unless you include the legendary Sherlock Holmes, whose station at 221B Baker Street is memorialized by a bronze plaque on the bank building that now occupies that spot in London.

The last stop was at the National Honey Show, Porchester Hall, London, said to be the largest in the world. There were 217 exhibitors, including six Americans who had been made honorary members of the British Bee Keepers Association. There were 1,475 entries in 138 classes, with six awards per class, with pounds and silver cups/plaques, silver and bronze medals awarded to the best entries (Irene Iannuzzi, Ellicott City, Maryland, was the only American award winner for her creamed honey). As at large American honey shows, there were many dealers offering all types of bee paraphernalia. A special feature of this gala event was the

lecture series held in the church hall nearby, featuring both British and American speakers, including Ambrose, Dadant, Forrest and Morse one day, and four lady SSBF members the next.

**O**f course, the "official" business was interspersed with sightseeing tours: Plymouth, from where the Mayflower sailed in 1620 to found the first 13 American colonies; the great rock pile in the country called "Stonehenge" which means "hanging stone"; and in London, the home of the queen at Buckingham Palace; the home of the future king at Kensington Palace; Westminster Abbey where they are crowned; the houses of Parliament on the Thames, with Big Ben anchoring the House of Commons; the Tower of London, famous for all those royal and other executions; the free speakers at the corner of Hyde Park; Westminster Cathedral, prime Catholic church in the country; Tate Gallery; the British Museum and Library where one can see both the original Magna Carta and the Elgin Stones (removed from Acropolis in Athens) and Egyptian mummies galore ("mummy" comes from the Arabic word, moomun, meaning "beeswax", while a resinous material resembling propolis is also used in the process); Picadilly Circus, perhaps the most famous street corner in London — and more, all accessible by the Underground or Tube, called "subway" in the United States.

Briefly, this was the first Southern States Beekeepers Federation tour abroad worth every penny of \$1,250 per person. Dr. John Ambrose, professor at NCSU, Raleigh; Steve Forrest, Moravian Falls, NC; Brian Sherriff in England and Karl Showler in Wales are to be complimented for putting together a superb trip not soon to be forgotten — nor will the sterling hospitality of our British beekeeping cousins. §

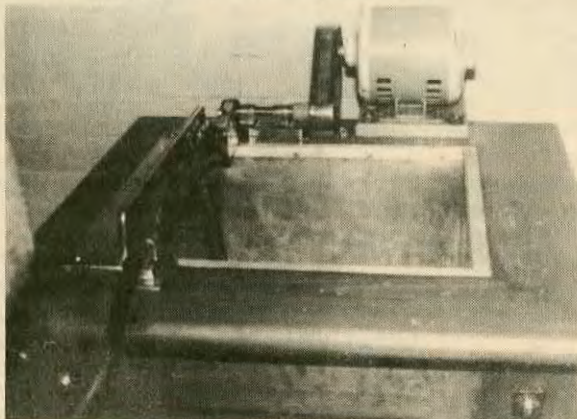


Bee Culture columnist, Charles Mraz, with Brother Adam at Buckfast Abbey.

Former head and founder of IBRA Eva Crane speaking before joint assembly of U.S. - British apiculturists.



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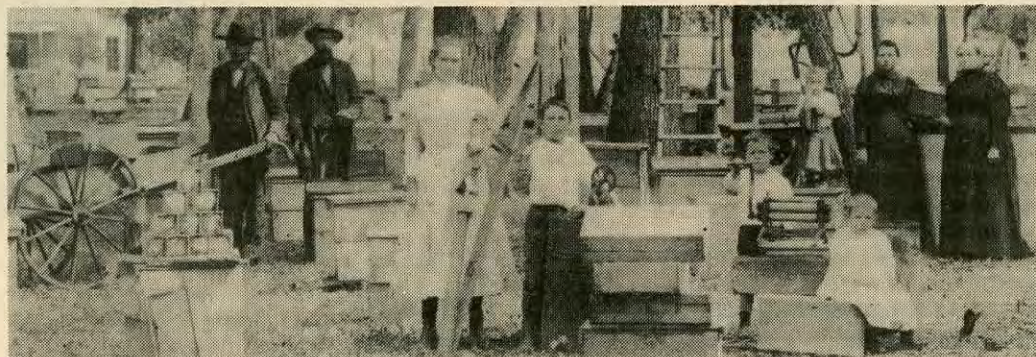
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# RESEARCH REVIEW

By DR. ROGER A. MORSE • Cornell University • Ithaca, NY 14853

## *"Determining the Cause of Winter Losses"*

**E**very year about this time we become concerned about why we lose colonies in the winter in the northern states. The fact that three new diseases, caused by chalkbrood, tracheal mites and *Varroa* mites, have appeared in North America in the past 16 years complicates the situation considerably. Prior to the coming of these problems we had difficulties enough, but now the situation is worse.

It is important to remember that a disease can be caused by a variety of factors including malnutrition, harsh weather, pollution or a specific microorganism such as a virus, bacteria or fungus (mold and yeast). Too often it is not one of these things but a combination of them that is at fault. This makes diagnosis and treatment of the problem all the more difficult.

In thinking about what is most important as regards wintering it is my opinion the location of the apiary should be considered first. We have always thought of the apiary location as being important, but we can usually overcome the deficiencies of poor locations by giving the colonies good food and perhaps wrapping or packing them for winter. In other words, colonies can tolerate certain diseases if given some protection. Experience these past few years, especially in the winter of 1986-87, suggests that this may no longer be true.

### **What is a Good Location?**

Only a few decades ago it was thought that colonies that reared brood in January and February in the north were abnormal. We now have good studies and data from Scotland (Jeffrey, 1956) and Connecticut (Avitable, 1978) to show that it is perfectly normal for bees to rear brood during these cold months. In fact, it is proba-

bly correct that without some young bees being reared in winter, many colonies could not survive the long winter in the northernmost states and Canada. However, the important thing to remember is that colonies that are rearing brood in January and February are also holding a brood nest temperature in the mid-90's F.

A good apiary location is one that makes it easier for colonies to hold this brood rearing temperature. My experience is that an abandoned stone quarry is often a good location in which to winter colonies. The ground is usually dry and this helps to keep the colonies dry. The exposed stone attracts the sun's heat on cloudless days, which helps to warm the area and allows the bees some flight to void fecal matter. The walls of the quarry act as a windbreak. Of course, abandoned stone quarries are not very common so one must settle for the next best thing.

A good apiary location should be fully exposed to the sun, slope to the east or south, have some kind of windbreak and hopefully, a good supply of fresh water for the bees. In assessing the cause of a winter loss one must consider the effect of the location. It is understood that poor locations, ones that in the past would encourage sacbrood and European foulbrood, will now also encourage the development of tracheal mites and chalkbrood. While no one of these diseases is thought to be a colony killer by itself, a combination of two or more of these, together with a poor apiary location, may be destructive or even fatal.

### **Ridding the Colony of Diseased Bees**

Not infrequently, a number of older bees are lost on winter flights and that is probably a good thing because they are usually bees that are

diseased and carrying harmful microorganisms. Since they are old and diseased, their loss is probably a benefit to the colony. The more open an apiary is, and the warmer it becomes on days that might otherwise be marginal for flight in the winter, the greater the number of these old bees that will disappear. This is another reason for selecting good wintering sites.

In reading the beekeeping textbooks one will frequently find the statement that a good honey flow will do much to rid a colony of a disease, especially one caused by an infectious organism. The fact is that the honey flow itself has little to do with the cure. A honey flow stimulates bees to fly. Flying requires great energy and wears out body parts. We now know that a bee that has flown about 500 miles dies from having worked so hard and worn out her flight muscles. The disease may disappear, or at least be less evident, merely because many of the old, infected bees die and are removed from the colony. Good honey flows in the fall are probably especially helpful because they help to rid the colony of old bees and at the same time provide more winter stores.

### **Feeding Drugs**

I have always shied away from the use of drugs to aid in the control of bee diseases. Before the coming of these new diseases I think we had fairly good management schemes to reduce the adverse effects of these problems. However, that is not the case today. I suggest that *both* fall and spring feeding of drugs to control nosema and European foulbrood are necessary, especially in the northern states. We have no chemical control for chalkbrood. Tracheal mites appear to be yielding to the use of menthol.

*Continued on Next Page*

## The Brighter Side of the New Diseases

Last summer we saw fewer swarms in the Ithaca area than we have in many years. We have no data, but it does appear to us that there may be fewer feral colonies of honey bees in the area. If this is true it is probably due, at least in part, to the adverse effects a combination of diseases have had on these colonies. My friends in Europe tell me that there are many fewer feral colonies today than there

were before the Varroa mites appeared. The mites have killed them. Also, there are fewer bees in man-kept colonies simply because if one does not have a good management program, and control the Varroa mites, the colonies will die. Where there are fewer colonies the remaining ones may prosper more because of less competition.

### Summary

Spring is the time to determine why any winter losses occurred. This gives one time to select new locations

and to make preparations for winter. One must recognize too that some good honey producing sites will never be good wintering locations. The only recourse, if such is the case, is to relocate the bees in both spring and fall. §

### References

- Avitable, A. *Brood rearing in honey bee colonies from late autumn to early spring.* Journal of Apicultural Research 17:69 - 73. 1978.  
 Jeffree, E. P. *Winter brood and pollen in honey bee colonies.* Insectes Sociaux 3:417 - 422. 1956.



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# HONEY BEE GENETICS

By STEVE TABER of Honey Bee Genetics • P. O. Box 1672 • Vacaville, CA 95688

*“Part III looks at the closed population breeding program, and developing a breeders co-op.”*

**T**he newest general breeding plan to be presented has been developed by Bob Page, E. Erickson and H. H. Laidlaw (1982) and is loosely called “A closed population breeding program for honey bees”. I don’t know why they use the term “closed population” because all the breeding programs that have been described are closed populations. All that a closed population implies is that you have a “herd book” to register your matings of the sire and dam. We have them for cattle, horses, dogs, sheep and many other animals. It also means you have built a fence around your bees, so to speak, to keep others out and yours in when they are mating.

In the Page-Laidlaw breeding program several things are proposed. First, the breeding program avoids as much inbreeding as possible so as to maintain the largest number of sex alleles. Second, large quantities of semen from many drones are collected and homogenized. This means that all queens inseminated with this mix are receiving identically mixed semen. Third, the drones that the semen is collected from come from 35 selected breeder queens from at least 200 colonies. Fourth, virgins are raised from all breeder queens and inseminated with the pooled semen sufficiently so that queens in all colonies are replaced with an equal number of inseminated queens for the following year’s test.

A study of this breeding technique conducted at Wisconsin two years after it had been designed pointed out a number of problems that developed in practice, although none were apparent in the theoretical design. Some of the 35 surlines that were supposed to be represented by at least 5 queens each were not represented because of queen losses. The expense of inseminations and additional record keeping seemed excessive. (Severson 1986).

I conducted a computer based study of the Page-Laidlaw breeding scheme to determine, theoretically, how long it would take, how many generations of breeding and selection to change the entire population to a gene you could see, then to 2 genes, and 3, etc. I have a small computer and it broke down at 5 genes, with the tendency apparently showing that regardless of the number of genes you are selecting for after 7 or 8 generations, you should be able to have accomplished your purpose.

Genes on a chromosome change on rare occasions. It’s called a “mutation”, and for many plants and animals mutation rates have been studied. For some genes they are higher than others, but in general it occurs once in approximately 10,000 generations. We know that radioactivity can cause mutations in either the reproductive tissue (testes or ovaries) or the somatic (remember the “all other” cells) tissue. Almost all mutations are harmful, but some much more than others. Early workers using x-ray machines did not know it was important to protect themselves, and their patients, from these harmful rays, and suffered accordingly. In nature, we are not sure what causes mutations, but it is quite possible that natural radioactivity could be responsible for at least some of them.

**T**here are several important factors that interest beekeepers and we have not yet addressed them: breeding bees for honey production, and for wintering ability in cold climates. There are two reasons for this omission: 1) both honey production and wintering are very complicated, genetically, with many, many factors involved; 2) there is very little uniformity among beekeepers about how they are going to manage their bees.

Here is an example from one of the commercial beekeepers I worked for back about 1942. He kept his bees in and around the mountains of New York State and operated about 2,000 colonies. The queen was always kept in the bottom box containing 9 standard frames and always covered with a queen excluder. All honey stored in the supers above the queen excluder was removed and extracted, except for one full depth, solid capped frame that was laid *horizontally* over the brood nest for winter. A burlap bag was tucked around this horizontal comb and wood shavings were packed all around, with a cover going on top that was about 3 foot square.

In this beekeeper’s management scheme, the bees had to store all their winter stores in that bottom box, plus the one additional comb given them. Suppose he was using bees that had been bred to move all their honey out of the brood nest? His bees would not survive the winter! In contrast, you see my major professor, Dr. C. L. Farrar, wanted bees to have a clean open brood nest with very little honey stored in it, preventing the queen from laying any eggs. He kept his colonies year-round in three, full-depth brood boxes, reversing them from time to time to open up the brood nest for expansion. Any honey supers were put on top of the 3 brood boxes. Here, you see two completely different philosophies in colony management. I expect that most of you would fall somewhere between these two extremes.

So, back to the problem — how are you going to develop a breeding program for honey production or for wintering? I think it would be easy and productive, and I have been advocating it for several years now. Here’s how: A group of beekeepers from a region with generally the same conditions get together and form a breeding *co-op*. With 10, or more, people that

together had 10,000 to 30,000 colonies, you would have enough to select for any trait, and to make controlled matings. Doing this, in just a few generations the results would be a superior stock. But—they would all have to agree on similar management methods for wintering, honey production and pollination.

Remember, the Holstein-Friesian breed of cows was not developed by scientists but by hardworking farmers in that district of Germany. Most of them didn't have a great deal of education; they wanted a big cow that could both work and give lots of milk. It wasn't until about 1945 that scientists really began improving this already good breed of cattle. Beekeepers could, and should, do exactly the same. It would be fairly easy by simply getting together and agreeing on a breeding program with a definite direction and goals.

Today when we read about certain new techniques in genetics being done with different plants and animals, (i.e., gene splicing, which is adding or taking away certain genes responsible for certain characters), you have to wonder why this hasn't been done with bees. For instance, why couldn't we use that knowledge to genetically alter the Africanized Honey Bee that will shortly arrive? Why? You have to know a great deal about the genetics of any species before you can do that. You have to not only know which chromo-

some, but where on that chromosome are those things you want to add or delete. We know so little about bees, genetically, that we have no idea how to do that type of research — for now.

By knowing and understanding the bees' genetic makeup, and utilizing artificial insemination to control mating, we can effectively tailor-make any bee we want to have in our hives. It's as simple as that. My suggestion is to visit a book store that carries high school and college zoology texts and buy a used copy with several chapters on genetics. Then, you will be able to count all the errors I made in writing this series of articles.

The following are the references mentioned in the article; many implied references were left out since most beekeepers don't have a library where they can get this material. If you are especially interested in obtaining copies of any of these papers, write to the authors or to me, send a stamped envelope for a return.

#### References

- Goncalves, L. S. & A. C. Stort. 1978. *Honey bee improvement through behavioural genetics*. Ann. Rev. Entomol. 31:197-213
- Hellmich, R. L., J. M. Kulincevic and W. C. Rothenbuhler. 1985. *Selection for high and low pollen-hoarding honey bees*. J. Hered. 76:155-158
- Machensen, O. 1951. *Viability and sex*

*determination in the honey bee*. Genetics. 36:500-509

Moritz, R. F. A., E. E. Southwick and J. b. Harbo. 1987. *Genetic analysis of defensive behaviour of honey bee colonies in a field test*. Apidologie 18:27-42

Page, R. E., E. H. Erickson and H. H. Laidlaw. 1982. *A closed population breeding program for honey bees*. Amer. Bee. J. 122:350-355

Severson, D. W., R. E. Page and E. H. Erickson. 1986. *Closed population breeding in honey bees: a report on its practical application*. Amer. Bee. J. 126:93-94

Strickberger, M. W. 1968. *Genetics*.

Taber, S. 1982. *Determining resistance to brood diseases*. Amer. Bee J. 122:422-425

Taber, S. 1986. *Breeding bees resistant to chalkbrood disease*. Amer. Bee J. 126:8923-825

#### Correction

There was an error in Part I of this series concerning the description of mitosis. During cell growth, all 32 chromosomes duplicate identically. During mitosis all 32 duplicate chromosomes align themselves in the middle of the cell. When the cell divides, one copy of each chromosome migrates to each of the 2 new cells, creating 2 identical cells.

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# This Beekeeping Is HIGH TECH

BY Gerald M. Loper<sup>1</sup>, Wayne W. Wolf<sup>2</sup> and Orley Taylor, Jr.<sup>3</sup>

OVER THE years, much has been learned about the speed, distance and direction of the flight of individual honey bees. These studies have been conducted by timing the flight of painted or otherwise marked bees.

We have learned also, that though bees exhibit individual behavior, large numbers of worker bees from any one colony can act in concert. Thus, foragers are recruited in great numbers when particularly rich sources of nectar or pollen are discovered. At times when many foragers are leaving the hive, it appears that they are foraging at the same patch of flowers or syrup feeding station. Still, because of the small size of the bee and the rapidity of flight, one cannot see or document the extended flight path between the hive and the food source. We have assumed, perhaps because of reading about or following a "bee line", that individual bees fly a straight line. Maybe sometimes and not other times. For example, we know that some foragers search out new sources of rewards even when many of their sisters are still exploiting yesterday's dwindling food source — is there a pattern to their search?

How do virgin queens and drones find mating areas (assumed to be in drone congregation areas - DCA's)? Is there a pattern to these flights — a mating "trapline" perhaps? It is known that drones fly to DCA sites long before virgin queens fly, so it is evident that DCA's are not dependent on queens or queen odors.

After searching the literature concerning the mating biology of honey bees it became clear that in order to document drone flight we needed a non-chemical, non-invasive method to search rather large aerial areas. We needed radar.

One of us (WWW) had recently developed and successfully used a trailer-mounted radar to study the migration of moths. We were confident it would detect drone flight in DCA's. At the time, the most convenient known DCA's were close to Lawrence, KS near the apiaries of Dr. Taylor. Thus began a very fruitful cooperative effort in the study of the flight behavior

of honey bees.

The specifics of the radar unit and the results of our first studies in July 1985 are recently published in *Apidologie* 18(2): 163-172. Although we detected drones 1 mile away, the greatest accuracy was at 300-500 meters. It was necessary to observe drone activity from several angles, moving the unit about 1.5 km at a time. At each stop, the area was scanned for at least 15 minutes while movie film and 35mm slides were taken on the radar screen to document drone flights. The radar dish was incrementally pointed upwards at angles of 2, 4, 6, 8 and 10 degrees above the horizon to locate bees at various elevations above ground. A multitude of white dots on a green screen were observed and we witnessed drone activity in real time. The best evaluation came later when the developed film was played back as a time-lapse movie. When drones were flying to or from a DCA, the film showed as series of dots generally moving in a straight line at a specific angle from the apiary. However, in a DCA, drone movement appeared to be random in a generally circular area (about 100 m in diameter) At such times, drone orientation was downwind from the queen odor. At times, activity in these DCA's reached a height of 105 feet.

We verified that the "dots" were drones in several ways: (1) dots were seen in DCA's only during the time of

drone flight, (2) the area in which dots were observed (in DCA's) was strongly influenced by the presence of queen pheromone, and (3) aerial drone traps were used to sample in the DCA's before and during drone flight (drones were caught only during the time of drone flight as documented by the dots on the radar).

Interpretation of the film requires a great deal of knowledge of radar principles and experience with evaluating insect targets on the radar screen. By conducting further studies we expect to document the influence of wind direction, air temperature and time of day on the shape of the DCA, height of activity, and relative number of drones. In some cases, we have already documented flight paths between adjacent DCA's and to and from wild colonies.

Our immediate research goals are to learn all we can about one mating area — its DCA's and timing of mating flights throughout the year. This knowledge will be combined with ongoing studies of queen and drone flight distance to develop a comprehensive picture of the factors that influence mating success. A long-term goal is the development of guidelines that can be used by queen breeders to maximize successful mating by queens to drones of preferred genotype. Such control of natural mating, although it may never be perfect, will be valuable for the improvement of honey bee stocks and will be extremely important in areas invaded by Africanized honey bees. §

## References

1. Plant Physiologist, USDA, ARS, Carl Hayden Bee Research Center, 2000 E. Allen Road, Tucson, AZ 85719.
2. Agr. Engineer, USDA, ARS, Insect Biology & Population Mgmt. Res. Lab., P. O. Box 748, Tifton, GA 31793.
3. Entomologist, Univ. of Kansas, Department of Entomology, Lawrence, KS 66045.

Radar equipment inside mobile vehicle.



# Here are some TAX TIPS — 1988

## Family Labor IRS offers Tax Guidelines

WAGES PAID to a farmer's family members, spouse and children, are tax deductible if there is a true employer-employee relationship, according to the Internal Revenue Service.

Also, payment must be reasonable in amount. A reasonable wage is what you would pay an unrelated person for the same work. Payments should be periodic — hourly, weekly, monthly, etc. — since it is unlikely that a non-related person would work for one or two paychecks per year.

Recordkeeping is vital. The employer may keep the records. Preferably, however, the family employee should keep a timely record of total hours worked. Total hours worked should be submitted periodically to coincide with the established pay period.

Family members must earn their wage. The family member is an employee and must be treated like an employee to establish a deduction on the income tax return. Keeping a record of the hours worked and duties performed helps to substantiate the employee relationship.

Beginning in 1988, wages paid by a self-employed farmer to the farmer's children are not subject to FICA (social security) tax until the child is age 18. However, wages paid by a self-employed farmer to the farmer's children are still not subject to FUTA (unemployment) tax until the child is age 21. Payments to a spouse are not subject to FUTA tax but, beginning in 1988, are subject to FICA tax. If the farm is a corporation, then wages paid to any family member, regardless of age or relationship, are subject to FICA and FUTA tax.

In the area of retirement plans, if you have a self-employed retirement plan (sometimes called a Keogh or H.R. 10 plan), family members who are your employees are eligible to participate in your plan. Generally, any employee who meets the plan's minimum coverage requirements must be

included in the plan. Failure to allow any employee, including a family member, to participate can cause you to lose your Keogh contribution deduction.

In recent years, many farmers have set up individual retirement accounts (IRA's). Many farmers have begun compensating their spouses to allow each spouse to set up their own IRA and to take a deduction for contributions to it.

Remember that records must be kept of hours worked and duties performed. The wages must be reasonable and payment should be periodic.

For more information, farmers can get free IRS Publication 225, "Farmer's Tax Guide", by using the order blank in the tax return package or calling toll-free 1-800-424-3676. §

## Tax Guide Available for Farm Employers

IRS Publication 51, Circular A, Agricultural Employer's Tax Guide, contains information and forms that farm employers need to comply with the federal tax laws relating to social security taxes, federal unemployment (FUTA) tax, and income tax withholding under voluntary agreements. Circular A is available free from IRS by using the order blank in the tax package or calling toll-free 1-800-424-3676. §

## Taxpayers with dependents

### HERE'S A TAX TIP:

Beginning with your 1987 income tax return that you will file in 1988, you generally must list social security numbers for dependents who are at least five years old by the end of 1987. If any of your dependents do not have this number, get an application form today from the Social Security office in your area.

## Office?

**Question:** Office in your home! Is it still deductible?

**Answer:** Generally, an employee will be permitted a "home-office" deduction for a portion of his home if the designated area is "exclusively used" on a "regular basis" for business purposes and if such use is for "the convenience of his employer".

Under prior law, the maximum amount of allowable deduction was computed as the amount of the taxpayer's gross income derived from the business use of his home, less interest and taxes related to that portion of the home, deductions in excess of this ceiling could not be carried over to subsequent years, as they now can be.

However, two Tax Court decisions, I. S. Feldman, 84 TC 1 (1985) and C. A. Scott, 84 TC 683 (1985) held, in contradiction to requirements set forth in the Internal Revenue Code, that a taxpayer could deduct expenses for a home-office rented to the employer for carrying out job responsibilities without regard to the regular and exclusive use requirements.

The 1986 Act changes both the method of calculating the applicable ceiling for the home office deduction and the result achieved by the Feldman and Scott decisions. Deductions attributable to a home-office are now limited to gross income less all non-home-office deductible expenses related to the business activity, as well as interest and taxes proportionate to the area of the home used for business. Moreover, unlike prior law, deductions disallowed due to this limitation may be carried forward to subsequent tax years, subject to the same limitations.

The 1986 Act further provides that a taxpayer-employee will no longer be permitted to deduct home-office expenses for the portion of his home leased to his employer, except to the extent that such deductions would otherwise be allowed.

(Before you act on the material contained in this article, consult your accountant or tax advisor to discuss your individual tax planning needs.)

GLEANINGS IN BEE CULTURE

# Bee Stamps, II

BY Diana Sammataro

When last I wrote about this crazy thing, collecting bee stamps (GBC, Sept. '86), I had no idea there were so many other people 'stung' by this silliness. I have received some lovely letters from all sorts of people, both here in the good old USA and as far away as France and Spain. I even broke down and became a member of an obscure French Philatelist society, called *Ar Gwenan* (old French for bees), 22 rue de Crozon, 35760, Saint Gregoire, France (\$12.00). Now you talk about crazy, these folks collect EVERYTHING, cancellations, money, stamps, postal cards, etc. etc. In some cases I have to look *hard* to find the tiny bee skep or hives they collect. That's going a little too far for me. I have even considered taking another French course to answer my mail — somehow my high school French never prepared me for words like "timbres, marques postales, livre d'enfants tres images, and affiches".

This experience has opened my eyes to the world of collecting; a little beyond me, but nevertheless fascinating. My next venture is to collect all the postal cancellations from places like Honey Grove, PA, and Bee Spring, KY.

In all of this, my humble list of one page has grown to a monster of 3 pages. But I will reproduce it nonetheless, in case there are more of you out there who will find it useful. Additions, corrections, deletions are always welcomed.

There is another interesting item available to those who collect such things. There is a bee/flower on the back of the Swedish 100 Kroner currency; the front is a portrait of Carl von Linne (Linnaeus, to us). You can obtain one by sending \$20.00 and a self-addressed UN-stamped envelope to: Mr. Kjell Winqvist, Linnegatan 7, SE-57400, Vetlanda, Sweden (notice the street address). He will be happy to send you one, I'm sure. It is a nice piece.

Many of the people who sent letters were disappointed to see there were so few U.S.A. stamps with bees. Happily, there is a new stamp out from the Rattlesnake Island Local Post, Rattlesnake Island, OH, c/o Island Airlines, Port Clinton, OH 43452. It is a set of three, one of which is a honey bee and well worth the \$4.50 price tag.

## BEE STAMPS — 1986-88 LISTING

Note: Some of the numbers may be from other listings (i.e., NOT Scott numbers) or may even match up with some of the descriptions whose numbers are missing from this list. FDC = First Day Cover.

Y&T = Yvert & Teller number.

D. Sammataro, 7011 Spieth Road, Medina, OH 44256 U.S.A. (216) 722-2021

COUNTRY	SCOTT NUMBER	SUBJECT, DATE and DENOMINATION
ACORES	—	1984, bumble bee, also as a booklet
ANGOLA	461, 486	Coat of arms, with bee or skep(?) 1963.
ANGUILLA	434	(1c), 1981, Minnie Mouse chased by bees
	—	1982, Winnie the Pooh and honey
ARGENTINA	—	(20p), 1969, hexagon design
	—	1963, 40-660, beehive
AUSTRALIA	—	1950, (2-1/2c), Goddess of Plenty & Bee skep
	—175/76 (Y&T)	little skep
(New South Wales)	—1/7 (Y&T)	1850-51, little skep, first official stamp showing a hive
	—86 (Y&T)	1903/06, little skep
BARBADOS	638	Carpenter bee on <i>Cassia</i> , (75c), 1984
BELGIUM	385	(1.75fr), 1950, bee skep
	B 518	??
	B 355-59	1943, small bees in loop of R (Orval)
	B 385	1950, skep
BELGIUM CONGO	321-2	map of Africa in hexagon shapes, (3f)
BERLIN	9NB211-12	??
	B 618-19	??
BOPHUTHATSWANA	8515	(50c), 1985, leafcutter bee on <i>Bequaertiodendron m.</i>
BRAZIL	1645	??
	1644	(3.20cr) bumble bee
	694	(.60c) bee on grape, 1950
	1668	(24,00) bee on comb
	167-8	??
	—	1979, (3.20), bee caricature, doll
BULGARIA	364	??
	1602, 08, 09	(3, 13, 20 ct) set of 3, bees & sunflowers, jars of honey, flowers
	365	(15ct), 1940, blue straw covered skep, tiny bees, flowers
	401-2	(30ct), set of 7, 1941, beekeepers examining comb
	500	(50ct), 1946, postal savings: skep
	—	1967, bee on apple blossom & hives, (20 ct)
	new	29-7-1987, 4 stamps, bees and honey plants
CAMEROON	807	4-20, 1986
CELON	—	FDC 20-3. 1969 Silver Jubilee (3 cts)
CHAD	276	?? not a bee
CONGO	290-1	(30f & 40f), 1973 bee/skep/comb, savings campaign
CUBA	—	set of 5, (1, 3, 9, 13, 30) bees (q,d,w) 1971
	—1024 (Y&T)	1966, coat of arms
CZECHOSLOVAKIA	1064	??
	1185	(1 Kcs) yellow bee/hexagons, 1963 Apimondia 19th Congress
	980	(30h), 1960, child and honey bees
	2250	(20h), 1979, caricatures include bee
	—	(3Kcs) green "bee house" with 3 skeps
	—	protecting hives, (1774)
DJIBOUTI	—	1981, <i>Acacia mellifera</i> (flower)
DOMINICAN REPUBLIC	672	(6g), 1970, inter-american masons: skep
	C 177	(10g), 1970, same
	—	(10c), honey export, modern beehive, bee
EGYPT	1107	Food Security, honeycomb with tiny bee, (20m), 1979
	—94/96 (Y&T)	1925, bee in hieroglyph

Send along a self-addressed, STAMPED envelope to insure delivery. In my last article, I was mistaken in saying that the bee/flower impression, US 15¢ (Oct. 1980) was a Dogwood Flower; it was an Orange Blossom. Apologies.

As I said before, every time I put my collection away in that dark drawer, they seem to reproduce, for when I take them out I have more than I started with. Recounting my collection, I now have 120 different stamps representing 44 countries and 10 first day covers. §

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EQUATORIAL GUINEA	94	bee, Jan. 1986
FINLAND	264	(10mk), 1947, postal savings skep
	—417 (Y&T)	1954,
FIUME	26	1919, (15f on 10f), postal savings: skep
FRANCE	1644	bee on flower, (1.00), FDC 31-03-1979
	301	(75c), 1935, savings bank founder Delessert, bee skep (small)
	1258	1969, (.70), arts & manufacturing, beee inset
	307	timbres telegraphes, 1 to 8
GERMANY, W. (DDR)	438	bee on pussy willow, June 26, 1959 (40pf)
	2300	??
	2298	1974, bee, lace patterns
	B 616-19	1980, bee and mushrooms, 1982, bee and flowers
	—	(80 & 40 pf), 1984, youth: bee and flower
	—	1986, (DDR 25), 1810, candle holder, tiny skep in center
GABON	338 (Y & T)	1975, bees on coats of arms (yvert 338)
GREAT BRITAIN	126	(20p), 1978 Isle of Man, bee on fuschia
	393	1963, (3d), National Nature week: bee on flowers
	380	1961, skep
	668	1972, (3d), Tutankhamen: bee petroglyph
GRENADA	1090	1985, (17p), 1 of 4, Buff Tailed Bumble bee on Rose
GUINEA	636-41	boyscout/beekeeper (\$1.00), 125th anniversary of BS
FRENCH GUINEE (Rep)	—	insects & bee
	—	1973, bee single (40F)
	—	1985, (35 FCFA), bees on coffee flowers
HUNGARY (Magyar Pst)	1187	bee/comb (1Ft, 1958
	—	bee/flower 29th Apimondia Conf., 1983 (1 Ft)
	103-A	(10f), 1916, postal savings, bee skep
	827-828	(40f & 60f), 1947, postal savings, bee skep
:Banat Bacska	10N42	(50f on 10f), postal savings, bee skep
:Baranya	8N13	(10f), 1919, postal savings, bee skep
	2804	??
	2626	??
	—	(60f), <i>Bombus hortorum</i> on <i>Gaillardia</i> set of 5
	2983	(4f), Fay Andras, building, bee insert, 1986, 2-stamps
	—	1986, skep, 700th anniversary Vecses Helyseye
INDIA	858	Pecsetie
INDONESIA	225	FDC 29-2-1980 2nd Int'l Conf, bee/comb (1.00r)
IRAN	1733-4	carpenter bee
ISRAEL	833	1973, honey comb, U.N. Volunteers; 1974, jewel - bee
ITALY	623	bee/comb, 1983, (30.00p), FDC 15-2-1983
	—	bee on comb, (25 lr), = Trieste-A #167, Knights of
JAMAICA, B.W.I.	—	Labor, 1953
JAPAN	1663	1962, seal of Kingston
KOREA	649-650	bee/sirwby. flower, 30th Intern'l. Apic. Conf. 1985, (60)
	302	(30) yellow bee single, 1974
	303	1960, (10h) bee on comb w/sweet clover, comb, green
	—	??
	377	1979, (20 & 50), bees on flowers
	743-743	(1.00w), 1963, bee on comb, new currency
LEICHTENSTEIN	356	(100w) set of 2, 1971, economic devpm't: factory/bee
	101	(50), hexagon design, Europa
LESOTHO, R.S.A.	—	skep above St. Namertus chapel
LUXEMBOURG	525	1979, bee and Blinkblaar
	new	(4 F), bee on comb
MALAGASY	445	(12f), 3 March 1986 bee and skep
MALTA	440	1970, (50fr), United Nations, stylized bee
MALAWI	473	1972, bee and honey comb, coin
MALAYSIA	—	1985, Buehni's bee eater, bird
	168-9	1978, bee and comb, (\$1) boy scout jamboree
	—	??
	C 495	1981, ??
MALI	new	??
MEXICO	1006	1987 set of 4, <i>A. mellif, dorsata, florea, adansoni</i>
	1126	bee on yellow comb, 1969 (40cts)
	2163	bee silhouette, mexican exports, (\$15c), 1984
	C129-35	??
MOZAMBIQUE	new	set of 7, 1980 triangular, (HB on 60)
NETHERLANDS	B219	set of 4, bees/beekeeper, 1985
NEW ZEALAND	—	1950, (2 and 3c), child and bees
NICARAGUA	C966	(30c), 1975, the "beehive", parliament building
	1337-43	Flower/small bee (80cts)
	30-39	Set of 7, bees on flowers, 1984
		set of 10 1891, Goddess of Plenty, tiny skep, (5c)



	61-70	set of 10, 1894, Goddess of Victory and tiny skep, (5c)
	042-051	set of 10, Goddess of Victory, tiny skep
NIGER REPUBLIC	new	October 1985, green, (210f), bee caricature
	294	1973, (40f), bees on comb and 2 globes
NORWAY	845	3 bees, 1984 (2.50) 100 yrs Norwegian Beekeeping
	451	1964, (500r), health fund, bees ad skep
OMAN	247	bee and comb, (50b), two stamps, <i>A. florea</i>
	A 45	??
POLAND	2071B	(4.50 Zt), 1977 set of 2, beekeeper and skeps
	744	1956, (40g), bee on blossom
	1040	??
	2556	??
	745	1956, (60gr), Jana Dzierzon: bee scientist
	1014	1961, (60gr), bee on clover blossom
	new	Apimondia 87, set of 6, bees, hive, taking bees out of bee tree
PORTUGAL	3895-7	Europa Cept, honey comb shape
QUEENSLAND, Australia	125	1903, (9d), Britannia and small skep
	128	1907, (9d), Britannia and small skep
REUNION	J16-J25	1933, set of 10, coat of arms: stylized bees (10 and 15)
ROMANIA	2675	bees and flowers, set of 5 1976, (60, 55, 1.60, 1.20, 1.35b)
	1762	XX Congress, 1965 bee and flower, (55b)
	2665-70	Canas severin, coat of arms w/bees
	2680	Nenedinti, coat of arms w/ bees
	2704	Vaslui, coat of arms w/bees
	677	1947, skep
	1473	1962, bee and honey comb, savings bank
	1595-1589	set of bees, hives and flowers
	—	(55b), 1962, Economia, bee and agriculture
	1763	(1.60b), 1965, XX Int'l Apicol, building, bee insignia
	—	1947, (12 lei), skep, red
	1269-77	1959, set of 9 agriculture, {bee/sunflower 1270}
	—	1919, (10f), postal savings, bee skep
	—	1919, (10f) (2), postal savings: skep
	1585-89	set of 5, 1963, bees, hives, flowers
RUSSIA	3843	(6k), bee and flowe, FDC 1971
	1560	(40k), 1951, modern hive and apiary
	3468	(6k), 1968, International Cong. Entom.: stylized bee
	2429	long hive attacked by a brown bear
RWANDA	1076	bee and hive FAO, (30C), 1982
	9-12	honey comb map of Africa, set of 4
ST. VINCENT, B.W.I.	—	1976, bumble bee dancers
Beguia	85L53	12-19-1985
SHARJA	971-6	??
SIERRE LEONE	1Y4 737	1985, (151e), bee
SINGAPORE	—	4-24-1985, (10c). <i>A. javana</i> (cerana) on blossom
SPAIN	1125-6	Europa/bee on comb (1 Pta, red; 5 Ptas, blue)
	1884	1975, (3pt), prehistory, robbing bee tree
SW AFRICA	455	1980, (9e), honey badger (mammal)
SWAZILAND	—	1983, Commonwealth Day, beehive huts and woman
SWITZERLAND	—	(30 and 10c) bee single, 1950, for youth
	B 240	??
SYRIA	—	1982, (50), bee on blossoms, 10th international flower show (?)
TANZANIA	364	1986, (1.50), bees on flower
TRIESTE "B"	26	1950, bee single
TUNISIA	742	1979, (50m), veiled beekeepers, hive, bee
TUVALU-VAITAPU	8533-4	1-8-1986
URUGUAY	992	1977 bee and agriculture, (.45N\$)
UNITED NATIONS	238-9	??
UN: GENEVA	33	??
UNITED STATES	1671	Bicentennial Era, Utah State Flag, 1976 (13ts)
	—	FDC bee/orange blossom, Paris, IL, Oct. 10, 1980 (15cts)
	new	Rattlesnake Island, Ohio, 1985 (\$1.50), bee single (triangle)
VENEZUELA	—	1962, small bees in coat of arms
VIET NAM	—	(1d), bee single, set of 7 Hymenopterans
YUGOSLAVIA	1374-7	set of 4 bees/color (1.50 (HB), 3.40, 4.90, 10.00)
	1147	(80pt), 1973, Anton Jansa beekeeper and bee
	—	1968, honey comb shape, Red Cross
ZAMBIA	88	(15n), bee and bee tree, FDC Sept. 22, 1972, Conservation Yr.



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# Africanized Honey Bees in the United States: The Development of An Extension Program to Prepare U. S. Citizenry and Beekeepers

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*"When someone picks a project, they have to love it, nurture it. If they don't, it dies, like so many projects in Washington. We were lucky, Dr. Westbrook picked us."*

Dr. James E. Tew,  
National Apiculture Extension Agent

This was the opening comment in an interview *Bee Culture* conducted with Dr. James E. Tew, new National Apiculture Extension Agent, and Dr. Fred Westbrook, his immediate supervisor, and National Program Leader for Agronomy Federal Extension Service.

Dr. Tew's half-time position is funded by the Special Projects Division of Extension. Similar to other projects within the division, mostly in animal science, its' operating budget is somewhat larger than most, a distinction not lost on members of the beekeeping industry.

The project is designed to function for a five year period, although funding is provided on a year by year basis. This is typical of these types of operations, although performance is continually monitored and evaluated.

---

**BC:** *Dr. Westbrook, can you give us a quick history of how this position came to be?*

**WESTBROOK:** The beekeeping industry decided some time ago that it needed this type of representation, this type of position, to deal with the public and members of the industry regarding the Africanized Honey Bee. After over 18 months, nine drafts, much discussion, some delays and a few other problems, the project was defined, the agent chosen, and the final budget signed. And here we are.

**BC:** *Dr. Tew, considering the scope of this project, the ground you have to cover and the time available, where do you start?*

**TEW:** The first thing we will do is establish who we are, and that we exist. And we'll do it in a hurry. I hope to get out a fact sheet of some type that will appeal to, and reach, a general audience. Of course, this audience includes beekeepers, but most of them already know what I'll have to say initially. I'm really trying to reach those members of the public who don't know about us, and about Africanized honey bees yet.

**BC:** *What will this contain, and what do you want it to accomplish?*

**TEW:** Well, first it will be a very simple paper that can be easily duplicated by other extension agents. I want to return to that point in a minute, but for now — it will be an introductory sort of paper, trying to short circuit some of the hysteria, over-reactions, ordinances and insurance rate problems we foresee. The primary channel of distribution will be through each states' extension office. They will make it available to all the traditional publicity outlets, plus schools, groups, etc.

*"This will be tough . . . because we have to do it right,  
and do it right the first time."*

**BC:** *What about the state extension offices you mentioned?*

**TEW:** I want to make this very clear. Nobody works for me on this project. We, all of us extension-types, are working as a team. This will be a coordinated effort by all of extension, not just me. That's important, because there are some states with excellent apiculture extension agents now, who are already doing a bang-up job. But there are some states with no, or only a part-time apiculture extension agent who will be in need of this type of information, and then we'll have it ready. It's still their job to disseminate it, but we'll get it there.

**BC:** *How will this be done? How are you going to communicate with these people?*

**TEW:** We have several methods already in place. There is the USDA Dialcom, Telemail, and we'll probably start a computer bulletin board — but that's in the future yet. We'll also be doing direct mail, with the aid of National Extension support and our own resources at Ohio State. This will all be funded out of our yearly budget.

**BC:** *Will you have any face-to-face contact with these agents? The classic "Teaching Teachers" role of extension?*

**TEW:** You bet! Starting this August we'll be having a two day meeting with as many state agents as we can get together. And, for those states without an agent at the state level, anyone — a county agent or district supervisor — will be welcome. We'll do some intensive work up-dating them on what's happening and what they can be doing. We'll have lots of material that's reproducible, and current.

**BC:** *Are these from every state?*

**TEW:** Actually, yes. But we'll be initially concentrating on the border and buffer states first. These are the areas that will probably encounter problems first. But all states will receive the same stuff, and all will get up-dates and revisions as they become available — probably through the electronic communications systems we'll develop.

**BC:** *Is this typical of Extension Special Projects?*

**WESTBROOK:** No, this is not typical. Traditionally, county agents have gone to the state agent for current information. We're moving that up a step, in that now state agents will be coming to the national level. They in turn will disseminate this information to the county level, who in turn will get it to the grass roots level. This is the best way we could see to get a lot of information out in a big hurry — and we are breaking some new ground here.

**TEW:** I feel this is critical. Extension must know we exist, and support us. If they don't, and the information doesn't get out, then I've failed my job.

**BC:** *What other projects, besides working with extension agents, are in order?*

**TEW:** One of the reasons ARS (Agriculture Research Service) supported this position was because they feel they'll need assistance in training regulatory personnel in identifying samples of bees once the AHB is established near our border. They expect to be deluged with samples, and want to have, on hand, a trained group of people to do some initial screening. So, one early task I'll have is to assist in the set-up and training of these folks. We'll start in the border areas, and over the next 5 years move northward until we have most of the U.S. covered. This is the team effort I mentioned earlier. Extension, ARS, as well as other U.S.D.A. agencies, will be working on this together. This will be tough work because it requires computers, digitized and well-trained people in what will be a hectic and demanding job. We have to do this right, and do it right the first time.

**BC:** *How are you going to coordinate all this, to keep these various groups informed? How will the left hand know what the right is doing?*

**TEW:** One of the best ways is the Newsletter I'm starting to all these agencies. It will be both paper and electronic, so everybody's current on what's happening. Not glamorous, just information.

**BC:** *Anything else?*

**TEW:** Yes, I'm going to try to consolidate state extension publications in beekeeping. I want to try and catalog all the existing publications. Although I'll be working primarily with the AHB, I have other responsibilities, and one of these is to aid in basic beekeeping information to state agents. One way to do this is to make available a catalog of what extension information already exists. For instance, State A has good stuff on diseases, while State B has information on wintering. If someone from A calls and wants information on wintering, I can put them in touch with the appropriate people in B. I'll be a clearing house, but not a question answerer.

**BC:** *How many people will be assisting you on this project?*

**TEW:** I'll have a secretary working part-time, probably 60-70%. I'll have some student help, and a technician, Phil Mariola, who will be a part of this, but I don't know how much just yet. Otherwise, it's just me.

**BC:** *In one sentence, can you summarize this conversation, who you are and what you'll be doing?*

**TEW:** Two workshops this year, establish a communications system, regular meetings and starting to catalog what now exists. Dr. Westbrook thinks that if these expectations are met the first year, they'll continue us next year. That, essentially is the program.

**BC:** *Dr. Tew, on behalf of myself and the readers of Bee Culture, congratulations on your new position. And, a thank you to Dr. Westbrook for your efforts in helping the beekeeping industry reach this goal. §*

# Doing Divisions...



...with Buzz Riopelle

Buzz Riopelle is a fireman by trade, but a beekeeper at heart. That's what he does in his spare time, and with a fireman's schedule, he has good chunks of time to pursue his sideline business.

He runs about 150 colonies in and around his Valley City, Ohio, 3 acre home, and manages to produce around 6,000 lbs. of honey each year.

"Of course that depends on a variety of factors," he says, "But if I don't come close it means I've done something wrong."

He sells all of this honey himself, and is continually improving his sales skills. His sales are primarily to gift shops, grocery stores, farm markets and the like. To these he sells about three quarters of his crop, mostly in 1# and 2# jars and bears. The remainder he sells in larger jars and some 60's to restaurants, an ice cream factory and other similar outlets.

His crop runs about two thirds light and one third dark honey.

"This is a good balance for me, because I have some customers who not only prefer, but demand a darker, stronger product," he says, adding, "Which is great because that's what my bees produce."

Every spring the task of making splits must be done, both to make up for the few winter losses he has, and to steadily increase his colonies.

"I keep selling more honey every year, so I keep making more bees to work for me."

We tagged along with this successful beekeeper for a day last spring, as he was going through a couple of his yards. He had already been through these earlier, checking and feeding those on the light side. On this second trip he was making divides from his strongest colonies, while preparing others for a pollination trip that night. This time we'll look at his technique for

After a light smoke at the entrance and under the outer cover, Buzz prepares to do a fairly indepth examination of his colonies. The weather was in the mid-60's, sunny and fair. It was about 12:30 — perfect weather and timing for this job.

making divides and next month we'll focus on his pollination business.

The combs that are removed are placed in the center of an empty super, which has a bottom board, inner and outer cover and remaining drawn combs added, and are taken to his home yard.

Then, with (hopefully) precise timing the queens he ordered way last January will arrive within the next day or two. These are placed in the center of the "splits" between two of the full brood combs.

After 3 or 4 days, they are checked for acceptance, and if no workers are aggressively acting on the queen cage, he will release the queen.

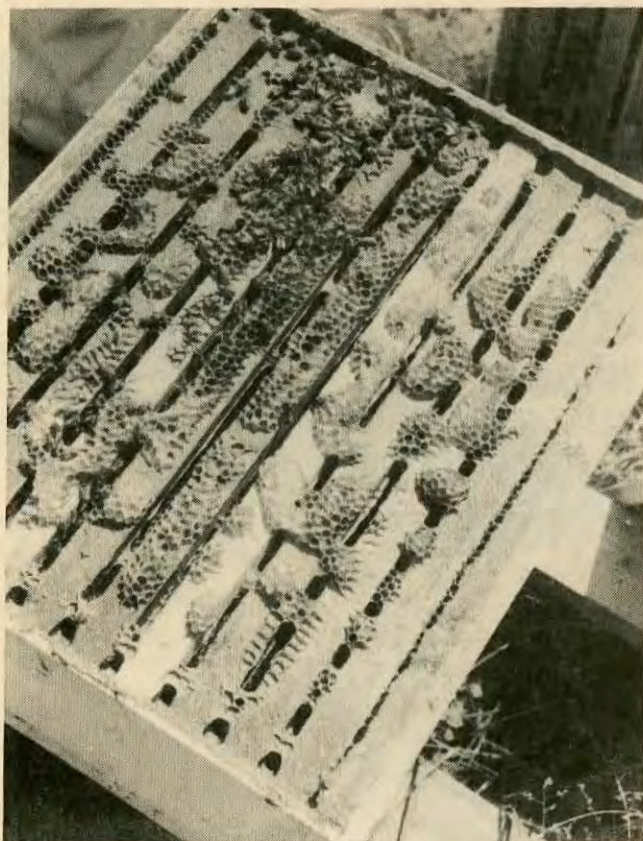
"Sometimes I have to check 2 or 3 times," he says, "but that's a small price to pay for an entire colony of bees."

Buzz, like most sideliners, does have time constraints, and 150 colonies worth of work is approaching the limit of his available time.

"I lose a few swarms, a few queens, and occasionally a colony. But the few I lose are a small price to pay for the return I get, considering the time I have. It's a trade off, but what isn't?" he says.

When you look at the growth, and success of River Ridge Honey Farms, you can't argue with that statement.

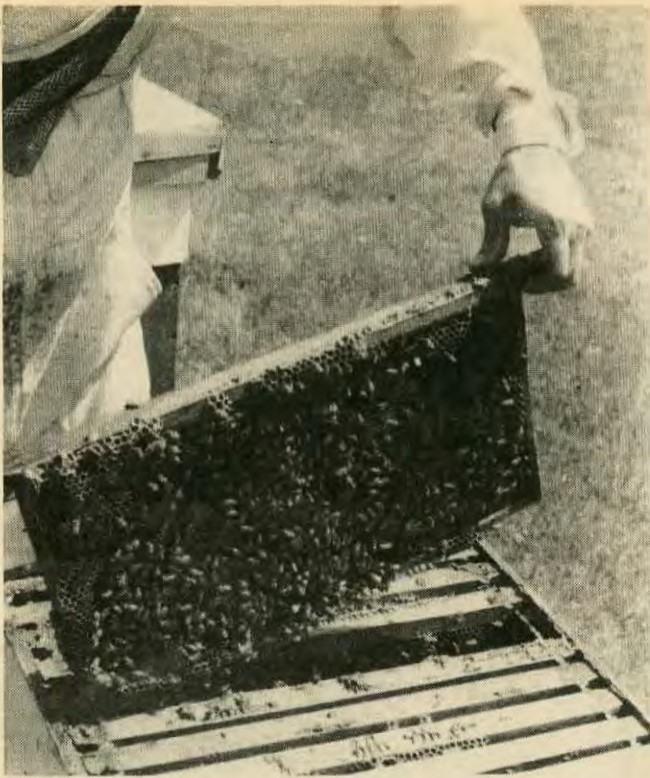
Next month we'll follow Buzz on a trip preparing colonies for some of the pollination work he does each spring. §



This is what he likes to see when he gets to the brood chamber. The bees have used all available comb space, and are starting to build burr comb. This colony is ripe for division.



The first step is to remove 2 - 4 frames from the center of the box. These are always the fullest, and most likely candidates for supplying a new colony.



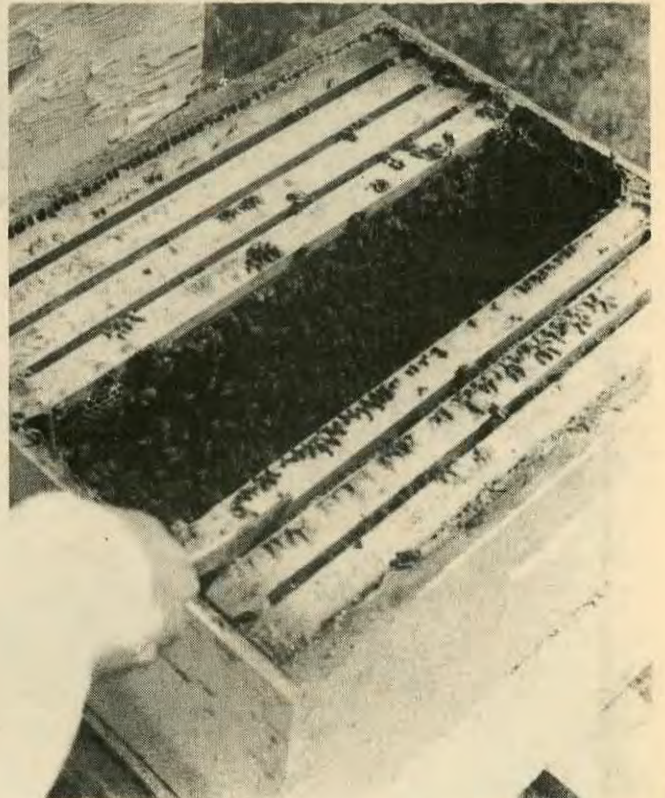
*A gentle touch, with slow deliberate moves keeps the bees gentle and reduces any chance of accidentally squashing a bee, while protecting the queen, too.*



*Buzz likes to see a lot of worker comb, but also wants to have some honey in the corners and some drone brood inbetween. The honey means they aren't hungry, while an acceptable amount of drone brood means that there is a good balance of workers and drones in the hive. "This kind of frame tells me I've got a good queen in there," he says.*



*"Depending on what I have available, I'll put in either drawn comb or foundation to replace the combs I've removed," he says. "This also is a good method to slow or reduce swarming," he adds. "Either way, the bees have more room to produce more bees, and the empty combs ensure that the queen has something to do, along with the remaining workers."*



*This colony could stand having 3 frames of brood removed without depleting the strength of the hive now, while ensuring a strong population for the honey flow to come.*

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# How is Your Business Image?

By RICHARD THOMAS EDWARDS

P. O. Box 561  
Westlake, LA 70669

If you are like most business owners/managers, you are constantly looking for ways to improve business. You want more, and that's only natural. You hope advertising will help you to achieve that goal, but what about your business *image*? Did you know your image is a form of advertising as well? Chances are good that you don't see your business the same way your customers do.

Just how important is your business image? Well, if you place a high regard on advertising, your business image is even more important!

When you advertise, you do so to acquire more business. You hope that advertising will pay for itself — and then some. The problem here involves priorities. Your business image is your primary selling point. You can draw in the crowds with advertising, but once they arrive, what they see may or may not get them to pull into the parking lot.

And, if the business location or traffic flow is such that it effects a customer's attitude, chances are good you are not seeing as much business as you should have had with an effective advertising campaign.

Advertising cannot make nearly as strong an impression on a customer as your business image can. After all, it is how your business looks and feels to the customer that creates the lasting impression.

Essentially, it is a one-two-three process. You get the customer excited about your product or service, continue the excitement with a solid business image and close the deal with a fine presentation.

So, you have motivated them with advertising. Let's keep that motivation going with a solid business image.

## What You Are Looking For

The cash register receipt isn't in there until the customer actually buys your product. Consequently, from the time a customer gets motivated to the

time they pay for the merchandise, it is the business image that does a lot of the work.

Therefore, the areas you will want to look at are: Location, Traffic Flow, Street Sign, Parking Lot, Integrity of the building, Integrity of the interior and Customer Rapport. These are the areas which have the most affect on the customer.

The best way to look at these is to look at either another local business that is in competition with yours, or to simply evaluate a business that impresses you.

## How To Evaluate

In order to obtain a clear picture you are going to need some sort of yardstick to go by.

At the top of a legal size notepad, write: Excellent, Average and Needs Work. These could mean anything so here's the beef:

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*"It is how your business LOOKS that creates a lasting impression."*

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- Excellent means that portion of the business image is making money. It speaks favorably of the owner. It is a customer motivator.

- Average means this is what customers expect from all businesses. It is not a detraction. However, if it was improved to excellent, business would benefit from the improvement.

- Needs Work really does need work. It means this aspect of the business image is losing money. Getting repeat business is not a good bet.

## Specific Areas To Evaluate

**LOCATION:** There is not too much you can do about your location. But you should be aware of the factors involving yours. One factor is the current location, weighed against the current population center. More specifically, you location versus the bulk of the population. Having the best location and a high level of traffic flow only increases the chances of a successful business. Visibility is a form of advertising, if the business image is modern and professional looking from the street.

The problem with location and traffic flow is that it never stays 100% for the business. As time marches on, so does the movement of the population. It is a known fact that as the town or city grows, it moves away from the center of town.

You may not notice this until suddenly you realize that your customer level is not what it used to be. You have several choices: Take a loss in income, move to a better location, or attract new customers.

The future effect of population growth also has an effect on your business. It is wise to check with the local chamber of commerce to see exactly what is happening in your area concerning the growth of population and where that growth is heading.

**SIGN.** Your traffic sign may not seem that important to you but it does effect your image. If the customer can't see it, or if it doesn't look modern, you have problems.

Your sign also reflects business attitude. Your sign should be large enough to be seen from some distance away, at the normal traffic speed, and it should look as modern as your business.

**PARKING LOT.** Again, you may not assign this much importance, but your customers do. If it is poorly paved, has potholes, spaces not well marked, or the lighting isn't very good at night,

*Continued on Page 152*



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# HOME HARMONY

By ANN HARMAN  
6511 Griffith Road  
Latonsville, MD 20879

Spring is a time of renewal. Our land, and our bees, after a winter's rest, are preparing for the busy seasons ahead. However, you can be sure that on the first day of spring, somebody somewhere is looking out of a window muttering about the blizzard raging outside while someone else is busy tending the flower and vegetable gardens. Eventually spring does come to all.

This is a good time to try something new. I was intrigued by a display in the supermarket recently. There were boxes of a new chocolate chip — semi-sweet morsels that were larger than the usual size, and advertised "for gourmet cookies and desserts". I find chocolate irresistible and I love chocolate chip cookies. You know the result. Now it's your turn to try something new.

## Honey Chippers

- 1/2 cup butter
- 1/2 cup honey
- 1 egg
- 1/2 teaspoon vanilla
- 1-1/4 cup sifted flour
- 1/2 teaspoon baking soda
- 1/2 teaspoon salt
- 1 cup Nestles Semi-Sweet Chocolate Treasures
- 1/2 cup chopped walnuts

Cream butter and honey together. Add egg and beat well. Sift dry ingredients and add to creamed mixture. Blend well. Add vanilla. Add chocolate bits and walnuts. Mix well. Drop by rounded teaspoons onto greased cookie sheet. Bake at 375° for 12-15 min. Makes 3 dozen.

*Favorite Recipes  
From Our Best Cooks  
Essex County (MA) Beekeepers Assn.*

Most people are too busy cutting up onions to put into salads and casseroles to think about onions as a vegetable all by themselves. But onions are delicious cooked with a sauce. Try this next recipe with roasts or steaks.

## Amber Onions

- 8 medium white or yellow onions
- 1 teaspoon salt
- 1/2 teaspoon paprika
- 2 tbs. melted butter or margarine
- 1/4 cup tomato juice
- 3 tablespoons honey.

Cut onions in half crosswise. Place in greased large shallow casserole. Combine salt, paprika, melted butter, tomato juice and honey. Pour over onions. Cover dish and bake at 300° for 1 hour or until onions are tender. Makes about 8 servings.

*Focus on Honey  
California Honey Advisory Board*

I am always so pleased when a simple recipe tried for the first time produces a delicious dish. This one for chicken is one of my "simple favorites".

## Lemon Chicken

- 1 tablespoon vegetable oil
- 1 cup-up chicken
- 1 cup honey
- 2 teaspoons grated lemon rind
- 1/4 cup lemon juice
- salt and pepper to taste
- 2 lemons, cut into wedges
- 1 tablespoon flour
- 1 cup chicken stock
- 2 tablespoons chpd. parsley
- 2 tablespoons chpd. chives
- 1 teaspoon marjoram

Brown the chicken pieces in the oil. Warm the honey gently and dip the chicken pieces into the honey, coating well. Place the chicken pieces in a baking pan. Combine the lemon rind and lemon juice and sprinkle over chicken. Sprinkle with salt and pepper. Arrange lemon wedges on the chicken, cover pan with foil and bake at 350° for 45 minutes. Then remove the foil, turn on broiler and broil for 5 minutes. Just before chicken is done, make the sauce. Combine the flour with the rest of the ingredients in a saucepan. Bring to a boil, reduce heat and simmer for 5 minutes. Place the

chicken on a serving plate. Pour the sauce over the chicken and serve immediately. Delicious served with rice or noodles. Serves 4 to 5.

*The Book of Honey  
C. Francis and F. Gontier*

Sometimes we all get into a rut with vegetables. Peas are mixed with carrots — or not. Green beans are mixed with almonds — or not. So perhaps it is time to try something new — a tasty sauce for peas.

## Peas In An Egg Sauce

- 2 cups fresh or frozen peas
- 2 yolks of hard-boiled eggs
- 1/2 teaspoon pepper
- 1/8 teaspoon ground ginger
- 1/4 teaspoon salt
- 2 tablespoons honey
- 1 teaspoon wine vinegar
- 1 tablespoon oil

Cook peas your usual way. While they are cooking, make the sauce. Mash the egg yolks with the pepper, ginger and salt. Add honey, wine vinegar and oil. Beat until smooth. Put mixture in small saucepan and bring to a boil. Remove from heat, toss with the drained peas, and serve.

*The Honey Book  
by Lucille Recht Penner*

Recipes for fish that use honey are scarce. However, Sweet-Sour Sauce for fish is extremely successful, particularly with a flavorful honey. Cook fish by your favorite method, then pour this sauce over just before serving. A traditional side dish is rice.

## Sweet-Sour Sauce

- 3/4 cup pineapple juice
- 1/2 cup vinegar
- 1/2 cup honey
- 1 tablespoon soy sauce
- 1/2 cup water
- 3 tablespoons cornstarch

*Continued on Page 165*

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Dr. Larry Connor and Beekeeping Education Service have purchased Wicwas Press of Ithaca New York. The entire line of Wicwas Press publications is now available from BES and Wicwas Press dealers.

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### IMAGE ... Cont. from Page 149

your parking lot is not impressing your customers. In fact, it might just be telling them to go home, you don't want their business.

**BUILDING FRONT.** Again, this makes an impression on the customer. You need to see that windows are not cracked, and that they are clean. Displays should lure the customer in.

**STORE DOOR.** What is yours telling the customer? Is it telling him that you honor certain credit cards? Does it tell a customer you have been in business for a number of years? Does it tell them that you are a member of the local chamber of commerce or better business bureau?

If your door is doing its job, it is going to tell the customer quite a lot before they even enter the store.

**INTERIOR.** Atmosphere has a lot to do with the cash register receipt. If yours is modern, well lit, airy, soothing to the eye, clean and full of fresh air, your interior is telling the customer that yours is a professional business.

**CUSTOMER RAPPORT.** This one area can easily make or break your business. If your employees are sharp, prompt and professional, this part of your image is making you money.

For psychological reasons, the customer should always be greeted when entering the store. You may want to check the response time — using a stop watch — in order to see how your employees' response time fares out against your competitors'. You may want to see just how "realistic" the approach is to the customer. Most customers know when they are being given a canned welcome. It is worse than no welcome at all.

You may want to have your employees improve their physical appearance as well as the way in which they present themselves to the customers.

How knowledgeable are your employees? Are they willing to admit they do not know something or are they apt to answer questions in such a way as to tell the customer that they don't know what they are doing?

All of these aspects of the business image effect business. You can be one of the best advertisers in the area, you can have some of the best products and services in the world. However, if there is a wall between the two, you are losing sales. §



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## How To Use A

# DONOR COLONY

BY Phillip Mariola  
ATI, Wooster

## In Your Apiary

BEEKEEPERS LEARN their trade in many ways. There is an ample amount of beekeeping literature available in public and university libraries, as well as bee books sold by the supply companies. There are all sorts of beekeeping clubs and associations on the local, county or state levels, too. Much useful information is shared among beekeepers when these clubs and associations hold their meetings. Of course, there are the bee journals which are extremely informative and easy to read. Month after month there are articles to help beginners and experts alike, as well as little tricks which have worked well for others. In this brief article I would like to share one such trick which has worked well

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*“The real benefit of using a donor colony comes in the spring.”*

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for me for several years, and which may be of interest to others. It involves the simple use of one strong colony in an apiary to serve as a donor for the other colonies in the apiary.

My reason for using this technique is simple: I hate to feed sugar syrup to bees. There is almost nothing about feeding that I enjoy — from mixing the syrup to spilling it on my clothing.

My hives use two deep supers for the brood chamber, and my honey supers are the 6-5/8", or Illinois size. For the past few years I have given one of the strongest colonies a third deep super with which to do as it pleases. By summer's end they have usually filled this third deep with honey as well as an Illinois super on top of it. The third deep super is left on when I harvest the honey crop, while all of the other colonies are reduced to their original two deeps. Before closing the colonies up for winter, I lift-test them. If a hive or two is a little light I simply exchange a couple of empty combs from the light hive with combs full of honey from the third deep, my donor colony.

Most often though, most of my hives are heavy enough in the fall. The real benefit of using a donor colony comes in the spring. If, during my first spring inspection, I find a hive or two which has only a little honey left, I simply pull out a couple of frames from the top of the donor, brush off any adhering bees, and give them to a light hive in exchange for empty combs.

I have been through the sugar syrup routine too many times. Our northern Ohio climate is very fickle. I have put feeders on several times in the past on a warm spring day only to watch it snow the next day with cold winds. If my bees had to rely on a feeder full of sugar syrup they would be in serious trouble. As it is, they are enjoying the luxury of

natural combs full of honey, courtesy of their friendly neighborhood donor colony.

Needless to say, always check the donor colony for disease before using any combs for other colonies. This is very important. I inspect the donor colony in early autumn, and it is the first colony inspected in the spring. In any beekeeping system where combs are exchanged between different colonies, all involved need to be checked for disease.

I still prefer this technique to mixing sugar syrup, spilling it all over myself, wondering what awful fungal creatures are developing in it after a few days, and fighting the whims of mother nature in April.

If you use 1-1/2 stories for your brood chamber, the same principles apply. You need to leave on an extra shallow or Illinois super, depending on what size is used for the second super in your system.

I don't pretend that this donor system would be attractive on a commercial beekeeping scale, nor would it be attractive to someone who is able to sell all of his/her honey at a top price. Yet for the average hobbyist or small sideliners it can work very well. It has certainly simplified my spring beekeeping chores since I adopted it. §

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# BEE TALK

By RICHARD TAYLOR • R. D. 3 • Trumansburg, NY 14886

*"Others feel the future of beekeeping is bright, and as I have thought about it, and learned, I have concluded the same."*

**T**ime to talk about the *Varroa* mite. I've been intending to do this for some time, but have waited until I could feel reasonably confident of my views. I have had no first-hand experience with this pest, my closest acquaintance being to observe a couple of the mites in a bottle of alcohol. I have therefore turned to those who have studied the problem in Europe and elsewhere, particularly Roger Morse, whose views on this subject seem to me thoroughly informed, well-balanced and sound.

My concern has been about what the discovery of this pest portends for the future of beekeeping. Bees have been a constant source of joy and fulfillment in my life for over fifty years, and in these feelings I am, of course, far from alone. Are these joys and satisfactions now threatened? Will there still be the same exhilaration in standing in the middle of our apiaries in spring, sensing the energy of the bees rushing to the fields and then back with their precious loads? Will we still thrill at the sight of supers filling and snow-white cappings spreading over the combs? Or are we going to be reduced to an endless enervating battle with this hideous parasite?

Well, Dr. Morse thinks the future of beekeeping is bright, and as I have thought about it and learned all I can, I have concluded the same. The *Varroa* mite is something we must learn to cope with. Control measures are known and will soon be made available. No responsible person is talking about eradicating the mite, as though this were even remotely possible, nor do we hear much about depopulating affected colonies, as was done, at enormous cost, when the tracheal mite first appeared. These mites are now with us for good. It would be nice if we could just make them go away, but that would be dreaming, not coping.

*Varroa* attacks the larva in the capped cell. The mites mate and lay their eggs on the larva just before the cell is capped over. The males, as I understand it, die within the cell after mating, so the only adult mites one ever sees are the females. These are visible and can be seen, sometimes, clinging to the adult bees. But the real damage is done to the brood. The developing bee sometimes survives the parasitism of the mites, if they are not numerous, but as the numbers of mites increase, the bees either perish in the cells or emerge deformed. If control measures are not taken then the infested colony dies out within three or four years, or even less in the south.

**T**hat's not a very appealing picture, is it? But on the brighter side, there are fairly simple ways of testing for the presence of *Varroa* mites. The most common method of diagnosis is to put a piece of white paper on the bottom board and examine the debris for dead mites that have fallen there. And as for control, the most promising method seems to be the insertion into the brood nest of plastic strips sold under the name Apistan. These are impregnated with something called Fluralinate, which is toxic to the mites but in proper concentrations quite harmless to both bees and people. The bees come in contact with these strips and thus transport minute quantities of the miticide throughout the hive, killing the adult mites.

What I have said here, about detection and control, is very general, intended merely to give readers a rough idea of the nature of the problem and how it is going to be dealt with. The Apistan strips are not yet available for general use, but I am sure that they, or something very much like them, soon will be. For the long term there is a

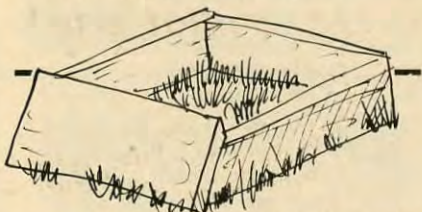
strong possibility of developing a resistant strain of bee. Africanized bees, for example, appear to keep *Varroa* in check very well.

I'm sure that quite a few beekeepers are going to start testing their colonies for the presence of mites this coming season, but I'm also sure that many more will not. I'll probably wait until fall and then check out some of mine, having in the meantime learned exactly how to do this. Eventually, though — within a very few years, I would guess — every serious beekeeper will need to check his colonies routinely. Perhaps as often as once or twice a year, and probably apply control measures nearly every year, most likely in the fall, after harvesting his honey, and when brood rearing has tapered off.

And what does all this mean for the future of beekeeping? Dr. Morse thinks it portends some widespread changes, and he seems to me to be right. In the first place, the neglectful beekeeper, who just has a hive or two out in the back of his house and who never does much with them, is going to disappear from the scene. By the time he learns what is wrong with his bees it will be too late, and he will not have sufficient interest or determination to deal with the problem. This, it seems to me, will be a welcome development, for I have never had such sympathy for the kind of "beekeeper", who just lets his bees go, sometimes not even bothering to harvest honey from them, and who reads no bee books or bee journals. I have always thought that people should be serious about what they are doing, or not do it at all. So this will not seem to me a baneful result. Beyond this there is surely going to be a change in commercial beekeeping too. The day is probably over when a beekeeper could simply set up apiaries in far-flung locations, super them up and then just let them be until time to

harvest the honey. All of which means that beekeeping, for both the backlotter and the commercial honey producer, is going to become more *intensive*. And this, I think, is a welcome thing. The message is going to be: Take your beekeeping seriously — know what you are doing and do what needs to be done — or leave beekeeping to those who are serious about it. §

Questions and comments are welcomed. Please use the above address and enclose a self-addressed, stamped envelope for a prompt response.



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# NEWS RELEASE

By DAVID GREEN

**M**any people are not aware of a major agricultural event that is occurring now in surrounding fruit orchards — the pollination of spring bloom. Beekeepers have been rushing to get bees ready and most cherry orchards have already had hives placed. Bees that were “tucked in, and kissed good night” last fall have been ‘roused and are raring to go to work.

Truckload after truckload of humming beehives are arriving from all over because our state cannot provide the thousands of hives needed for our apples, not to speak of those that are brought to cherries, peaches, pears, plums, strawberries, raspberries, cucumbers and blueberries. About a third of the needed bees normally come from outside our area.

Pollinating beekeepers are professionals who know how to get the most out of the bees in terms of blossoms visited. The bee colonies must be strong enough to do the job, yet not so strong that they get crowded and swarm while in the orchards. Swarming is the bees’ natural way of reproducing, but they get all excited before swarming and do not do much work. After swarming, only about half the colony is left, so it is weakened as a pollinating unit.

Fruit growers contract with beekeepers to provide hives for their orchards at the right time. If too many apples set, growers can thin the crop, but there is no way to put more apples on the tree after bloom is finished.

Moving bees is a difficult and challenging job, best left to the pros. As much as possible, the bees are moved after dark or during cold or wet weather, so flying bees are not lost.

As in any field, there are fast buck artists, beekeepers who cheat growers, and count on the fact that most people are afraid of bees and will not observe

them carefully. Some beekeepers place nearly empty boxes in the orchard with just a few hundred bees and hope they don’t get caught at their game. Pollinating hives should twenty to thirty thousand bees.

If you want to see if an apple or pear is properly pollinated, slice it crossways and count the seeds. If it had had only one or two seeds, it probably dropped off the tree. Three to five seeds makes a small, sour, and often lopsided fruit. Six to ten seeds are needed for maximum size and sweetness.

One of the finest new apple varieties, the Empire, tends to run small, and seed counts show that poor pollination is often the reason.

Extra bees are needed for Red Delicious apples, because its’ blossom is shaped differently from other apple blossoms. Because of its shape, it is easier for bees to reach the nectar from the side, but “sideworkers” do not contact the pollen and spread it to other blossoms. Pollination depends on young bees that have not yet learned the trick.

Pears have nectar with little sugar, and bees prefer almost any other bloom. Frustrated farmers often observe that the bees that are placed in a pear orchard soon go over to the neighbor’s apple orchard. It’s best to wait until the bloom is about a third open, bring in the bees on the morning of a warm, sunny day, mow the dandelions, and hope they get the pears set before they notice the apples next door.

The role of the bees in pollination is far more important than their better known role as honey producers. US Department of Agriculture estimates that the bees pollinate about a hundred dollars worth of crops for every dollar’s worth of honey they produce.

Besides fruit, bees pollinate cucumbers, melons, squash and pumpkins, beans soybeans, cotton, sunflowers, buckwheat, seed alfalfa, clover and other legumes, most vegetable seeds, and many wild plants that provide seeds and berries for wildlife. §

News releases will become more and more important for members of this industry. Getting the correct information to the press, in a timely manner is THE MOST IMPORTANT aspect of any news release. But no less important is that beekeepers continue to do this. One shot WILL NOT convince anybody that we are worthy of notice. Persistence is the key word here. Do not give up, do not give up, do not give up!

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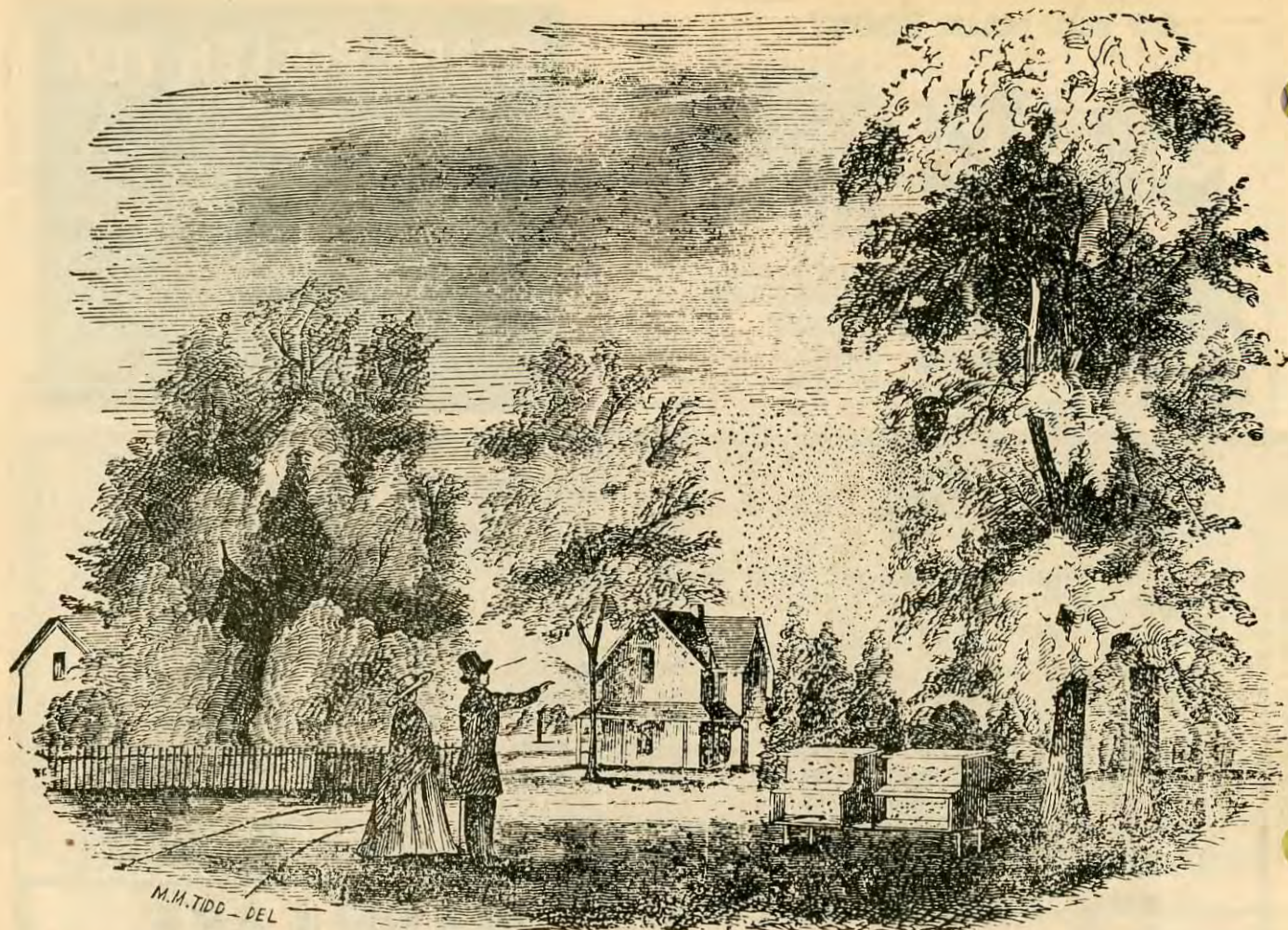
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IN ENGLAND, the King declared, by law, that whenever a swarm of bees emerged the beekeeper would drum on tin pans or ring a bell. This signaled that the bees that were in flight were his and he was the only one able to claim them. As this custom was passed down through the years it took on a new significance.

Beekeepers began to hypothesize that the noise from ringing bells or drumming on tins was essential to *cause* the swarm to cluster. The noise created from their actions was thought to drown out the queen. The bees, being confused as to the direction in which to go, would cluster to gain their bearings. It was not known at the time that it was the scouts who found and directed the queen and workers to their new location. Times have changed and most beekeepers aren't even home when a swarm issues. However, if your hobby is known to your neighbors, no time is usually wasted in alerting you about the invasion that has started. All one needs at this stage is his personal swarm catching tools.

**W**ith swarms about to issue let's examine some

historical catching devices. The "butterfly" catcher was a common item. It consisted of a hoop of stout wire or band of iron approximately 20 inches in diameter. At some point the hoop was attached to a wooden handle of desired length. A cheesecloth bag, of the same diameter as the hoop and 4 feet or so in length was attached to the hoop. The cheesecloth provided plenty of ventilation so that the bees which were confined were able to breathe.

To use the "butterfly" catcher simply place it under the swarm and gently scrape the cluster from the limb. After the bees have fallen into the bag turn the hoop onto its side to confine them. You are now ready to carry them to their new home. To remove the bees, simply turn the cheesecloth inside out.

A. E. Manum designed his own catcher. It was a wire-cloth basket in the shape of an inverted pyramid. At the point of the pyramid, a ring was attached which aided one in inverting the device to hive the newly acquired bees. To hold the basket open, opposite corners were attached to two

*Continued on Page 160*

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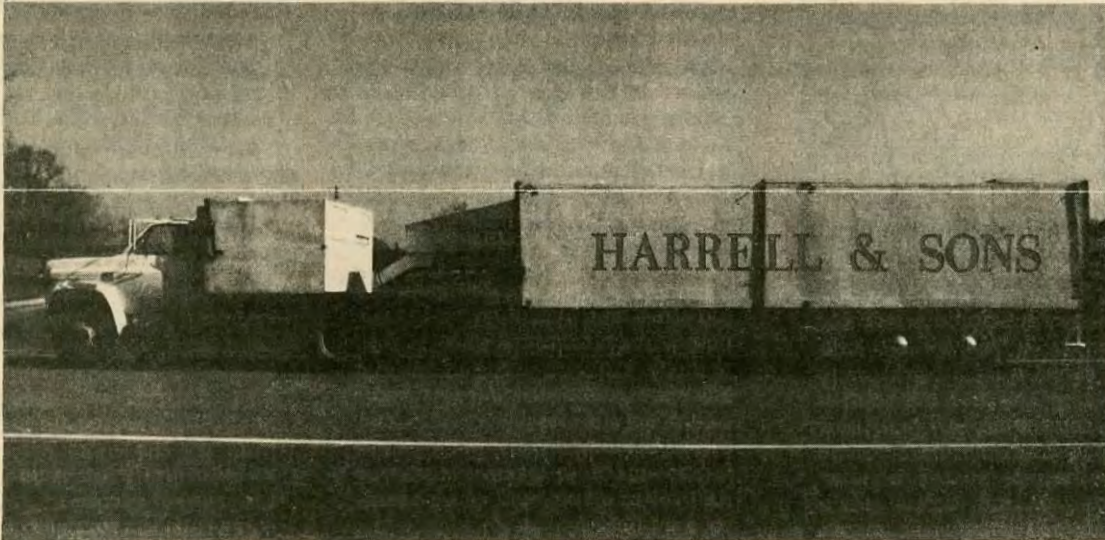
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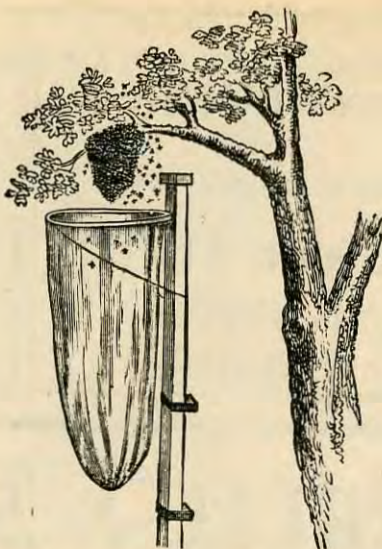
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separate rods which later joined the handle. A lid was attached on one side of the basket with hinges. Later, Manum added two legs to the base which created a tripod mechanism. These legs would be spread apart and pushed into the ground. One could suspend this mechanism in the air where the bees were flying and hope that they just might alight upon the catcher when it was time to cluster.

Once the bees clustered, the beekeeper simply folded up the legs, lowered the basket, closed the lid and the unit was again mobile. If the bees were already clustering when one arrived, Manum's device could be placed around them. To dislodge the bees one simply gave the limb a quick jerk, and as the catcher was lowered through the limbs the lid would be shut. All that was needed to secure the swarm was the queen for the remaining bees would join the cluster.

**T**o acquire control over high limbs a swarm hive hook was invaluable. It was an iron hook, similar to a shepherd's crook, designed to encompass an average limb. When mounted on a long pole, it was employed to provide a quick even jerk, but only after the beekeeper's catcher was in place. For those adventurous beekeepers who wanted to reach the high limbs and have the bees within arms reach, a swarm ladder proved indispensable. Regular ladders were just too awkward to secure one's footing within the numerous branches of a tree. A Bohemian, by the name of R. Strimpl contrived a swarm ladder which would reach into those high places. The ladder had two side legs which were fastened to the base. The pointed ends were easily pushed into the ground to secure stability. The climbing portion of the ladder was a single pole with evenly spaced bars. The ladder would be strategically placed amongst the upper branches to permit the beekeeper to climb within reach of the cluster and claim his prize.

Even with all these devices some beekeepers wanted to make catching a swarm even easier. A swarm catcher cage was developed to catch and cage the swarm in one easy step. The trap consisted of a large oblong wire-cloth cage, 3 to 4 feet high and 12 to 15 inches wide. One end of the cage was designed to fit over the hive entrance. As the bees started to emerge, the beekeeper would attach the swarm catcher cage to the hive entrance. After all the issuing bees were out and confined within the cage, one would prepare a



new hive and shake the swarm into it. The major drawback to this invention was that the beekeeper had to be on hand to install the cage and must do so as the swarm initially emerged.

**A**nother innovative approach to "heading them off at the pass" was the automatic hiver. The beekeeper would place another hive near the one which was suspected to swarm. Their entrances would be joined by means of a wire cloth tube. Contained within the tube was a wire cone just large enough to permit the queen to pass. The theory behind the automatic hive was that the bees would "swarm" right into their new quarters which the beekeeper had provided. The principle was simple: as the queen emerged she would journey down the tube and pass through the cone. Being unable to retrace her steps she would enter the new hive along with the bees who followed her. The beekeeper would then move the hive to its new location.

The bees were content since they had swarmed and the beekeeper was happy because he had secured the swarm with minimal trouble. However, we couldn't determine how long this hiver could remain on the two colonies. We surmised that if fully drawn comb were present in the new quarters and a top entrance was provided for the swarming colony, the automatic hiver might be able to be installed a week or so before a swarm was suspected. The field bees would then travel along the tube, through the new hive and out the top entrance. This particular set-up would allow the bees' daily routines to continue. For just before swarming, the field activities slow down in order to prepare for the mass exit.

Every beekeeper has his unique

device which was constructed to catch those illusive swarms. The ones described above might be a seed which develops into a new improved piece of equipment. Whatever you use, good luck in your pursuit and remember:

"A swarm of bees in May  
Is worth a load of hay;  
A swarm of bees in June  
Is worth a silver spoon;  
But a swarm in July  
Is not worth a fly."§

**References**

Root, A. I., *The ABC of Bee Culture*, A. I. Root Co., Medina, Ohio, 1905.

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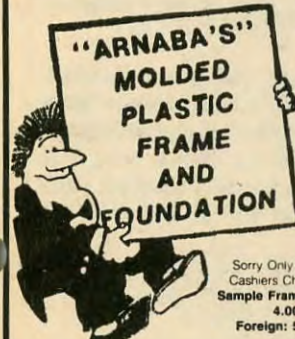
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## Answers To Testing Your Beekeeping Knowledge

- 1. False** Brood rearing in honey bee colonies normally begins in northern temperate climates in late December or early January. It appears that an increasing day length stimulates a queen to lay eggs. Some of the early eggs that are laid either fail to hatch or are eaten by the workers. Brood rearing gradually increases in late January and February and rapidly increases as soon as fresh pollen becomes available.
- 2. True** Since queens are reared from larvae that have hatched from fertilized eggs, queens can be produced at any time workers are being reared by the colony and a stimulus is provided to raise queens. Since brood rearing may occur during the coldest part of the winter, these queen larvae may not receive large quantities of royal jelly due to limited supplies of pollen, and environmental conditions may not allow the queen to take a mating flight. Under these conditions, drones are not usually available for the queen to mate with either. Even though queens can be reared during the winter, colonies will not end up with high quality, mated queens.
- 3. True** European foulbrood and chalkbrood are often considered to be stress diseases and are usually most prevalent in the spring when the broodnest is rapidly expanding and rearing conditions are marginal. Nosema is also most prevalent in the spring since colony confinement during the winter encourages disease buildup.
- 4. False** Only adult female varroa mites are found on adult bees and can live outside the brood cells. This behavior allows the mite to survive the winter when the colony is not rearing brood. Varroa mites can only reproduce when the colony is actively raising brood. The female mite when she is ready to lay eggs moves into brood cells containing young larvae just before the cell is capped.
- 5. False** Chalkbrood affected larvae are normally found on the outer fringes of the brood nest where

sufficient nurse bees are unavailable to maintain brood nest temperature.

- 6. False** Hive top feeders are made of wood or plastic that cover the top of the hive and are used for the feeding of large quantities of sugar syrup.
- 7. False** Both cane or beet sugar (sucrose) are normally used in preparing sugar syrup for honey bee colonies found short of food in the spring. Brown sugar, molasses, and corn syrup are not recommended as a food source since they contain complex carbohydrates and other materials that honey bees are unable to digest and use.
- 8. B) 40°F.**
- 9. A) 60°F.**
- 10. E) 43-46°F.**
- 11. Division Board Feeder**
- 12. White Sugar, Water, Glucose or White Corn Syrup, Cream of Tartar, Honey** (some recipes call for it but is not recommended because of potential disease transmission), and vinegar
- 13. Dead colonies should be closed up and removed from the apiary as soon as possible.** Failure to follow this recommendation could result in the spread of disease when the combs are robbed out. Leaving the colony in the apiary or improper storage of the equipment will result in molds growing on the combs and honey that remains may absorb moisture and ferment. The dead, rotting bees may also damage the combs.
- 14. The bees on the surface of the winter cluster serve as insulators, forming an insulating shell which varies in thickness from 1-3 inches.**
- 15. The rectum of the honey bee is a storage chamber for the retention of feces until defecation can occur outside of the hive.** In overwintering bees the rectum may become so greatly distended as to occupy a large part of the abdominal cavity before defecation occurs.
- 16. The primary markets for high-fructose corn syrup or isomerized**

syrups are the producers of soft drinks and various baking industries. Therefore, the companies that produce and sell these syrups only handle them in large quantities. Only large commercial beekeepers who have several thousand colonies and a large tanker truck are able to purchase these syrups and use them as a source of bee food.

### ANSWERS TO EXTRA CREDIT QUESTIONS

- 17. Most fat bodies are located within the abdomen of the adult honey bee.**
- 18. Fat bodies function as production and storage sites for reserve food material, chiefly fats, glycogen and protein compounds.**
- 19. True** In temperate climates, bees produced late in the season rear little brood, and fat body protein content is relatively high. These winter bees have to live for several months, through the winter and the spring. In contrast, the fat bodies of summer bees born during the active brood-rearing season, contain less protein and typically live 6-7 weeks. Protein is apparently stored in the fat body cells until it is needed for the synthesis of brood food. Summer bees from broodless colonies also exhibit a higher protein content in their fat bodies, and live longer than summer bees taken from colonies that are rearing brood.
- 20. False** The contents of adult nurse bee fat bodies vary according to the season. During active brood rearing periods, their fat bodies are swollen with fat, but are almost devoid of any protein compounds. When brood rearing decreases, protein content in fat body cells of adults increases.
- 21. True** Nutrition plays a crucial role in the development of honey bee fat body cells. In the winter and early spring, the fat bodies of bees are usually depleted of fats, indicating that these reserves are drawn upon when honey bees cannot forage for an extended period of time.

There were a possible 25 points in the test this month. Check the table below to determine how well you did. If you scored less than 12 points, do not be discouraged. Keep reading and studying — you will do better in the future.

Number Of Points Correct
25-18 Excellent
17-15 Good
14-12 Fair

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# QUESTIONS?

**Q.** *If I send in dark wax cakes to have them processed, can they refine them so that it comes back as light foundation?*

Name withheld by request

**A.** Yes, you can swap dark wax for light foundation, including comb honey foundation. The foundation you get back will not normally have been made up from the very wax you sent in, but this is of no consequence.

**Q.** *Does 5/8" plywood work for making bottom boards?*

Fred Schwarz, Clark, NJ

**A.** Sure. To save money get construction grade 5/8" plywood (rough on one side), put some sort of preservative on the smooth side, leave the rough side untreated and facing up, and have these bottom boards on stands up off the ground. I have several such bottom boards that have been in use for years.

**Q.** *What can you do with old black slumgum that you've melted all the available wax out of?*

**A.** Use it to start fires in coal stoves, wood stoves or fireplaces. A small dry lump, added to kindling, will burn with a fierce heat and help ignite either coal or wood. Be careful not to use too much at once; a lump about the size of a golf ball is plenty.

**Editors Note:** You can also add slumgum to your compost pile, or compost it by itself. After the necessary year (2 summers), it will make an ideal soil amendment if you have a clay or sandy soil. It does, however, tend to acidify soils if used in large quantities.

**Q.** I would like to cut the cost of my honey and pass the savings along to my customers, perhaps by using containers other than the honey bears and pint and quart jars I now use. Some of the alternatives would be gallon milk jugs, two-liter coke jars and whiskey bottles. What do you think?

Oliver Addis, Rocky Face, GA

**A.** The idea of using recycled glass jars is a good one, but what you have in mind will never do. People are not going to buy honey in whiskey bottles, milk jugs or even soda jugs. On the other hand, clean coffee jars, mayonnaise jars, juice jars and the like are very suitable. The three requirements are that they be clean, have tight-fitting lids and wide mouths. Friends and neighbors can save these for you, and they can also be picked up very cheaply, sometimes in large quantities, at yard sales. Wide-mouth gallon jars, which would probably cost a dollar each if purchased new, can be picked-up for nothing from restaurants, hospitals, etc.

**Q.** *For the first time in twenty-five years of beekeeping I got some fermented honey this year. I find there is an abundance of information on the sources of fermented honey and how to prevent it, but nothing on what to do with it. Can it be fed back to the bees?*

Bob Sisler, Bothell, WA

**A.** The fermentation process can be halted by heating the honey to about 150°F., but the honey will not then be good for much of anything except, possibly, baking. There is nothing wrong with feeding it back to your bees, and next year's crop will not be adversely affected, especially if you feed it back in the spring. The bees will reprocess it before using it.

**Q.** *What is your recommendation with respect to queen excluders?*

Robert Lacy, Shade Gap, PA

**A.** I think they are not needed in comb honey production, which is my specialty, but are generally desirable in producing extracted honey, to prevent the darkening of extracting combs. A colony that has honey in the top of the hive when the super goes on does not need an excluder, because the honey itself acts as a barrier to brood rearing above it. A queen excluder does not, in my opinion, inhibit the storage of honey, although it does cause the bees to store honey below the excluder, where the brood is, before storing it in the supers. It is thus the location of the brood, rather than the excluder itself, which sometimes delays honey storage in the supers. An excluder certainly does not inhibit nectar gathering when there is a flow in progress.

**Q.** *I cannot seem to solve my swarming problem. I clean the hives, pull out empty drawn combs and replace them with frames of foundation, add supers, and so on. What's wrong?*

Harvey B. Moats, Canton, IL

**A.** It does not accomplish much to remove empty combs. Swarming results, not from overcrowding of bees, but from congestion of the brood nest, that is, by a brood area that is filled and cannot be expanded. Try this: Before any queen cells get started, remove a couple frames of brood, bees and all, right from the center of the brood nest, replacing these with empty comb or foundation. Repeat in about ten days. This usually nips the swarm impulse without really weakening the colony, as the new combs fill up fast with new brood. The brood combs you remove can be put together, bees and all, given a new queen, to start new colonies or nucs.

---

Questions are welcomed. Send to Dr. Richard Taylor, R. D. 3, Trumansburg, NY 14886, and enclose a stamped, self-addressed envelope for a prompt personal response. §

---

# & ANSWERS!

by Richard Taylor



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1/3 cup each: green onion strips,  
green pepper strips and pineapple  
chunks

Heat the pineapple juice, vinegar,  
honey, soy sauce and water. Mix the  
cornstarch with a little water, then  
add it to the heated mixture. Continue  
heating, stirring constantly, until  
clear and thickened. Add the green  
onion, green pepper and pineapple  
chunks and heat gently a few minutes  
longer. Pour over cooked fish.

adapted from  
*James Beard's Fish Cookery*

Many people consider fresh as-  
paragus to be the announcement that  
spring has arrived. I had always eaten  
my garden's crop gently steamed with  
a bit of butter (actually many tender  
stalks were eaten raw before they ever  
got inside the kitchen). However, one  
day it was time to try something new.  
This recipe is certainly worth a try.  
The flavor of asparagus is enhanced,  
not hidden.

### Honeyed Asparagus

4 tablespoons butter  
1 tablespoon honey  
2 cups cut-up asparagus (1-inch)  
1 to 1-1/2 cups rich chicken stock

Melt butter in skillet. Add honey and  
stir until mixed. Add asparagus and  
saute 2 minutes. Be careful it does not  
burn. Add the chicken stock, cover and  
cook over medium-low heat for 3 min-  
utes. Cook uncovered for 2 minutes to  
reduce sauce. Serves 3 or 4.

adapted from *Asparagus*  
by Nancy Clarke Hewett

And so, whether you are greeting  
spring with snowstorm or flowers, put  
something new on the menu tonight. §

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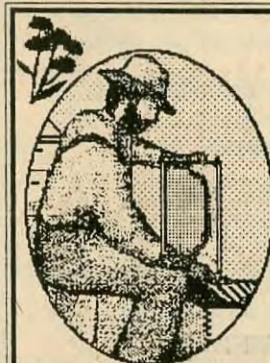
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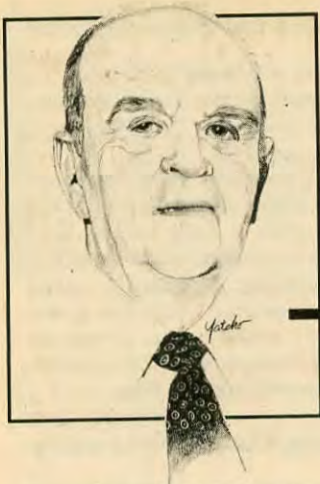
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# KOOVER'S KORNER

By CHARLES KOOVER • 1434 Punahou St. #709 • Honolulu, Hawaii 96822

*"Are you just beginning? Read on!"*

**I**f I could start all over again the first thing I would do is to get Root's book "Starting Right With Bees". The next thing I would do is to subscribe to *Bee Culture*. So far, so good. But then I strayed. In *Bee Culture* I read what the big boys were doing and that's where I went wrong. They were trying to make a living from bees, while all I wanted to do was have fun. You can't mix the two. Making a living from bees is long hours of hard work.

Of course I experimented with my bees for the entire 43 years I had them (which was awfully hard on the bees.) Now I wish I could pass onto you the things I have learned the hard way. So if you are open minded, which I was not, I can save you a lot of disappointments.

I am happy to say that my best ideas came from foreign bee magazines because they mostly keep bees for pleasure. For instance, I

learned to put 11 frames in a brood chamber which came from New Zealand. I used it successfully and for surplus honey I used the Manley frame. It's a joy to use with 9 closed ended frames in an Illinois super. It saves your back. Even women can enjoy it.

When you read this it's still winter, and you can assemble your first hive which you can buy as a beginners package. See the catalogs which you should write for.

**Q**uestions will come up in your mind whether to use molded waxed plastic foundation or ready wired foundation. Either one is good. The days of wiring your frames are gone. It is difficult to learn how to imbed your sheets of wax so skip that. But one thing I am very fussy about is my brood frames. I have learned that the best brood frames should be screw-eye

spaced. This means that AFTER you have assembled your frames by using carpenter's glue and the nails that come with them, I knock off the spacing edges and install my screw eyes. Ten of them per frame — two in each end bar, where they face one another, and three in the end bar where they face the wall. This means that one goes in the end of the top bar, another one in the end of the bottom bar and the third one near the top of the end bar to space the frame in the brood chamber. That's a lot of screw eyes. But it provides perfect spacing, and believe me it provides big dividends — like not killing a queen when she moves from one side of the frame to the other as she goes around the end bar, which she is apt to do. How many queens are crushed as they do that while you are lowering a frame back into the hive? Remember, you are keeping your hives for pleasure.

With the coming of perfect copying by machine of any printed material, it is possible for me to furnish any beginner with articles I wrote many years ago about methods then in use which proved successful. I have kept all of the articles I wrote for *Bee Culture* in binders, and will furnish information on important beekeeping subjects to my fellow beekeepers — at a cost of 10¢ a sheet. The reason I am doing this is that I have to consider the experienced beekeepers and not bore them with "basic beginner" stuff.

There are too many books on beekeeping, all expressing different methods and practices. It confuses the beginner (and many experienced). I have lots of time in my old age, and I like to do my little bit to see that you are successful from the start of your most wonderful hobby. §

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## CAN-AM APIARIES

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But it was *really* winter in Dallas. Freezing rain — lots of it. We sat in the plane for an hour before they let us off. The gates were that crowded. It didn't make any difference, my connecting flight was cancelled anyway. Welcome to Dallas.

The next possible flight was at 9:30 the next morning. It was 5:30 p.m. Local traffic was sporadic, at best. Cabs, busses and courtesy vans were slow, slower or down. Very little was moving. By 9:30 that night I had found a hotel with a vacant room, and managed to get there. But getting there was an adventure.

I met 3 fellows from the Akron area on their way to an Army Reserve meeting somewhere in west Texas. We all managed to find the same hotel, and waited outside for the courtesy van to pick us up. And waited. And waited. After an hour, talk of the Twilight Zone became common.

Then along comes the guy from sunny Florida. Windbreaker, tennis shoes and no socks. It was 23° out and still misting. He was pretty uncomfortable. In 20 minutes he was blue.

After another hour the pros and cons of stealing a car were discussed in earnest, but we didn't know where the hotel was, so we gave it up. The guy from Florida kept talking about it though. He was bordering on purple by now.

Finally, we grabbed a lone, roving cab. A congenial driver said sure, he'd take seven of us for a small fortune and our first born. He had us over the proverbial barrel and he knew it. We took the ride.

The courtesy van was running the next morning and I got back to the airport by 7:00. The 9:30 flight was cancelled, so what else was new. But there was a remote chance of getting a stand-by on another airline, in another terminal. You had to take an airport bus to the other terminal and the busses weren't running on schedule, or weren't running at all, I'm not sure. I waited until the potential flight was supposed to leave and gave up on the bus. I found out later the flight was cancelled anyway. This is not fun anymore.

It's now 9:00 a.m., I hadn't eaten since noon the day before, and my next scheduled flight didn't leave until 6:00 that evening.

Diana, a far more experienced traveler than I, has taught me much about contingency plans. I had brought adequate winter gear, reading material and lots of work. It could have been worse I guess.

And watching several thousand people, mostly all under stress of some

type can be rather entertaining and educational. Of course, you have to *not* be under stress yourself to enjoy all of this. Knowing you are in a situation over which you have absolutely no control can be completely frustrating. But what can you do? Make the best of it, smile, and watch:

- The young couple with 3 small kids, sleeping together on a blanket on the floor.
- The lady who had her seventh flight cancelled in 30 hours finally break and attack a ticket agent with her suitcase.
- The elderly lady who was out of cash from making phone calls for a day and a half and couldn't call her children to let them know she would be late, again. She got about \$10.00 in instant loans from those of us sitting nearby.
- The aide to a presidential candidate who absolutely, positively had to be in New Hampshire that night. (He didn't make it.)
- The ticket agents, who probably took more verbal abuse in a single day than any of us have in a lifetime.
- A foolish pilot trying to move his plane and only sliding sideways.
- A luggage crew unloading a mail plane, and dumping 4 letter trays on the tarmac (at about 1300 letters per tray). They laid in the rain for nearly an hour, by the way.
- Airport food. No comment.

I finally made it out of Dallas, after almost 2 days, and I even made it to the meeting in time to give my talk. And, although I didn't learn a whole lot about beekeeping, I discovered much about people under stress. But more important, I learned how some people can come just a bit unglued when in a situation over which they have no control.

There was another meeting in January, where I watched a lot of people do just the opposite.

Given what could have been a hysterical situation — an uncontrollable pest let loose in the U.S., with a reputation similar to ole Nick himself — this industry has not thrown in the towel and given up.

The federal people, wearing the hats of USDA, APHIS, ARS and EPA have moved with relative lightning

speed in the areas of information dissemination, making and changing rules and regulations in favor of the majority of the industry and spearheading (or assisting in) research that will ultimately aid in the short term answers we need.

But there are numerous state agencies who have moved at the same, if not faster, speed to accommodate beekeepers in their respective states.

Think about it. Varroa is discovered in late September and within 120 days, there is a legal product available (albeit with strict regulations and limitations) and a training program IN PLACE to teach beekeepers how to use it.

For something as large as the federal government that's blinding speed. Undoubtedly we have friends in high places.

So, back to the meeting. The ABF held it's annual confab in TX (I wasn't keen on returning, but they weren't going to change it on my account). Of course the hot topic was varroa, and the concensus by the researchers, government agents and regulatory folks was that there was light at the end of the tunnel, and by gosh, we're going to make it.

No panic, no hysteria, but only (and I use this word carefully) legitimate concern on the part of some. And that concern is really legitimate. It deals with two things really, different by a large degree but both important.

The first is universal in beekeeping — the fear of contamination of a food product with a pesticide. Misuse, abuse or other problems can and will taint a product with a near perfect reputation for natural purity. The age old and certainly incorrect philosophy that if some is good, more is better **MUST NOT EVER BE USED IN A BEEHIVE!** Period.

The second concern, voiced by several package and queen producers, is "what will happen this spring?" With the closing of the Canadian border, many U.S. businesses have been caught in a bind. They will be moving their product elsewhere this year, and are worried that some states will reject, out of hand, any shipments of bees from anywhere.

Spokesmen from Zoon feel confident something will be available by this spring, but wouldn't (or couldn't) give a hard date.

However, with the efforts we've seen from the powers that be in government already, we feel fairly certain that if there is a treatment, it will be made available ASAP. Good news all around, and a sure sign that this industry is not like many of those folks I watched at the airport. §

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# NEWS...

## Apistan Approved for Varroa Mite Control

In late January, the Environmental Protection Agency approved a special exemption requested by the USDA for the use of APISTAN in the control of varroa mite.

APISTAN is a plastic strip containing Fluvalinate, and was developed by Zoecon Corporation of Dallas, TX, a division of Sandoz, Ltd.

According to C. W. St. John, Zoecon Manager of New Business Development, "Among the more than 146 different remedies tested to date to control varroa mite, Fluvalinate has shown the greatest promise."

In December, the EPA had allowed, by special exemption, the use of wooden blocks that had been soaked in liquid formulations of Fluvalinate. The liquid products are available from Sandoz crop protection for use in the horticulture market.

"This emergency action has been used in some countries to attempt control of varroa, is not the optimum treatment for varroa with the chemical," stated St. John.

Nevertheless, Florida officials began training beekeepers and regulatory agents in the technique of this method in January. "We realize this is a stop-gap measure," said Lawrence Cutts, State Apiarist, "But until the plastic strips are available, it's all we have". Zoecon expects to have APISTAN available to state and Federal offices before March 1, 1988.

Training sessions for Florida Beekeepers began only after a training manual and a compliance form had been prepared by Florida officials and given the nod by EPA.

"APISTAN gives the beekeeper the ability to use Fluvalinate in predictable and measurable levels," says St. John.

"APISTAN offers a constant rate of release and a measurable duration that is not toxic to bees, but is effective in controlling varroa", he went on.

"This is not the case with the wooden blocks," he said. "We just can't control all the variables with this method. Wood blocks (made of plywood) absorb the chemical at different rates, thus releasing it at different rates. They can also vary in the duration of release. Also, there is another unknown here", he said, "And that's the glue that's used in plywood. We have no information on the reaction of Fluvalinate and these glues, nor the long term effects on bees, wax or mites. Because of all these variables, the wooden block method was never tested by Sandoz or Zoecon."

"For these reasons, Sandoz Crop Protection and Zoecon have stated they cannot assume liability for the use of Fluvalinate in this manner," said Dr. Shehata M. Shehata, Product Manager at Zoecon.

"Another variable we're just discovering is that we don't know the best place in the hive to place these wooden blocks", said Dr. Harvey Cromroy in Florida, Director of the ongoing mite research project underway there.

"All the numbers aren't in yet, but we're seeing enough variance to know that we don't have all the answers yet," he said.

Dr. Cromroy is working with USDA, Florida and Chemical Company officials in an extensive project looking

at not only Fluvalinate, but Amitraz, the Nor Am Chemical Company's control chemical.

"The results of this project will go a long way in answering questions on control, residue and sampling techniques so far unanswered", said Cromroy.

Officials expect this test to be completed in February, with results and analysis available shortly after that.

At printing, (early February), APISTAN was the only product with official approval for use by U. S. officials. By early March this may have already changed, but currently this seems unlikely. To keep beekeepers and regulatory officials updated on current events, Zoecon has instituted a beekeeper hotline. The number is 1 - 800 - 527 - 7481.

## Ban Of Honey Bee Importation Extended

OTTAWA, December 31, 1987. Agriculture Minister John Wise today announced that the ban on importation of honey bees from the United States has been extended.

The ban was first imposed in October to protect the Canadian honey industry from the effects of a potential infestation of varroa mites in honey bees.

"Our responsibility is to protect the Canadian beekeeper from this mite," Mr. Wise said. "The border will remain closed for a two-year period, until December 31, 1989."

The action in October closely followed the first confirmed North American finding of the mite, which is common to Asia and South America. Infested bee colonies were found in Wisconsin and Florida. They have since been discovered in other states. The pest attacks both honey bee larva and adult bees, seriously reducing honey production.

Some Canadian beekeepers do not overwinter their colonies, choosing instead to buy new colonies, usually from the United States, each spring.

"My officials are planning to meet with provincial bee specialists to identify alternate sources of bees," the minister said. "We will help all we can."

Agriculture Canada has already made the mite a reportable disease under the Animal Disease and Protection Act. Anyone who knows or suspects the presence of the mite in Canada is required under the Act to immediately report this information to an Agriculture Canada inspector.

For more information contact: Animal Health Division, Agriculture Canada, 2255 Carling Avenue, Ottawa, Ontario K1A 0Y9.

LATE NOTE: Due to recent discoveries in control and testing, some negotiations are underway to mediate this ban. **More Next Month.**

## ... & Events

### ☆ INTERNATIONAL ☆

Beekeepers course to be taught at Fanshawe College. Subjects include wintering, spring management, swarm prevention, nectar and pollen plants, pollination and honey harvesting and packaging.

The course will consist of four evening sessions at weekly intervals, plus six sessions at monthly intervals to be held outside. Course dates are: classroom - April 11, 18, 25 and May 2. Outside - May 7, June 4, August 6, September 10,

October 1 and November 5.

For more information contact: Mr. Joe Dunn, P. O. Box 4005, 520 - 1st St., London, Ontario N5W-5H1. Phone 452-4441.

Your Next Meeting Notice should be here. Why isn't it? Send in your information now, while you're thinking about it. Allow a 2 month lead time — 3 is even better.

## ☆ CALIFORNIA ☆

**INSTRUMENTAL INSEMINATION TRAINING** and Practical Bee Breeding Course. Designed for the serious beekeeper who wants to become familiar with the technique of instrumental insemination and plans to establish, or is operating a breeding program. The class is divided into two sections to provide the information necessary to develop and maintain a breeding program, and also to provide individual instruction in the technique of instrumental insemination.

**SECTION 1.** An intense one day seminar includes: basic bee genetics, various breeding systems with emphasis on the Page-Laidlaw Closed Population Breeding Program, colony selection methods and evaluation procedures, how to establish a selection index, pre- and post-insemination of queens, equipment set-up and adjustment, and a detailed, step-by-step slide show of instrumental insemination.

**SECTION 2.** The technique of instrumental insemination is precise. Consequently, individual class time will be arranged with each student at their convenience. This allows us to provide the detailed, individual, hands-on instruction necessary for you to become comfortable with the technique. Use of standard and large capacity syringes, glass tips, plastic tips, and the short term storage of semen will be covered.

Seminar class dates are June 18 and July 16, 1988. Fees for complete class including seminar and laboratory training is \$200.00. Seminar only is \$75.00. For more information, contact the instructors; Susan Cobey and Timothy Lawrence, at Vaca Valley Apiaries, 6745 Bucktown Lane, Vacaville, CA 95688. (707) 447-6723.

A beekeeping Workshop sponsored by **THE SACRAMENTO AREA BEEKEEPERS ASSOCIATION** will be

held on Saturday, April 23 and Sunday, April 24, 1988, from 9 a.m. to 4:30 p.m. at the Sacramento County Agriculture Extension Office, Building Q, 4145 Branch Center Road, Sacramento, CA.

This workshop will be taught by Dr. Norman Gary, Professor, University of CA, Davis. Dr. Gary is an excellent teacher, noted author and researcher in the field of beekeeping and bee biology. He will present information relevant to present and potential beekeepers with all levels of skill and interest in beekeeping. There will be movies on bees, hands-on demonstrations, and ample time for questions and answers. Probable topics to be covered include seasonal management, swarms, bee behavior, diseases and prevention, harvesting honey, and dividing colonies.

Fee before April 10 will be \$50.00. After the 10th, the fee will be \$60.00. For more information contact Nancy Stewart, 2400 21st Street, Sacramento, CA 95818. (916) 451-2337 (Days).

## ☆ KANSAS ☆

The 1988 Spring Meeting of the **KANSAS HONEY PRODUCERS ASSOCIATION** will be held at the Best Western Holiday Manor Motel, at the Junction of I-135 and U. S. Highway 56, McPherson, KS 67460, (316-241-5343) on Friday, April 8th, with registration beginning at 9 a.m. and on Saturday, April 9th, with registration beginning at 8 a.m.

Featured at the meeting will be Dr. Joe Moffett, ARS, USDA, Weslaco, TX. Dan Hall, Manager of the National Honey Board will speak Friday afternoon. Don Gunness, Abercrombie, North Dakota, inventor and manufacturer of the revolutionary new uncapper will also speak and display his product. The banquet Friday evening will feature a video of Howard Weaver and Sons, Inc. and the Weaver Family Apiaries, Inc. operations in Navasota, TX which is celebrating one hundred years of beekeeping.

More information can be obtained from Robert I. Brown, FGD 1, Box 96, Haddam, KS 66944, (913) 778-2954.

## ☆ MARYLAND ☆

**THE NORTH AMERICAN APIOTHERAPY SOCIETY MEETING** will organize the 7th Symposium Saturday, March 12, 1988. The Symposium will be a one day meeting, at the International Hotel, Baltimore-Washington Airport, Maryland.

All interested in Apiotherapy are

urged to attend to exchange experiences to further develop the program, as interest continues to grow.

For details of the meeting write to: Ann Harman, Pres., 15621 Aitcheson Lane, Laurel, MD 20707 or Christopher M. Kim, M.D., Monmouth Pain Institute, Inc., #9-C Union Square 500 Highway 35, Red Bank, New Jersey 07701.

## ☆ MICHIGAN ☆

**MICHIGAN STATE UNIVERSITY** will hold a Beekeeping ANR Week on March 22-23, 1988, East Lansing, Michigan.

**Tuesday, March 22**

**Kellogg Center Auditorium**

- 9:30 Visit and get acquainted  
10:00 Movie: Sexual Encounters of the Floral Kind  
11:00 "Learn the Natural Behavior of Bees Before Trying to Manage Them", Dr. Roger Hoopingarner, Dept. of Entom, MSU  
12:00 Luncheon, Michigan Beekeepers Association, and Michigan Wildflower Group, Big 10 Room  
2:00 "Everything You Wish You Didn't Have to Know About Varroa Mites", Dr. Malcolm T. Sanford, University of Florida, Gainesville, Florida  
2:45 Break  
3:00 "Honey Promotion, National, State and Local"

3:45 Questions and Answers

**Evening Program**

**Kellogg Center Auditorium**

- 7:30 Honey Queen Pageant  
•Beekeeper-of-the-Year Award, presented by Richard Hubbard, Hubbard Apiaries, Onsted, MI  
•Gadget Round-Up, Dr. George Ayers, Dept. Entomology, M.S.U. (Bring your favorite gadget for others to see)  
•Reception Following

**Wednesday, March 23**

**Kellogg Center Auditorium**

- 9:30 Visit and Get Acquainted  
10:00 Movie: Queen Rearing  
10:30 "Populations of Bees and Foragers", Walter Boylan-Pett, Dept. of Entom., Michigan State University, East Lansing  
11:15 "Two Queen Colony Management; and What Effect It Has On Honey Production", Roger Hoopingarner & Beekeeper Panel of Experts.  
12:00 Lunch on your own  
1:30 "Florida Beekeeping; Queen Breeding, Packages and Changes in the Industry", Dr. M. T. Sanford, Dept. of Entom., Univ. of Florida, Gainesville, FL  
2:15 Break  
2:45 "Rearing and Mating Queen Honey Bees", Dr. Roger Hoopingarner, Dept. of Entom., Michigan State University, East Lansing  
3:30 Questions and Answers

## ☆ NEW YORK ☆

**THE WESTERN NEW YORK HONEY PRODUCERS ASSOCIATION** will be holding a Beekeeping Seminar on March 12th, 1988 at the Erie County Coop. Ext. Building at 21 South Grove Street, East Aurora, NY 14052. The meeting will start at 10:30 a.m. and feature Dr. Edward E. Southwick from SUNY-Brockport.

Dr. Southwick will present a program on *Nectar Production in Flowers*. We can also look forward to an update on the Africanized bees. Dr. Southwick has just returned from a research trip in Panama where he studied the heat production of Africanized Bees. He will also have time to answer any general beekeeping questions.

The program will run until approximately 1:00 p.m. and the cost will be \$2.00 per person. Refreshments will be served. Any interested person is welcome. For more information contact Sally Potoczak, (716) 599-3491.

**THE WILLIAM H. MINER AGRICULTURAL RESEARCH INSTITUTE** will be holding its annual Beekeeping Seminar on Saturday, April 30, 1988 from 9:00 a.m. until 3:00 p.m. at Miner Institute in Chazy, New York. Dr. Richard Fell from Virginia Polytechnic Institute, Blacksburg, VA will be the guest speaker.

You may register at the door, but pre-registration would be appreciated. Registration will begin at 8:30 a.m. with the program starting at 9:00 a.m. The cost will be \$10.00 per person and this fee will cover coffee, donuts, lunch, handouts and membership into the Champlain Valley Beekeepers Association.

The meeting is sponsored by the William H. Miner Agricultural Research Institute, and the Champlain Valley Beekeepers Association. For further information, please contact Loretta Surprenant, Miner Institute, Chazy, NY 12921 (518) 846-8020.

## ☆ OHIO ☆

**THE OHIO BEEKEEPERS ASSOCIATION** will hold their spring meeting on Saturday, March 19, 1988 at the Ohio Fire Academy, 8895 E. Main St., Reynoldsburg, OH 43068. They will have their board meeting on Friday evening, March 18, from 7:30 o 10:00 p.m. at the same location.

Speakers include Gordon Rudloff, State Apiarist; Ernest Groeb; Honey Queen Kyna Naylor; Matt Cochran, VA Inspector; and Dr. James E. Tew, along with Dwight Stoller.

Registration fee is \$5.00 per person without lunch, \$8.00 per person including lunch. These may be paid at the door. Motel accommodations are at the Ramada Inn on Brice Road, providing a discount if you mention that you are attending this meeting. Call 1-800-228-2828 to register.

For more information contact David L. Pallaye, 4107 Ivory Rd., NW Carrollton, OH 44615, (216) 863-0518.

**THE TRI-COUNTY BEEKEEPERS ASSOCIATION**, in cooperation with the Wayne County Cooperative Extension Service, will hold its Tenth Annual Beekeeping Workshop on Saturday, March 12, 1988, from 8 a.m. to 3:15 p.m. in Fisher Auditorium at the Ohio Agricultural Research and Development Center (OARDC), Wooster, Ohio.

Our program is as follows:

A.M. Registration, refreshments and videos. Keynote speaker: Dr. James Tew "Africanized Bees; Facts, Fantasies and Implications for U. S. Beekeepers"

Lunch Keynote Speaker: Dr. Glen Needham, OSU Dept. of Entomology, "Varroa Mite"

P.M. Swarm Prevention/Colony Division - Phil Mariola; Nectar Sources/How Bees Produce Honey - Diana Sammartaro; Bee Equipment (Maintenance/Construction) - Tom Tonn; Queen Production/Queen Introduction - Dr. Jim Tew

This plus a honey baked-goods contest, door prizes (awarded throughout the day), wax-weight guessing, scholarship award and question and answer opportunities will make it a day beekeepers shouldn't miss.

Pre-registration is \$4.00 (\$5.00 at the door) and lunch is \$3.25 *but, lunch is available ONLY BY PRE-REGISTRATION which must be received by March 4.* Mail your check (\$4.00 registration only, or \$7.25 registration plus meal) with your name and address to Ruth O'Loughlin, Secretary, 8948 Ickes Rd., Wooster, OH 44691.

For further information contact your Extension Office; Phil Mariola at 216-264-3911 or the Association's Secretary at 216-264-8980.

**ATI WORKSHOPS.** For the past few years, the **Agricultural Technical Institute of the Ohio State University** has offered summer short courses. These courses are actually compacted regular classes, they are intensive and comprehensive. We realize that many beekeepers have problems finding time to attend summer programs,

therefore, we are always searching for the right "mix" of course content and dates. This summer, we are trying the long weekend approach.

• On May 13, 14 and 15, 1988, we will offer introductory beekeeping. We gave this course a break during the past few years and feel that it is time to offer it again.

• On June 10, 11 and 12, 1988, we are offering a new program — Contemporary Issues in Beekeeping. On June 10, a full day of Africanized Beekeeping — the latest information. On June 11, Varroa Mites — What They Are and How Can They Be Controlled. On June 12, a discussion of Tracheal Mites during morning hours and a short discussion of Honey Marketing during early afternoon hours.

• The VIII International Beekeeping Seminar will be presented July 18-29, 1988. As in past years, this is a symposium on the International Aspects of Beekeeping. During the past years, approximately 200 participants have participated from 30 countries. We anticipate another successful year.

Additional information on all courses are available from: The Office of Conferences, Ms. Gail Miller, The Agricultural Technical Institute, Wooster, OH 44691. (216) 345-8336.

If we can be of any assistance, feel free to contact us.

## ☆ PENNSYLVANIA ☆

The Annual Joint Meeting of the **BUCKS COUNTY** and **MONTGOMERY COUNTY BEEKEEPERS ASSOCIATIONS** has been set for Thursday, March 24, 1988 beginning at 8:00 p.m. in Mandell Hall Auditorium on the campus of Delaware Valley College, Route 202 one mile south of Doylestown, PA 18901. The program is being sponsored by Delaware Valley College in conjunction with the Bucks and Montgomery Beekeepers Associations and the Delaware Valley College Apiary Society. The featured speaker for the evening will be Mr. Jack Matthenius, NJ Dept. of Agriculture Supervisor of Bee Culture.

Mr. Matthenius' illustrated talk will deal with the recently introduced varroa mite and the threat it is posing to Apiculture. The meeting is open to the public and there is no admission fee.

**DELAWARE VALLEY COLLEGE**, Doylestown, PA will again be offering its Spring and Summer Beekeeping

Short Courses. Spring - March 25, April 9 and 16, 1988 and Summer - June 24, 25, and 28, 1988. The courses are offered under the direction of Dr. Robert Berthold (Professor of Biology) in co-operation with Mr. Jack Mattheinius, (New Jersey Supervisor of Bee Culture) and other skilled apiarists. The program will include a special talk by Mrs. Marnie Berthold on home uses of honey. Instruction will take place on the Delaware Valley Campus, with the College apiary and Honey House being utilized.

The total cost of the three days of instruction is \$35; you are urged to register early so that we know how many to plan for. However, it is permissible to register on the first day of the course with no penalty. For further information contact Dr. Berthold, Delaware Valley College, Doylestown, PA 18901 or (215) 345-1500.



DOYLESTOWN, PA. GREGORY CHRISTIANSEN, a senior Biology major at Delaware Valley College, has been awarded the first Henry Schmieder Apiculture Scholarship for this past year, in the amount of \$500.

Christiansen devoted last summer to developing a reliable field test for American foul brood utilizing the current state-of-the-art enzyme-linked immunosorbent assay (ELISA) method for the organism. His work was initiated in response to a need for a reliable, easily-interpreted test, as suggested by Dr. Robert Berthold Jr.,

professor of Biology and beekeeping specialist at the College. The initial work done by Christiansen on this project has been very promising, and portions of it should be published in the near future.

Professor Henry Schmieder taught at Delaware Valley College from 1921 until 1964, during which he was highly regarded as an inspiring teacher, advisor, and friend to his students and colleagues. His primary interest was in the honey bee and its study, and many who studied Apiculture under Schmieder went on to apply that knowledge in industry, government or as hobbyist beekeepers.

In 1983, William Madlung, '35, made a contribution in the memory of the late Dr. Schmieder to begin a scholarship fund for deserving students of Apiculture at Delaware Valley College. Over the intervening years, the fund has grown through the generosity of many beekeepers and beekeeping organizations.

## ★ VIRGINIA ★

THE BEEKEEPERS ASSOCIATION OF PRINCE WILLIAM COUNTY, VA announces their Sixth Annual Beekeeping Smart Course in cooperation with the Beekeepers Association of Northern Virginia and the Loudoun Beekeepers Association. Dr. Richard D. Fell, Apiculturist from Virginia Polytechnical Institute and State University, will be conducting the course along with other beekeeping experts from Virginia. The Smart Course will be held at the Manassas, Virginia Campus of Northern Virginia Community College, Room 214 on Friday, March 25th from 6:00 p.m. to 10:00 p.m. and Saturday March 26 from 8:30 a.m. to 3:00 p.m. Pre-registration can be done by sending name, address, phone number and a check for \$17.50 to the Beekeepers Association of Prince William Co., P. O. Box 1952, Manassas, VA 22110. Registration at the door will be \$20.00. For further information contact the Association or phone Bobbe Krueger at 703-754-9587.

## Hint of the Month

Many beekeepers give talks at schools and at non-beekeeper organizations such as Rotary Clubs. Here is an excellent opportunity to introduce people to the delights of cooking with honey. Make a batch of cookies — they do not have to be very large — to take with you. Be certain to make enough so that men can take a sample home. A handout of the recipe will insure that the home "chefs" will make some. They may well buy the honey from you! For small children, an uncooked candy is very successful. Not only is it tasty, it is easy to pass around and to eat. Young children can take the recipe home and make it themselves. If your state or local beekeepers' organization has a recipe leaflet, by all means use that also as a handout.

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# Ask Dr. Beebe

By Dr. B. B. Beebe

ONCE AGAIN, the world's #1 bee expert, Dr. B. B. Beebe, graces the pages of *Bee Culture* with his wisdom. Address your questions to: Ask Dr. Beebe, c/o Gleanings in Bee Culture, P. O. Box 706, Medina, Ohio 44258.

**Q.** Every winter, when my hives are covered with snow, I have to wonder: "What goes on in there?" Do you know?  
Curious

**A.** Of course I know! Most researchers will tell you that the bees cluster together, huddling in a great ball for warmth. This fiction is what the bees want you to believe so that their real activities will not be disturbed. They do keep themselves warm — the center of the hive will register 90° or more all winter — but their real methods are far more interesting.

Here at B.U., we have designed special equipment for watching the honey bees' most private moments. Only by using instruments which utilize near-infrared light (invisible to their eyes) can the truth be known.

Spring is a busy time for the honey bees, and they must be in good physical condition for it. During periods of confinement, they must work out regularly inside the hive, simultaneously generating warmth and maintaining good muscle tone.

They use the walls of cells and edges of frames for stretching exercises, but their major exertions require bee-scaled nautilus equipment. Bench presses, leg lifts, antenna flexes, and wing fans can all be accomplished using the adjustable forces available on this tiny gym.

In case of disturbance by a beekeeper, the exercisers immediately disassemble the apparatus and stow it in cells covered by brood-type opaque cappings, where it is invisible to prying eyes.

Some races of honey bees have special traditions that date back far into prehistory. Contrary to popular belief, for instance, Caucasian bees are not naturally dark. Like Caucasian

humans, they tend to be very light-skinned, but it is highly unfashionable for them to appear in public that way. If you could view them as we have in midwinter, you would see thousands of bees reclining beneath tiny sunlamps. The equipment is run by fuel cells powered by honey, and that is why Caucasian bees consume more honey in winter than do other races of bees.

Carniolan bees have been misnamed, as they actually originated in southern Germany, in the region called Bavaria. Their warmth-producing winter activities start with dancing to the tunes of an oompah band. You should see them whirling and twirling in their little lederhosen, as the players pump their flower-corolla tubas.

In late fall, Carniolans prepare a few cells of diluted honey and ferment them under controlled conditions to produce the bees' equivalent of beer, which is consumed during these celebrations. They perform variations of both the round dance and the waggle dance, practicing for the first honey flows, but their dance execution becomes rather sloppy after much of the beer has been consumed. Often, new dances are added to the repertoire, such as those my graduate students have christened the "script-S dance" and the "drunken sailor's walk".

The Italian bees are the most fascinating of all. Their winter parties take place only at the height of snowstorms, when they know that no sane beekeeper would be looking into his colonies. If they were not so careful in their timing, the garlic would surely give them away.

Italian bees knead their bee bread (a mixture of pollen and honey) into long, thin, threadlike strands reminiscent of spaghetti. The sauce they use is much sweeter and stickier than sauces used by humans, and it contains no tomatoes. At the time Italian honey bees evolved many thousands of years

ago, tomatoes were unknown in Europe, being introduced from South America by post-Columbian explorers. Not so with garlic. Nectar from garlic blossoms is highly prized by Italian honey bees, and the wild garlic commonly found in lawns is especially potent. This nectar is ripened and sealed into cells with double-thick walls inside the brood nest area and is almost never extracted by beekeepers. You may see an occasional odd cell of honey in an otherwise normal brood pattern, but the bees keep their secret so well that the distinctive odor of their special sauce is rarely noticeable in the colony.

In early fall, Italians are attracted to ripe grapes. They will readily collect juice from the fruit of the vine after it has been damaged by a bird or wasp or has simply fallen to the ground. The juice is carefully stored in special cells with pressure-releasing cappings, and the natural yeasts present on the fruit go to work. After about five months of aging, the wine is ready to add zest to the bees' midwinter pasta parties.

Bees prefer white grapes to red ones, as their pasta sauce is meatless. Any grape, however, is acceptable. Even those that have already begun to ferment on the vine are used. The alcohol content, however, interferes with the bees' flying and navigational abilities, and some foragers don't return home for days.

Hive inspections during and after the grape-ripening period may reveal a considerable number of workers waiting for the effects of the overripe fruit juice to wear off. These are the ones found motionless in the darkest and quietest corners of the hive, antennae and forelegs folded pathetically over their eyes.

The winter activities of African bees remains to be investigated. I hope that someone will research this question soon, as the results should be most interesting. §



# ☆ Classified Corner ☆

Classified rates: 55¢ per word, each insertion payable in cash in advance. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it) counts as one word. Copy or cancellation orders **MUST** be in by the 1st of the month preceding publication (Example: January 1 for February publication). If your order has missed the cut-off date, your ad will appear in the following issue. Proof sheets available on request for an additional 2-word charge. Send classified ads to: The A.I. Root Co., Attention: Cyndi Stephens, Class. Ad. Mgr., P. O. Box 706, Medina, Ohio 44258-0706. For more information call (216) 725-6677, ext. 213.

## WANTED

OLD STYLES OF beehives, extractors, smokers, also old bee books and supply catalogs. Wyatt Mangum, 120 Forrestwood Drive, Durham, N. C. 27707. (919) 834-3349. (3/88)

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PROPOLIS USA, Route 8, Hayward, WI 54843 is buying hive scrapings and propolis. New suppliers please send 5-10# sample. Paying \$2.00 - \$6.00 per pound plus freight. Call (715) 634-4274. (TF)

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SMALL HONEY OPERATION For Sale. 48 double brood colonies, 60 supers w/drawn comb. Nuc boxes, Dadant Elec. 12 frame extractor. Misc. Extracting equipment. (913) 378-3920. Mankato, KS. (4/88)

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