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John Root	Publisher
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Kim Flottum	Editor
Kathy Summers	Production Coordinator
Susan Steppenbacker	Photo Supervisor
Diana Sammataro	Equipment Editor
Buzz Phillips	Circulation Director
Dawn Brotherton	Circulation & Advertising

Contributors:
• Roger Morse • Richard Taylor •
• Michael Burgett • Dewey Caron •
• Eric Mussen • Sue Cobey • Tim Lawrence •
• B. A. Stringer •

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Columns

Departments

COVER ...The itch to get outside and get to work is at its strongest right now, and this month we've got more ways to get going than you can imagine – take a look.
photo by Diana Sammataro

MAR '91 CONTENTS

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117 Years Continuous Publication by the Same Organization

Features

INNER · COVER

When was the last time you went to a management workshop for beginning beekeepers? It's been awhile I'll bet. And maybe that's too bad.

I dropped in on one recently taught by Dr. Clarence Collison. Yes, he used to write a column here, called "Testing You Beekeeping Knowledge" He always had a question or two that was a real puzzler, but mostly he just made you think about why things happened the way they do. I always learned something because he made me look at beekeeping a bit differently. Such was his workshop.

He wanted to drive home the point that good and timely management schemes should be employed to maximize the population of foraging age bees during or just before the major honey flow. This means, he said, that several points must be kept in mind to achieve this goal.

First, let's take a look at the timeline needed to reach this optimum population. To have the largest possible number of bees old enough to forage on, let's say, May 1, you need to look at the life cycle of a worker bee, and back track to find out where it all begins.

A worker egg remains an egg for three (or so) days, then becomes a larva and remains so for six days. After that, it spins a cocoon and remains in that state for 12 days. These periods may vary a bit depending on local environment, the race of bees and other factors. But the time required to go from egg to just-emerged adult is about 21 days – three weeks.

Then, these just-emerged bees embark on a two-week or so stint of house duties, including cleaning, feeding, guarding and the like.

Five weeks or so from the time the egg was laid, the worker bee becomes a forager, and during a normal summer she will last about six weeks.

So, for a honey flow that starts May 1, you must have a queen laying at full speed eight or nine weeks before May 1 – which means March 1. But to get her up to speed, and keep the growth curve going up, adequate food, both sugar and pollen, is required at a continuous and uninterrupted rate during this entire time.

To reach the maximum population a hive can reach, which is estimated to be about 60,000 adult bees, the queen needs to be laying eggs at the rate of at least 1,000 per day. This requires enough adult bees in early March to keep eggs, open and sealed brood warm, and enough carbohydrate (sugar) and protein (pollen) to feed a population growing by leaps and bounds.

You can see that optimum population production requires attention to detail in management. Knowing when honey flows begin is certainly necessary, as is counting backwards to plan a colony's growth to capitalize on the nectar flow.

Feeding sugar (as syrup or in patties) and protein (as pollen substitute, supplement or previously trapped pollen) may be required if adequate stores aren't available from last season.

But this is all basic honey bee biology, and every rank beginner already knows these time tables, right? Maybe a trip to a beginner's workshop isn't such a bad idea.

•

Another thing Dr. Collison discussed was a skill many long-time beekeepers seem to take for granted, but seldom seem to explain well enough for beginners to use effectively.

This observation, as he called it, is the brood:egg ratio that exists in a colony at any given time. Remember, worker bee eggs last three days, larva six days, and capped brood 12 days. Therefore, for a healthy and normally developing colony, the ratio of eggs:larva:capped brood should be 1:2:4.

An experienced beekeeper can look at brood frames in a colony and instinctively 'see' if the ratio is correct or not.

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Basic Math ... (sort of)

BEE CULTURE'S 1991 EVERYBODY GETS A PIECE OF THIS PIE READER'S SURVEY

This past fall we conducted a fairly extensive reader's survey, an activity we undertake every so often to see if our reader base is changing; to find out what we're doing that's good and not so good; and to see what we should be doing more of, and less of in the magazine.

It has taken a while to gather all the returned forms, go through each to make sure they were complete and correct, and then enter the data in our computer. We finished with a sample of usable forms that numbered just over 5.0% of our readers. The recipients were chosen randomly but each region in the U.S. was sampled proportionately. Remember though, our numbers may not add up to 100% or may be a bit over 100%. This doesn't mean we can't add, but rather rounding errors and occasional missing data are affecting the numbers.

There were 181 questions on the survey, a formidable task to complete for anyone. That more than 50% of the forms were returned amazed everyone here, and is a testimonial to the endurance of those completed the form.

Last month I alluded to the fact that our readers were getting younger, and fully 50% are under the age of 50, and 90% are less than 75. Three years ago only 43% were less than 50 – we may have discovered a fountain of youth here.

Only 30% of our readers are retired, while a third classify themselves as professionally employed. The rest of you are either self-employed (14%) or in a non-professional position (13%).

Not surprisingly, 95% of our readers are male, but three years ago it was 98%, so there has been some change. Nearly 60% of our readers have children at home, too, up from 39% three years ago.

Most of us (46%) live in a rural setting, but urban readers (17%) have increased from 11% last time. A sign of the times I guess. About two-thirds of

Where Do You Fit In?

our readers live east of the Mississippi, but last time only 20% lived on the west side. This, too, is a result of changing national demographics.

Just over 60% of us garden, with ornamentals, honey plants and herbs being the most popular 'entertainment' crops grown. But nearly everyone grows vegetables to some degree, of course. However, only 54% own a rototiller, so gardens seem to be getting smaller which reflects the increase in urban dwellers.

Only 26% of us have been keeping bees five years or less, 21% between five and ten years, and over 45% have had bees over 10 years.

When it comes to the number of colonies we run, about 7% of us have 10 or less, while 48% have between 10 and 50, 30% between 50 and 100, and 16% between 100 and 500. This roughly matches the national distribution of beekeepers. Not surprisingly, those who have been keeping bees the longest have the most colonies, up to a point, certainly. Those who have been keeping bees 10 years or less have just about half as many colonies as those who have been keeping bees more than 10 years.

Along similar lines is the average yield per colony. Most respondents (47%) harvest 50 pounds or less, on average, from each colony. About one third (32%) make between 51 and 75 pounds/colony, while 14% manage to get over 75 pounds.

An interesting note is that the longer one keeps bees, the more honey per colony seems to be made. For instance, only 9% of those keeping bees less than five years managed to get more than 75 pounds/colony; 16% of those who've kept bees between 5 - 10 years got that much; while 20% of those with bees for more than 10 years made lots per colony. I guess that makes sense, since these results are across all regions of the country.

Almost everybody (67%) sells honey but 60% give all or part of their crop away. Almost 40% sell comb honey, which is up fully 10% from last time. Chunk honey continues to decline as a saleable product since only 25% sell it now, compared to 30% before.

Wax sales are steady (40%), but pollination numbers are up. About 16% of our readers pollinate somewhere for

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SURVEY ... Cont. From Page 135

money, while only 10% did so last time.

Selling honey remains about the same, with most readers selling (or giving) to several outlets. As stated, 60% of us give some of our honey away, but 60% also sell some from home, 17% sell wholesale, 7% use the buyback program, 12% sell in bulk to a packer, 17% wholesale in bulk and 25% retail directly somewhere besides home.

With the increased exposure we all have due to attention garnered by the African honey bee we were surprised at the low numbers of readers covered by any kind of insurance. Only 26% have some form of liability insurance, 12% have equipment coverage, and only 7% have any kind of product liability. It is unclear whether some readers felt homeowners insurance would cover some situations, but often it doesn't, and we recommend checking into this.

Membership in beekeeping organizations is down about 5% across the board, but significantly, local association membership went from 52% to 45%; state groups held steady at 37%, but national/regional groups dropped from 12% to 10%. This reflects increased time demands on beekeepers generally, fewer beekeepers overall, and fewer groups, too.

Some subjects have changed in importance to readers since last time, notably information on mites and African honey bees. Three years ago these subjects were almost never requested, along with advise on media relations and honey recipes. This change is due primarily to the fact that these are make or break subjects now and if you want to continue keeping bees, you must have some background in them.

There was much more to the survey – subjects we normally cover, and some we don't and some we should. Plus comments on all of the above. But we hope you have some feel for where you fit in this group of similar-but-different people. □

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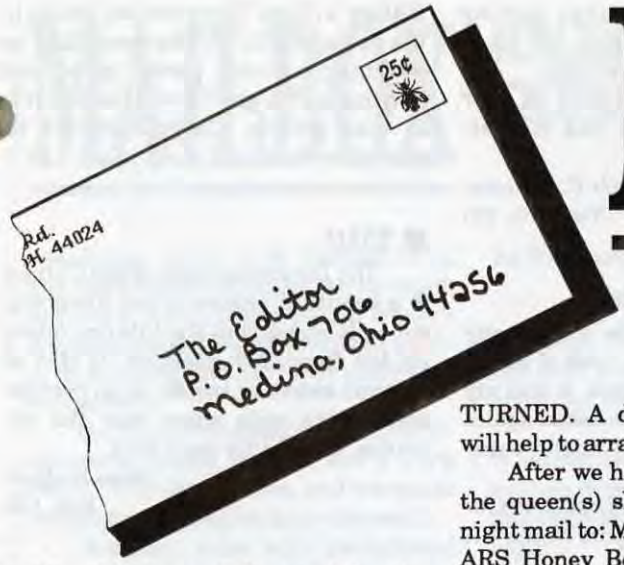
MAILBOX



■ Uncle Sam Wants *You*!

The Honey Bee Research Laboratory, Agricultural Research Service, USDA, and the Texas Agricultural Experiment Station in Weslaco, Texas, have responsibility for research on the biology and control of the tracheal mite, *Acarapis woodi*. As part of this mission, we have been studying the biology of the mite and chemical controls. To balance our approach we are beginning efforts to study aspects of more long term control through natural resistance. We plan to develop small closed populations of relatively mite resistant and susceptible honey bees to further explore the biological relationships between the mites and their honey bee hosts, and possible mechanisms of resistance.

To establish these groups of bees, we are soliciting donations of queens from all areas of the U.S. that appear to be especially susceptible or resistant to tracheal mites. These would include queens from colonies that have been badly reduced by tracheal mite infestations, and from colonies that have survived in areas where many other colonies are dying or have continued to be productive even with high levels of infestation. Only one or two queens from an area are needed.

If you have a candidate queen to contribute to this research, PLEASE CALL OR WRITE DR. COLLINS OR DR. WILSON PRIOR TO SHIPPING. If you write, give us as much detail about your queen and the mites in her colony as possible. This should include such information as source and age of queen, any recent treatments for control of mites, and condition of the colony. QUEENS WILL NOT BE RETURNED. A daytime phone number will help to arrange times for shipment.

After we have accepted your offer, the queen(s) should be shipped overnight mail to: Mr. James Baxter, USDA ARS Honey Bee Research Lab, 2413 East Highway 83, #205, Weslaco, TX 78596-8344, phone: 512-968-3159.

Ship queens with several attendants and candy in a standard shipping cage, with Apistan queen tab if available. Queens will be inspected prior to introduction and attendants killed. A state of origin health certificate regarding American foul brood and Varroa is required. COD shipments will be accepted.

Thank you very much for your consideration of our request. This important work cannot be carried out without the help of the beekeeping community. Participants will receive reports on the progress of the project. Remember however, that this is not a stock evaluation program. The genetic material from the queens will be blended in the closed populations.

Anita M. Collins
Research Leader, ARS

■ Wax Facts

I have been thinking of writing to you for quite a while now to tell you how much I enjoy your magazine, and to congratulate you on the superior quality of the cover. I think your magazine cover is one of the most attractive I have ever seen. The color reproduction quality is excellent and variety and choice of subjects is varied and attractive. Keep up the good work!

Since I am a beekeeper's wife, I especially enjoy the articles on cooking and crafts using honey and wax, etc., for different purposes. I have been told that beeswax is an excellent waterproofing material, but have never been able to find out how it should be used or with what it can be blended to waterproof cloth used for raincoats, tents, etc. Can some of your readers provide some information on this? These "Australian oilskin" raincoats are all the style now, and perhaps many of your other readers might be interested to learn about another use for beeswax.

By the way, I just returned from a visit to the south eastern part of Cuba. A beehive there is just like a beehive here, but most of their honey (in the Bacano area) is collected from wild bees who build their comb right on the steep cliffs of the mountains. The comb is snow white, but the honey is very dark and strong. Since there is little cultivation going on in this area, the bees must collect their nectar from flowering bushes and cactii type plants. (And they don't like visitors to their homes any more than our bees do!)

Thanks and I hope I will be able to get some information on waterproofing with beeswax.

Gladys Beattie
R.R. 1
North Hatley, Quebec, Canada
J0B 2CC

■ Kid Power

I am in the fourth grade at Wake Forest Elementary, and I am in my third elective of Beekeeping. I am enjoying learning about honey bees and how to take care of them. I'm in Mrs. Linkous' class. She is a professional beekeeper. I look forward to her class every Monday and Tuesday afternoon. I want a real hive, so I can be a beekeeper.

In Beekeeping I'm learning about the importance of honey bees and beekeeping. They pollinate our crops and make honey and wax for themselves and us. I'm learning that in a hive there are three kinds of bees, one queen, many workers, and some drones. I'm also learning about how to feed terramycin for disease and menthol for the Tracheal mite. I' m learning to work the hive with the proper tools.

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MAILBOX

I'm sharing my beekeeping along with my classmates with K-2 in our school. I help to tell them about honey bees and beekeeping. It is fun to tell others how I work the hive with a hive tool and a smoker. I show them how I look for the queen, and how many babies she is laying. I show them how to look for the honey and pollen. My classmates and I use a dummy hive with only pretend bees, but the outfits, tools, and hive are real.

Professional beekeepers read your magazine, and I see helpful information about the honey bees and beekeeping. I enjoy reading your magazine.

Robert Gibbs
Wake Forest, NC

Editor's Note: Mrs. Linkous was a driving force behind the development of a beekeeping curriculum for school age children that was picked-up by the Southern States Group, and then EAS. She has been teaching beekeeping to elementary children for five years. Activities include observation hives, field trips, class demonstrations, videos, trips to the NC Legislature, and more.

She lives in Raleigh, NC and teaches at Wake Forest Elementary. Robert's letter was a class project.

■ Two More, Please

I've enjoyed *Bee Culture* nearly a year now and must send you high praise for a superb Bee Magazine. I will say it is ahead of all others as, when it comes to my door, I have it all read shortly. It's very informative, easy to understand and gives you a good "down home feeling" about these great bees we have.

They are great to work with and very educational. It's time we had *Bee Culture* in our elementary school systems along with other crafts (like violin making). Our young people have a need to work with things that they can see and shape with their hands and minds.

Bees are a big part of my family life. Even my grandson loves to work that smoker and he first started out smoking the flowers. So to get young ones interested in bees, makes lasting impressions. Your magazine will be in print as long as there are bees.

Now my congratulations on your November cover, which was very attractive.

Ralph P. Johnson
Yankton, SD

■ Small Rewards

Enclosed is a sample of the many letters I received from a class of school children I spoke to on bees. It was my first time but I hope to be asked again. I thought your readers might enjoy reading one of them.

B.P. Lockstampfor
Newport News, VA

Dear Mr. Lockstampfor,

I really enjoyed your presentation on the bees.

Thank you for coming to our school. I like it. I have never seen a real beekeeper. It was neat to see a lot of the stuff you brought. Will you come again?

Your friend,
Amanda

Editor's Note: There are few things in life as enjoyable, and as rewarding as watching a young person grow, and playing an integral (even if small) role in that growth. Congratulations on your efforts.

■ Tilt!

The December cover of *Bee Culture* is a beautiful picture of bee hives and snow. It seems that the lids are raised on the front. My question, is this to prevent sweating inside, or to prevent smothering with snow over the entrance. Thanks for your help.

Ross Badgett
Ada, OK

Editor's Note: We received several questions on why were the covers tilted as much as they were. We consulted with the beekeeper who owns the hives and this is what we were told:

"The vent hole in the inner cover I use doesn't allow moisture to escape fast enough during cold winter days (and nights), so I always allow extra

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MAILBOX

ventilation. I live in N. Central Ohio, and temperature changes can be rapid, and often. I used to keep bees in Wisconsin, where the changes weren't as often, or as extreme, and the inner cover vent was perfect.

Until I met tracheal mites my overwintering losses were in the 3 - 5% range. With lots of food, and adequate ventilation, I used to do pretty well.

However, even with exceptional fall preparations, menthol treatments spring and fall (and grease patties last fall) my winter losses have risen to 5 - 7%. Too high by my standards!"

■ MN Makes Stand

At our recent winter meeting the Minnesota Honey Producers Association passed this resolution supporting the National Honey Board and also supporting the ending of refunds. It passed by an overwhelming majority. The membership wishes to make our conviction in this matter known to the national beekeeping community.

Gary Oberton
Randall, MN

In Support of the National Honey Board

Whereas, the National Honey Board has been promoting the sale and use of honey for nearly four years;

Whereas, the results of this effort are evident in increased demand for honey and the market for honey has strengthened;

Whereas, the effectiveness of the Honey Board and the extent of its honey promotion programs is directly related to the funds available to the Board for its work;

Whereas, the practice of honey importers and producers obtaining refunds of their Honey Board assessments reduces the funding of the Honey Board's programs; and

Whereas, the nation's honey producers and importers will have an opportunity to vote in a referendum scheduled for June 1991 to determine if the Honey Board program should be reauthorized for another five years and if the practice of refunding should be ended; now, therefore

Be it resolved that the **Minnesota Honey Producers Association** does commend the National Honey Board, its members and staff and urges the beekeepers of Minnesota to vote to continue the National Honey Board program; and

Be it further resolved that the beekeepers of Minnesota are also encouraged to vote to end the refunds of National Honey Board assessments.

■ Makes More Mead

"RR" from Middlesboro, KY wants to know where to find mead supplies. The first time around, my friend Dr. Richard Taylor suggested the Yellow Pages and the next time Brushy Mountain Bee Supplies in Moravia Falls, NC

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MAILBOX

28654, but he forgot to include their very easy to remember toll-free number, 1-800-BEESWAX.

Now let me have a crack at it since this is the plaguing predicament of all Mickey-Mouse meadmakers, including yours truly. Years ago, O'Brien's, Box 284, Wayne Illinois 60103 used to advertise wine-making supplies regularly, in *Bee Culture*, month after month. You can also get other *free* catalogs from the following (I've ordered from all three, more than once):

E.C. Kraus, P.O. Box 7850, Independence, MO 65053, (816) 254-7448. Much of their stuff is postpaid from the 14-page full-size catalog;

SEMPLEX, 4159 Thomas Ave. No., Minneapolis, MN 55412, (612) 552-0500. They also have postpaid prices in a 22-page half-size catalog. Both accept credit cards.

When "RR" wishes to expand his mellifluous horizons, from the same people he can also order beer, soda, and vinegar supplies for which one can use honey as a base, as I have done for the last two cited.

Finally, I recommend starting with Robert & Eileen Frishman's easy and delightful 32-page, $2.25 booklet, *Enjoy Home Winemaking* (Crosby & Baker Books, Westport, MA 02790).

Jack Iannuzzi
Ellicott City, MD

■ Just Ask

I have some old copies of *Bee Culture* from the year 1956 thru 1969, and I would like to dispose of them to someone that might be interested in them.

If you know of anyone, they can have them by coming for them or paying the delivery charges on them for shipment.

All years except one year are in separate containers that you furnished to keep the yearly issues.

I would appreciate it very much if you know of someone that might be interested and let me know, as I hate to destroy them.

Leonard A. Kemper
119 Franklin St., Butler, PA 16001

■ Oops?

I'm only now getting around to reading my November issue of *Bee Culture*, and was surprised to read your statement, that Mt. Rainier is the highest peak in the lower 48! There are many peaks in Colorado and California that are higher, but Mt. Whitney in California is the highest, at 14,495 feet.

Lorraine McDonald
Salt Lake City, UT

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When used within minutes of the sting, the pain and swelling will be eliminated. Often, the allergic reaction will not take place or will be seriously reduced, and most important, will keep your body from increasing its reaction to the next sting.

The Extractor pump is reusable for years, and comes complete with five different size cups, band aids, antiseptic pads and a razor to shave hairy areas where the sting occurred.

The Extractor is available through ALBA Health Products Inc., 5234 NW 6th Court, Delray Beach, FL 33445 or 407-495-7989.

ALBA is looking for distributors to make the Extractor available to people who need protection from insect venom.

QUEEN'S GUARD

The requeening process, in which a young queen is introduced into an established hive is a delicate and complicated procedure. From capturing the queen, through shipping, until the queen is released and accepted by the hive community, the process requires trained personnel, time and labor and is prone to accidents and ultimately the queen's rejection. At least this was the situation until the development of the Queen's Guard caging system. The new process replaces the traditional cage with a product that's more than just a cage. The Queen's Guard is a capturing, caging, shipping and introduction system, designed to stream-line every stage of the requeening process

Capturing The Queen Without Trauma

The first stage is getting the queen into the cage. Traditionally you had to capture the queen without damaging her. Moreover adding a few attendants adds to the time and cost. For breeders skilled labor is translated into money. A careful cost analysis will show that skilled labor is the biggest cost component in shipping queens.

With the Queen's Guard, the queen, complete with entourage, is captured in a single sliding movement of the cage cover. You can even do it with a gloved hand. You just put the open cage on the queen and her attendants and 'click' them in – a five-second process, with no injured queens. The time saved paid for the new cage.

If not enough bees were captured, the cage cover has a special "bees' pass only" position, in which a narrow slit is left open allowing more bees to join the queen, but which prevents the queen from escaping.

Protection

The base of the Queen's Guard cage is opaque while the top is clear. You have a full view of queen when captured but she can be protected from sunlight by placing the cage upside down. Ventilation holes keep her well aerated while you capture the next one.

Isolating the queen and holding her immobilized for clipping or marking is as simple as capturing. A special comb is inserted through a t-shaped hole in the cage base, designed to let the small bees through but confine the queen against the side wall of the cage. The clipping and marking are done while the queen is confined.

The Queen's Guard is designed to provide an optimal packaging environment. The cage is designed to pack tightly in a stable stack without blocking the air holes.

When The Queen Arrives

When the queen arrives at the apiary, the ingenuity of the Queen's Guard system benefits the client just as it did the breeder. The features that made capturing and shipping fast and simple make the reversed process of receiving and acceptance easy and successful.

The clear cover of Queen's Guard cage affords all-around inspection of the queen. The attendants are released by sliding the cover into the "bees pass only" position and placing the cage in the hive.

Once isolated the queen is then ready for introduction. The cage cover is pushed into the "queen release" position exposing the access hole to the candy. The cage is then placed in the center of the hive by pulling out a comb from the center of the hive, and attaching the cage to its center using small hooks extending from the cage base.

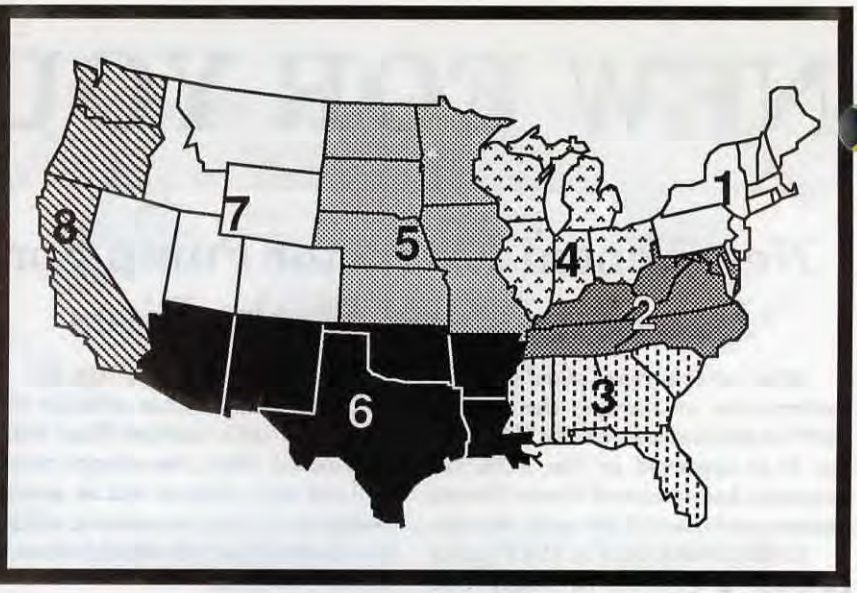
The acceptance rate is further enhanced by the special design of the candy compartment. The tunnel which the bees have to dig through the candy block is far longer than in traditional cages. The long acclimation period, while the queen is waiting for her release, is the surest way to enhance her acceptance. Combined with optimal middle-of-the colony positioning and pre-release of attendants, the acceptance rate is maximized.

As in capturing, the whole process can be done with gloved hands, by untrained personnel, in a fast and foolproof manner.

MARCH
Honey Report

March 1, 1991

REPORT FEATURES SUMMARY: R=Range of all prices; A=Average prices across all regions; LM=Last month's average; and LY=prices one year ago.



	Reporting Regions								Summary		History	
	1	2	3	4	5	6	7	8	R	A	LM	LY
Extracted honey sold bulk to Packers orProcessors												
Wholesale Extracted												
60 # Wh.	42.33	41.08	42.00	36.50	36.70	40.00	43.50	42.53	26.40-52.00	40.34	41.11	42.88
60 # Am.	43.25	37.68	35.50	31.45	30.00	39.00	41.00	38.13	30.00-52.00	38.43	37.64	38.34
55 gal. Wh.	.51	.45	.50	.49	.52	.51	.52	.53	.42-.61	.52	.53	.52
55 gal. Am.	.50	.43	.45	.46	.46	.48	.50	.49	.40-.55	.48	.48	.50
Case lots — Wholesale												
1 # 24's	28.57	28.60	27.45	27.10	22.76	24.25	28.75	29.33	23.50-34.25	28.04	28.38	28.03
2 # 12's	30.10	23.65	24.95	26.70	24.18	23.50	26.67	29.33	19.20-32.10	27.00	26.43	26.61
5 # 6's	32.04	26.58	23.50	28.84	25.35	25.75	26.71	26.62	21.90-38.50	27.76	28.95	26.58
Retail Honey Prices												
1/2 #	.95	1.11	1.25	1.50	.87	.99	1.06	1.02	.83-1.50	1.06	1.08	1.02
12 oz. Plas.	1.60	1.64	1.50	1.39	1.21	1.10	1.45	1.42	1.10-1.98	1.47	1.47	1.41
1 #	1.53	1.92	1.88	1.75	1.51	1.62	1.73	1.69	1.15-2.35	1.71	1.66	1.61
2 #	2.83	2.97	3.25	3.40	2.60	2.93	2.97	2.71	1.85-4.00	2.91	3.03	2.94
2-1/2 #	3.10	3.79	3.50	3.40	3.09	3.55	3.19	3.75	2.60-4.50	3.49	3.75	3.38
3 #	4.31	3.35	4.50	3.60	3.37	4.08	4.03	3.92	2.30-4.50	3.87	3.92	3.93
4 #	4.75	5.10	5.55	5.10	4.77	4.75	4.97	4.17	3.75-5.75	5.06	5.02	4.60
5 #	6.76	6.24	6.50	6.49	5.99	5.55	5.96	5.77	5.50-7.50	6.20	6.30	6.00
1 # Cr.	2.25	1.25	1.75	1.89	1.72	1.95	1.92	1.79	1.20-2.50	1.84	2.04	1.71
1 # Cb.	2.67	2.17	1.68	3.50	2.98	2.00	3.11	3.33	1.10-4.50	2.61	2.46	2.30
Round Plas.	2.67	1.68	2.10	2.19	3.75	2.15	3.01	1.23	1.68-3.75	2.46	2.12	2.00
Wax (Light)	1.52	1.10	1.26	1.15	1.25	1.05	1.12	1.63	1.00-2.00	1.26	1.27	1.09
Wax (Dark)	1.42	1.00	1.10	1.00	1.10	.97	1.05	1.21	.90-1.45	1.11	1.09	1.01
Poll./Col.	27.50	20.00	30.00	30.00	23.00	25.00	29.00	30.37	17.50-35.00	27.77	29.33	24.60

MARKET SHARE

It is becoming increasingly clear that we operate in a global market, and that what beekeepers do elsewhere will affect how honey is sold here. If you want the Chinese telling you how much to sell honey for, that's O.K. But if you want to dictate prices, your customers must know local from distant honey!

Region 1

Sales steady and seasonal, but warm spells slow things down a bit. Prices steady to lowering some as demand slips. Honey is often an impulse item, and impulses are getting fewer and farther between as recession deepens. Bees are in good shape generally, but may need feeding. Pollination fees up this year.

Region 2

Sales steady to increasing where cold weather is dominant, steady to decreasing where warm weather is the norm. Specialty honeys doing well, but local honey running short. Imports showing up. Warmer than normal periods have helped cleansing flights, but increased stores consumption, too. Check for feeding.

Region 3

Sales showing, prices steady, supplies nearly gone. Colonies in good shape, but warm weather will speed stores consumption and local flora short in some area. Watch feeding. Varroa and Tracheal mites present, but both controls and some resistance showing the spread.

Region 4

Sales steady, prices higher in urban areas, but supplies running low for some. Imports showing up increasingly, at significantly lower prices, especially in darker colors. Moisture adequate, weather not too stressful so losses should be minimal, except for mite problems.

Region 5

Sales slow to steady, but prices doing well and most beekeepers pleased. Winter has been mostly 'normal', so check for feeding. Colonies in good shape, but it's early yet, and a poor fall may put some colonies short.

Region 6

Prices steady to increasing a bit, but generally not too much. Sales show and not looking like there will be much change. Producers gearing up for package and queen production, along with making splits and moving north.

Region 7

Winter has made a definite impact this year on sales, increasing; prices, increasing too; and bee losses – up due to cold weather, not mites or food problems. Moisture steady – should be a good year.

Region 8

Northern areas cold and wet and very wintery this year – causing a mixed bag of sales, demand and prices. Southern areas still dry and cold. Drought is the word and officials holding water will hurt pollination business all year long.

RESEARCH REVIEW

DR. ROGER A. MORSE

Cornell University • Ithaca, NY 14853

"A New Way to Find AFB."

Denmark has adopted a new method of tracking down apiaries that may have American foulbrood (AFB). It was found by their chief apiary inspector, Henrik Hansen, that one could examine a small sample of honey for American foulbrood spores and thereby locate colonies and apiaries that might be in trouble. The method is not perfect but appears to be a useful tool that could be used in the U.S. to combat AFB.

In 1984, Hansen examined a number of domestic and foreign honeys being marketed in Denmark. He found that a large number of domestic and imported honeys, including the only one examined from the U.S. contained AFB spores.

Only a drop of honey is needed for the test. This is taken from the extractor or storage tank so that the honey has been thoroughly mixed and represents all the colonies in an apiary. The method involves using a sterile petri dish, which is a standard item in any bacteriology or pathology laboratory. An agar medium is placed on the bottom of the dish. A small amount of honey is smeared across the agar surface. The dishes are examined daily for up to 11 days for the growth of colonies of the bacterium that causes AFB.

In a second paper published in 1986, Hansen examined 532 honey samples representing 243 apiaries and 1,700 colonies of bees in Denmark. He found 56 samples (11%) contained AFB spores. Forty-seven samples had AFB spores present without there being any sign of AFB in the colonies at the time the samples were taken or the following year. In nine apiaries with approximately 60 colonies, AFB was detected the year after the samples were taken. In the apiaries where samples had been taken there were two cases of AFB that had not been picked up by the laboratory technique.

Hansen concludes, "In most cases, spores of the *B. larvae* (the organism causing AFB) were found to occur in the honey the year before the outbreak of American foulbrood in the colonies of bees. It is concluded that the investigation of honey for the presence of *B. larvae* can play a practical role in the preventive treatment of the disease."

Danish Instructions

The following is translated from the official Danish instructions for the diagnosis and treatment of diseased honey bee colonies, "Beekeepers that have had AFB diagnosed in their colonies, should be offered the opportunity to have their honey investigated for *Bacillus larvae*. This offer covers all the apiaries owned by the beekeeper. Beekeepers within a two kilometer (0.6 of a mile) zone of an AFB apiary should have the same offer. Honey containers for samples and advisory material are sent to the area bee inspector from the Section of Bee Disease (the government unit). The inspector is responsible for distributing the material to concerned beekeepers."

Hansen is careful to point out that the method is not perfect as regards detecting active cases of AFB. In one apiary he found AFB spores in honey for six years without symptoms of AFB appearing in the colonies. He also states there is a logical reason for this. Many investigators have shown that the number of spores required to trigger a visible infection varies greatly. Hansen writes, "Different types of bees have different levels of hereditary resistance of American foulbrood." We know this is true. We are also aware that many beekeepers in the U.S. and elsewhere have successfully selected bees that are resistant to AFB.

Australia's Experience

In Australia, the Hansen technique was used to examine 393 honey samples; 10.1% were positive for AFB. Fifteen beekeepers had visible signs of AFB in their colonies but only five were aware the disease was present at the time of sampling, ten were not. The report concludes, "The testing of honey samples from packing plants does not take the place of sound management practice." However, honey sampling is "proving a very effective diagnostic tool in relation to American foulbrood outbreak identification."

The Cornell Experience

This past summer, in cooperation with Professor Keith H. Steinkraus, we used the Hansen technique in our laboratory. It is simple and easy to do with a little training. In our experience one person should be able to examine at least 100 plates a week; this could represent 100 apiaries.

We examined 82 samples of honey from the U.S. and Canada. We found AFB spores in samples from four beekeepers, three of whom have not yet found AFB in their colonies. According to the information above, these three may never find AFB but at least they know they should be on the lookout for it. Our investigations are preliminary but we agree that the Hansen tech-

Continued on Next Page

nique shows promise and could be a useful diagnostic tool to help in the control of AFB. We hope to continue our studies this upcoming summer. □

References:

Editor, *Honey sampling for A.F.B.* Australasian Beekeeper 91: 453. 1990.

Hansen H., *Methods for determining the presence of the foulbrood bacterium* Bacillus larvae *in honey.* Danish Journal of Plant and Soil Science 88: 325-328. 1984.

Hansen H., *The incidence of the foulbrood bacterium* Bacillus larvae *in honey retailed in Denmark.* Danish Journal of Plant and Soil Science 88: 329-336. 1984.

Hansen H., *The investigation of honey from bee colonies for* Bacillus larvae. Danish Journal of Plant and Soil Science 90: 81086. 1986.

Hansen, H., *Instructions for the diagnosis and treatment of diseased honey bee colonies (translated title).* Landbrugsministeriet Statesn Planteavlsforsog. 4 pages. May 27, 1990.

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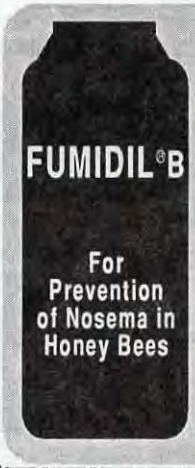

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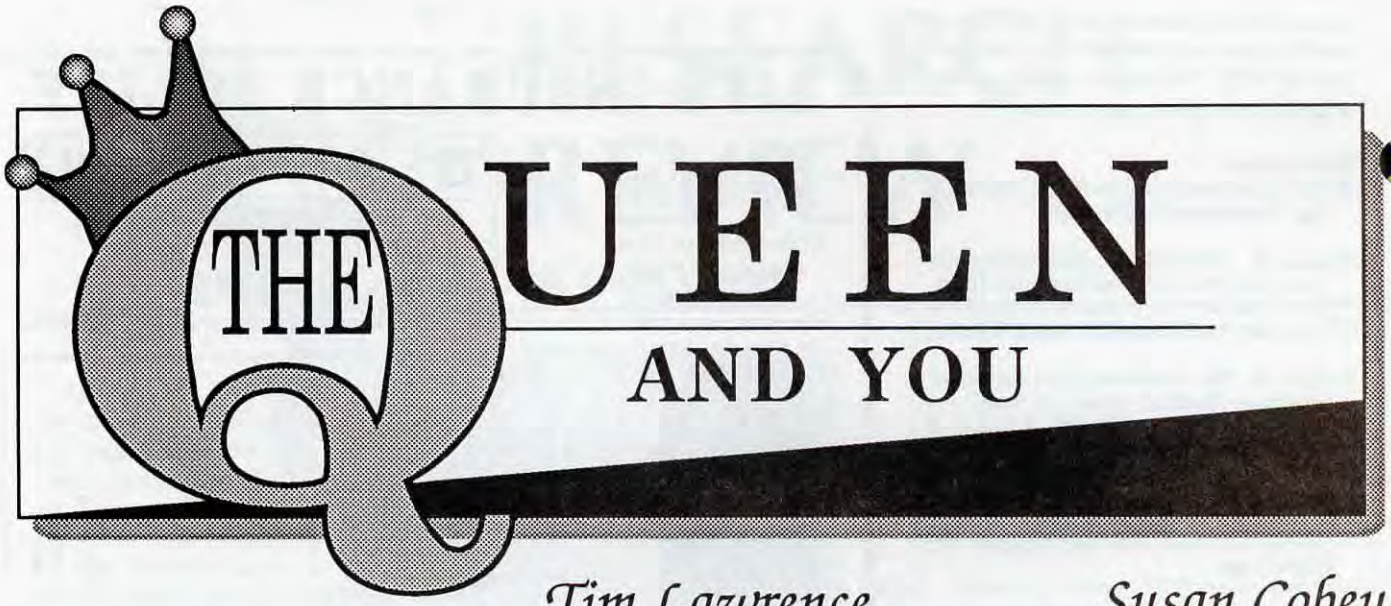

Tim Lawrence *Susan Cobey*

One of the biggest obstacles to requeening is the beekeeper's ability to find the old queen. We delight when we find the queen on the first frame. And, we curse as we go through the colony one more time looking for an elusive queen. While queen finding machines have been patented and some beekeepers claim psychic abilities, there are no easy answers. Only experience can teach you to reduce the time spent looking for queens, as well as to minimize colony disturbance. In this article we will share some practices we have found helpful in these efforts.

An experience that has helped us to find queens quickly in populace colonies comes from a concept in a book popular in the late 1960's, Carlos Castinada's *The Teachings of Don Juan*. This book provided cosmic guidance to some, though to Tim it was a discovery of a method to find queens. While it may sound bizarre, it works for us and for beekeepers to whom we have recommended the technique. In the story, a ritual is described where Indians run at great speed across the desert at night. They are able to do this without tripping over cactus or hurting themselves in the dark simply by taking the landscape out of focus and concentrating on the horizon. In the hive, you will find that if you take the bees out of focus and scan the brood combs not looking at every bee, the queen is easy to find. With a little practice, the queen's large size and her court of encircling attendants will appear as a distinct break in the pattern of worker bees. The queen's presence will become obvious to you. Try it, it works!

"Finding the Queen"

During our early beekeeping experiences we were fortunate to work with Clarence Wenner, who was an excellent teacher. While working and living at Wenner Honey Farm in Glenn, California, we shared meals with Clarence and a crew of 15 beekeepers. Clarence would tell endless stories about working and understanding bees. During the work day the stories would continue, he often shared his observations and past mistakes in efforts to improve our work performance. His insights gave us a wealth of knowledge that would take years to develop on our own and an understanding that could never be obtained through books.

Clarence taught us what to look for in a colony and that the queen doesn't have to be found every time you go into a colony. Various indications that the queen is performing well ma[illegible] all the information you need. A quick glance at one or two frames of brood will verify the presence and activities of the queen. Attempting to find the queen every time you work a colony can be detrimental, especially if this causes unnecessary colony disturbance. Often, all you need to observe is the presence of eggs and larvae, sometimes just the presence of sealed brood is enough information about the colony.

The queen must be found before you requeen a colony, however. Though you can requeen almost any time of year, finding a queen in a populous colony is often difficult. It is best to plan your requeening before or after the population has built up to peak production in early spring or later in the fall. The larger the brood nest area and the larger the population of the colony, the harder it will be to locate the queen. Marking the queen with a small dot of paint on her thorax will improve your ability to find her.

Finding the queen begins before you enter the colony. Be sure that your smoker has plenty of fuel and is producing cool, white smoke. Give the hive one or two gentle puffs at the colony entrance. Don't over smoke the hive, as this will cause the queen to run and decrease your chances of finding her. After smoking the entrance, wait a few seconds and carefully open the colony. If you are working with a two story colony, turn the lid over and place the top super on this. As you remove the top super, glance up through the bottom between the frames to determine if there is any sealed brood in the top. Start looking for the queen in the super

with the most *open* brood. If both supers are full of brood, it doesn't matter if you begin with the top or the bottom super. Throughout the process use a minimum of smoke.

When you enter the brood nest it is always best to do so from the outside and work your way in. Always begin by removing the second frame in, first. In this way you will avoid rolling the queen and injuring bees if the frames are tight. Scan the frame quickly for the queen and set this frame in an empty super. As you continue through the colony, move the frames over into the blank slot so there is plenty of room to work the next frame.

As you work the colony and remove frames, position yourself directly over the frame, so you can scan the bees on both sides of the frame as it is removed. Often the queen's large abdomen will be obvious among the workers. Remember, the secret to finding the queen is to scan the frames looking for a break in the pattern. If you don't find her in the first super begin the same procedure with the second super.

While the queen is most likely on the brood frames containing eggs and larvae, she may anywhere. The more time you spend looking for the queen in a colony the less likely you are to find her. The more you disturb the colony the more likely the queen is to run. If you cannot find the queen on the frames be sure to check the lid and bottom board. If you still can't find her, try looking on the grass. Queens sometimes fall off the frame and can become lost in the grass. If you don't find the queen after a reasonable period of time it is best to close the colony and return another day.

If you are making divides, want to reduce your search for the queen to one super and have the time, colonies can be split. Place the top brood super on a new bottom board next to the original colony and equalize the brood between the two colonies. Return within the next few days and you will notice that one of the splits probably will have more bees. It is common for the queenright side to attract more bees. The queenless unit will display a heavy fanning sound distinctly common to queenless bees and will often have the start of new queen cells on the open brood. The queenless sound will begin soon after the removal of the queen and is a tell-tale sign.

Over the years we have had many enthusiastic students work with us to learn about queen rearing and bee breeding. While working with these individuals, we became aware of some common misconceptions. One of these is the practice of killing the old queen and throwing her back into the hive. When questioned about this, it was explained to us that bees need to know their queen's dead, mourn her loss and accept the new queen. This ignores the fact that bees communicate the presence of their queen by chemical cues called pheromones. Bees do not recognize a state of queenlessness until the source of the queen pheromone, the queen, is removed.

Some beekeepers begin this task already full of dread and doubt. But that shouldn't be the case.

When you find the old queen, dispose of her well away from the colony.

Finding virgin queens is a whole different ball game though the same strategy of scanning the combs works. The behavior of a virgin queen is very different compared to a mated, laying queen. She is very agile, flighty and will not hesitate to run or take flight when the colony is disturbed. This behavior also can give her away. She can easily be spotted running over the combs covered with calm worker bees going about their business. She is small because her ovaries have not yet developed and she can sometimes be mistaken for a worker. Though, she is easily distinguished by her pointed abdomen and large thorax. Keep in mind she can be anywhere. Unlike a mated queen, light *attracts* the virgin.

Finding the queen can be one of the most rewarding or frustrating beekeeping experiences. It is one shared by all beekeepers. With a little practice you can improve your queen finding skills and reduce your frustration level. Savor those times when you find the queen on the first frame and take heart when you can't find her. Good luck. □

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M I T E...

KIM FLOTTUM

Right now is the time to start thinking about tracheal mite control – whether you have one hive or a hundred. There is only one legal chemical treatment for tracheal mites, and that's menthol in either the crystalized or pelleted form. Using either of these is easy and generally fairly effective. However, there are a couple of tricks to use to increase the efficacy of the treatment that you should consider.

First, make sure all honey supers have been removed. Contamination is possible, (and illegal) and besides, the label states they must be removed.

We also recommend that the first spring inspection be completed before treatment if at all possible. This includes reversing, if you do this; queen and brood inspection; and early feeding. Wait until the outside temperature is at least 55°F for most of the day before treating so adequate vaporization takes place, too.

Once examined, and the weather permits, place the screened bag containing the menthol on the top bars above the brood nest. If you use migratory tops try placing a two inch high rim/super between the brood super and the top. This will allow enough room to place the menthol bag(s) on top without forcing them between the frames. This will also give the colony a 'vapor' chamber for the menthol fumes to accumulate in as they evaporate and slowly settle down through the colony. You may even want to try this with a regular telescoping cover and inner cover. Place the inner cover above the two inch rim. Some beekeepers recommend restricting ventilation at the top, too, insuring that the heavier-than-air vapors don't escape.

Researchers claim you need menthol fumes in the colony for about three weeks to be effective. That amount of time exposes all mites to the fumes, even reaching any that were eggs (and thus not affected) when the chemical was initially applied. Outside weather is the primary factor determining the rate of evaporation of the menthol, and the leading cause of control failure.

If the weather warms rapidly after you apply the chemical your area will 'probably' experience a honey flow, requiring menthol removal. However, if it stays cool and cloudy the menthol may not evaporate nearly fast enough to expose the mites to a lethal dose.

These experiences have led to less than perfect control of tracheal mites by menthol. You have to attempt using the chemical if you have an infestation, but there are no guarantees of success. Timing is everything.

Another consideration, when dealing with tracheal mite infested colonies, is the stress they undergo during this time of year. All colonies are stretching their reserves now, with increasing brood and young bee populations demanding food and warmth.

Continued feeding may be necessary now, and, although the usual method is to feed sugar syrup as the carbohydrate source, you may want to consider using grease and sugar patties instead.

Last year about this time we reported on the initial research trials using shortening and sugar, along with the results after feeding our own bees. Both appeared helpful, and after a year we've only been encouraged by the results. The colonies that were infested with tracheal mites and fed sugar/shortening last spring developed larger populations, made more honey and overwintered (as of Feb 1, 1991) in better shape than the infested colonies we had that were not treated. However, the numbers of each were small, and I wouldn't bet the farm on the reliability of our tests.

> "... and after a year we've only been encouraged by the results."

But others in northern regions of the country have reported having problems with menthol, and having some success using the patties – both in feeding bees and reducing tracheal mite infestations. With this in mind, we will repeat the information on feeding bees sugar in the spring, using vegetable shortening as a carrier.

The basic formula for mixing the sugar and shortening together is to use two parts sugar to one part shortening, by weight. This means, for instance, to weigh out one pound of shortening, and mix in two pounds of powdered sugar. The technique is very similar to making a frosting mix, and the consistency is similar when finished.

We use a bowl and spatula when mixing, after weighing out the components.

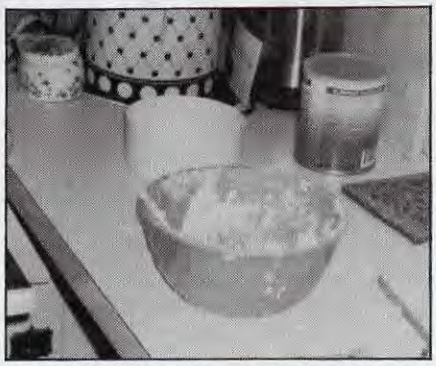
Also, if you've ever made bread, one trick we've learned is to continue adding a little sugar while mixing to keep the 'stickiness' down, much like adding flour to a dough mix while kneading it.

A typical colony patty uses about a quarter pound of the finished mix, so plan accordingly when starting. Finished patties should be placed on waxed paper, and then on the top bars, paper side down. The bees will eat the sugar in the mixture, and come in contact with the grease at the same time.

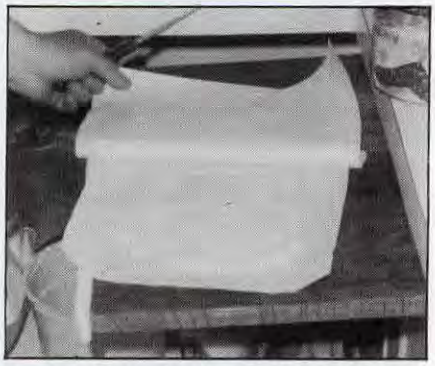
Some researchers have used canola oil instead of shortening when mixing, and have reported similar or better

... MITE NOT

Weigh shortening and sugar so that you have a 2:1 ratio by weight.



Thoroughly mix the two ingredients. Keeping the shortening on the cool side will help the 'stickiness', as will adding the sugar slowly.



Place about a quarter pound on a sheet of wax paper to feed later. To store, place in freezer.

success in feeding, but, so far as we have seen, any vegetable oil will work. However, some oils require more sugar than others to mix well, which is even better from the bees' point of view.

An advantage of mixing sugar and shortening is that the mix will not ferment. However, a quarter pound patty on even a small (but hungry) colony should last only a week or at most two. As with any chemical, don't place these on a colony during a honey flow. This will avoid any chance of contamination, but the patties probably would not get eaten any way.

Scientists think that when vegetable oil gets on a bee's body it interferes with a female mite's ability to find a new, young host. This, however, is speculation. But, it seems, once a young bee's body has contacted vegetable oil, the chances it will become infested with tracheal mites is almost nil.

Maybe it's the fact that colony inhabitants have access to a steady and healthy supply of sugar, carried, I might add, in an apparently harmless medium – vegetable shortening. Whatever the weather, or whatever the reason – a good meal can't hurt, and it might help.

Who's to say? □

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BABE'S HONEY FARM

VINCENT DOYLE

Charlie Warren reaches into his pants pocket and pulls out a white plastic 'New Zealand' queen-cage. He slides the top back with the ball of his thumb just enough to get the queen and a few nurse bees inside, closes it up and sticks it into his jacket along with all the others. He blocks up the entrance on the mating nuc and tips it over, face down, as a reminder to gather it up for remarking. He has orders for 7,000 queens, but today he will ship just over 100. So far this year he has shipped less than a thousand. "It's the weather," he says. That's one of the few things that this master beekeeper of Babe's Honey Farm can't control.

In the nearly seventy-three years that Charlie has been here on the Saanich peninsula it has never been this wet in May. On the mainland the Fraser and the Columbia rivers are rising fast and here on Vancouver Island the farmers can't get their tractors out onto the fields. Worse yet, the honey bees aren't flying. The bees can't pollinate the crops; the drones can't mate the queens; and, Charlie can't meet his customers' demands.

These demands are becoming more insistent for a number of reasons, the most important of which is the fact that neither bees nor used equipment can be brought to Vancouver Island from the rest of Canada or anywhere else with the exception of New Zealand. This is to prevent the importation of Acarine and Varroa mites as well as any unwelcome strain of honey bee. European foulbrood is unknown here and Charlie hopes the quarantine may also help to stop its introduction. Charlie has to import queens from New Zealand to fill his early packages in March and April, but from then on the demand for Babe's own queens is constant.

Babe's Honey Farm has been satisfying customers' demands for nearly fifty years. That's what drives this operation – customer demand and customer satisfaction.

It began with a simple request from a physician who wanted a supply of honey for a baby formula. From this simple request and an initial 45 hives Babe's Honey came into being and grew until today Babe's Honey Farm is the largest honey producer in British Columbia. They have outyards from Courtney-Comox in the north to the home yard in the south near Victoria (capital city of B.C.), and across the island from coast to coast with 3500 colonies. In a good year each colony produces 140 pounds of honey, or 250 tons total. To produce queens, Charlie makes up 1500 nucs. These are special three-frame nucs manufactured right on the farm as is most of their wooden equipment.

As Charlie moves among the nucs he limps a little. It's just over two years now since he had the stroke that left him paralyzed along his right side ... and he is, after all, 74 years old this year. The day he had the stroke he had a customer right in the yard waiting for delivery of 950 packages. Usually his crew does most of the heavy work but, that day he was using Bee-Go in the smoker to drive the bees and getting right in there to help out his crew. He had a stroke that night. Within two months he was back with his beloved nucs at the home yard. He had convinced his doctor that the best therapy he could get was the work he was used to doing in the beeyards.

Besides packages and the queens, Charlie produces, packs, ships and sells three distinctly different types of honey. Each variety of honey has its own label-color: green for the fireweed, pink for the milder wildflower, and a red label for a fine flavored dark honey. This last variety is described by enthusiastic consumers as having a 'rich fruity flavor and aroma' and is very popular with customers accustomed to the darker honey of Europe. Most North Americans seem to prefer the lighter fireweed honey. For some reason the pink label is most appreciated by customers from the province of Manitoba. Perhaps it reminds them of the honey derived from the nectar in the Canola Oil blossoms of their native province. Charlie has been in the business nearly 50 years and he knows how to keep his customers satisfied. Just give them what they want.

"We always let the honey ripen much longer right there in the outyard. That ensures that the water content is very low.

"Agriculture Canada takes samples right off the grocery shelves at random and tests them. We measure up consistently anywhere from 14.1 to about 15.4 and anytime I've tested it I find it's been 14.5 (percent moisture) or something like that. Ours has never tested at 16 or higher. Our customers are getting honey for their money – not water.

"Fireweed honey is very high in levulose, thus it doesn't granulate quickly. And especially it doesn't granulate quickly when it's at such a low moisture content because the crys-

tals can't move around with any thermal change.

"When your honey is sitting on the shelf or in the bucket and the temperature in your room or in your storage area changes, there is a thermal turnover ... that is the change in temperature that hastens the granulation of honey and if you've got very thick honey those crystals aren't moving very fast.

"In 1989 we only got 49 pounds to the colony but we sold it at the farm gate in the customers' containers for $1.40 a pound for the light honey and $1.20 a pound for dark honey. You know anyone else gets that kind of premium price?"

Their three extractors are horizontal radials with a 300-frame total capacity. And Babe's owns a fleet of 11 trucks, five one-ton Fords that use propane; three Toyota pick-ups; two hoist trucks (one propane, one gasoline fueled); and, one 1-1/2 ton diesel Ford.

Babe's provides year-round employment for 10 to 14 people. When we talked they wanted to hire three more experienced commercial beekeepers but even at $11 an hour the jobs go begging. Year-end bonuses have been known to go over $1500. Babe's still prefers to train their own employees, some of whom have been with the company since graduating from high-school. Security, a decent wage, and good management makes the staff both loyal and efficient.

Charlie relies heavily on the highly motivated crew that works with him. Glenn Moody, a young man in his mid-twenties, came to work for Charlie right out of high-school. Charlie trusts him completely and has given him absolute responsibility for the yards north of Duncan. Even south of that point, Glenn is very much Charlie's right hand man. Will Clarke is a new employee from Saskatoon, Saskatchewan. Charlie has taken him under his wing and they are working closely together rearing the queens. José Yi, who was working with Charlie last year in that capacity, has now been switched over to the demanding grafting task and has the responsibility for making up the cell builders. He claims that his ancestry (Peruvian mother, Chinese father) has given him the patience needed in his work. Conrad Bérubé was a consultant with the U.S. Peace Corps before coming to work at Babe's. Another valued permanent employee is Ekeline Cellarius. Ekeline not only bottles honey but she also delivers and sells it to the local outlets. Dave Harrison is working with two men who were hired on a temporary basis to smooth the work load which is considerable at this time of the year.

Fortunately, Charlie has, in his family, a built-in crew of professionals that tide him over the tough spots. His son, Raymond, has taken on considerable responsibility but, in lifting some of the load from Charlie's shoulders, has himself suffered an injury that prevents him from working full-time. Gar Warren, Charlie's brother and incidentally a first-rate mechanic takes care of all the machinery.

And then ... there's 'Babe', Charlie's wife.

"I'm the gopher. I go fer this, and I go fer that. I know quite a bit about machinery and hardware. I know where to get the right kind of vee-belts and the right kind of nails and all of that. I do bookkeeping from 5:00 to 7:00 every morning. I keep busy most of the time. Like this morning I was supposed to sleep from 7:00 'til 8:00 after doing my usual two hours of bookkeeping. But in the package and queen season there are constant long-distance phone calls.

"The phone rang just 15 minutes after I got to sleep and before long there was another and finally I just said to heck with it and decided to read the newspaper! But, you know, I still haven't found the time."

While she talks, Babe puts drops of water on the plastic grill of each queen cage to 'give them a drink'. The customer in Saskatchewan needs 60 queens. She bundles them in four groups of 15 with tape and puts them into a screened wooden cage and makes out the address label.

"We send all queens by priority post. They're $10 each in lots of 100, $10.50 in lots from 20 to 99; and, $11.00

Continued on Next Page

BABE'S ... Cont. From Page 153

The front of the business.

for the odd 1 to 19. I don't ship less than 20 at a time. If they want less they can pick them up here. Ekeline is out working on deliveries to the grocery stores so I'm here waiting on customers and bundling the queen cages today."

As she speaks a man comes in. She goes to the counter to greet him. The man has come over on the ferry from Horseshoe Bay near Vancouver. He wants a queen. They chat. Ten minutes goes by before she returns to her shipping chores.

"Very often that's the case. Customers tend to talk a long time. But then, I love it. I wouldn't have it any other way. I have to do the PR work with the retail customer, the one who buys a jar of honey in the store, phones up and asks why it tastes different than the clover honey. Or they ask how to cook with it. They are able to do that because we put our phone number on all our labels.

"Ours is one of the few products on the grocers' shelves that has the telephone number on it. If there are any complaints, and there has been only one in the last ten years, I want the customer to call me about it."

Babe Warren is Charlie's better half. He claims the whole place would go to pieces without her. Not to be outdone she says, "I love Charlie, and Charlie loves the bees!"

"Pollination? It doesn't make the other beekeepers terribly happy but we don't feel it conflicts with the Fraser Valley or the Okanagan or the Kooteny Valley. We don't feel it conflicts ... the fact that we don't charge for pollination but, in exchange, we expect to be able to move in and out if we want to, or bring them in, in the spring and leave them there until it's time to go to the fireweed. If they (the farmers) insist on any other policy then they are asked to pay or we just don't go back again. Now the kiwi fruit is a different matter. That's an intensive move at the wrong time. We charge for it. But we only charge half the price that the other beekeepers do because the man we pollinate for is a big voice when it comes to defending the farmer's rights with the government therefore we feel he often fights our fight. He fights our fight and therefore we pollinate for him at half price. That's only fair!

"He's very demanding because ... kiwi is very demanding. The kiwi fruit ... the female blossom ... the bees will go to it but the male blossom is not attractive to the bees. So you have to move those bees in right at the right time so that there are so many of them that they will go to every blossom both male and female and that is about the only way you can get the kiwi male flower mated.

"And last year ... ah ... after two days he says, They're not pollinating. You must have come in a day or two early."

So we had the expense of moving them out and moving some of them back in. And since you can't move them within four miles and expect them to do their job there was quite a lot of mileage involved. You gotta' have strong hives for kiwi pollination.

"We don't really have trouble with government officials nor with forestry officials. No, not really. We've got 45 years plus of building up their confidence and we not only have 'every' truck liability-insured for $2-million but also the business operation for an additional $2-million. Not that $2-million would go very far with lighting a forest fire but, ... or fighting a forest fire but, our premium is about $3,000 every year. We pay high for insurance.

"A couple of years ago I thought we were going to have some difficulty but, I personally went up and saw the man in Duncan that was controlling that district. I dunno', what do you say to a little gray-haired old lady that's got enough guts to ... you know. What do ya' say?" She chuckles.

"That's all part of it you know. I know how to approach any form of government.

"Two queen colonies? Charlie's not running two-queen colonies as such right now. Well you know the pallet system is entirely different and it doesn't lend itself to that. Charlie will change his methods of beekeeping just on the challenge of something he thinks will work. He wants to experiment and he feels that a lot of people who come here ... and we've got visitors from all over the world ... and they come here and they make such a big thing our of his 'Bear-Beater' hives, out of this pallet system and the big supers and as soon as Charlie comes on the scene, he starts telling them all the bad points of it. Charlie does not seem to want to take credit for perfecting the system ... because he says, 'I'm not perfecting, I may be in the process of it, but there's so many steps backward for every one forward."

"Charlie is extremely modest. He says he should write a book about his mistakes. That's right. He's modest.

"Well of course Charlie perfected the pallet system. He got the idea more or less from Paul Hoyland in Coombs. But Paul Hoyland was using freight pallets, and with the individual bottom boards. My Charlie has common bottom boards and there's a Killion board built

This is the way!

in. And then there's the brood nests; two standards and a Dadant, or two standards and a shallow, then the ten queen excluders; and sometimes if it's early enough before the flow, we might put ten individual supers on, or he may put two big flats on. The flats are the big flat supers with fifty frames. Covers ten hives. Actually it's like a ten-queen colony because the bees can work anywhere in the super above any colony.

"Sure, it's tranquil here. We are maintaining a greenbelt. That's a good thing about the ALR (Agricultural Land Reserve), we get some help with our taxes. I'm a water deviner. We have all the water we need. I've got a thousand trout in the four big ponds in front of the house. We like to place our mating nucs along the dykes that run through the ponds. And the ducks seem to like it. The ponds got out of condition – we weren't proud of the flavor of the trout – so we stopped half a dozen years ago ... we just started up again this year. But, Charlie says beekeeping is his hobby ... and trout raising is his hobby. When anybody asks him if he's going to retire he says, 'Why should I give up my hobby for some other hobby I haven't chosen yet. And what would it be ... I'm not going to chase a little white ball around on the green grass all day!'

"I have to get him a birthday present soon. He doesn't want material things. I gave him a new wallet three years ago but he hasn't changed over from his worn out one yet.

"You know what?! We had had our 50th wedding anniversary the Christmas before last and Charlie wore the suit that he was married in. He's still got the figure! Well, he's got a bit of a pot. I had to let it out an inch and a half ... in 50 years ... not too bad, eh?" □

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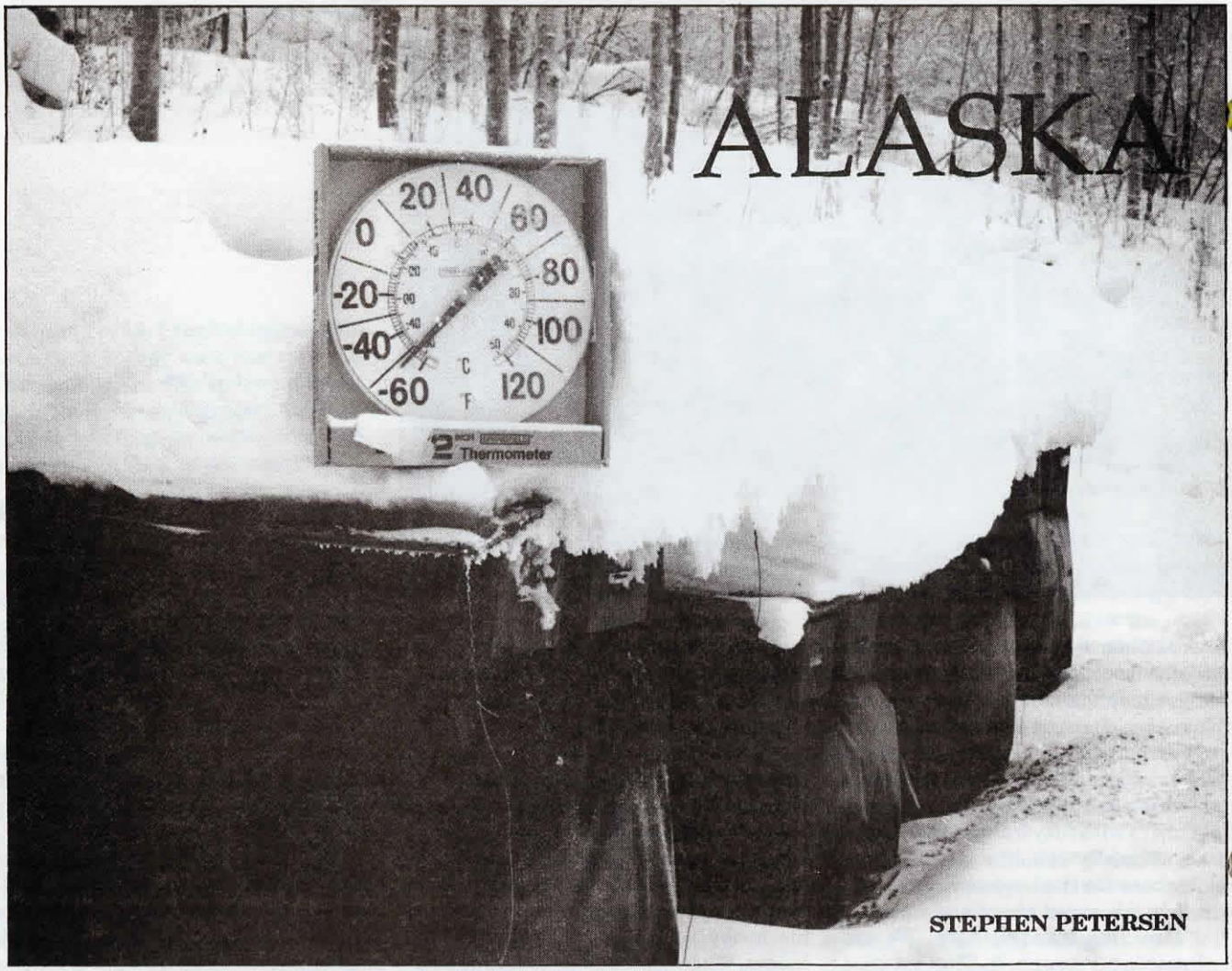

BEEKEEPING IN THE 49TH STATE ...

It's been called the Land of the Midnight Sun, the Last Frontier, the Frozen North, and even Seward's Folly (an expression of the public perception of Alaska at the time of its' purchase from Russia in 1867). For beekeepers, Alaska presents a challenge and an opportunity. Imagine a land one fifth the size of the rest of the U.S. combined, and yes, *twice*, as big as Texas, with only 500 600 beekeepers. That's one beekeeper per thousand square miles!

Beekeeping is nothing new to Alaska. The Russians taught beekeeping in religious schools in the 1800's but weren't successful in establishing colonies. Near the turn of the century, Father Methodius of the Sitka Russian Church, who had formerly operated an apiary of 150 colonies in Leningrad (then St. Petersburg), imported two colonies of bees from Seattle. Apparently the colonies died during their first winter in Sitka's warm but very wet climate. Later reports from the Agricultural Experiment Station in Sitka suggest poor results maintaining colonies throughout the year.

In the 1920's and 30's various homesteaders and the Department of Agriculture Experimental Stations tried expanding beekeeping to other areas of the State with limited success. Agricultural reports from the early 1920's describe bees in the Anchorage area, Matanuska Valley, and the Interior of the State. Over-wintering of the colonies and transportation of package bees were the greatest obstacles to success.

Up here, we use gloves for a very good reason!

Those same problems still face beekeepers today. The price of a three pound package of bees has increased over the years reaching $45 - 50. With anticipated hikes in airline freight rates, the price of a package from California may push $60 by the spring of 1991.

Winter temperatures commonly dip to -45°F in Alaska's Interior and, during cold snaps, -60°F to -70°F temperatures are not uncommon. There are almost no flight days for the bees from late September until early April. Outdoor wintering is usually more successful in the southcentral portion of the State. There the climate is moderated by the proximity of the ocean and occasional "chinooks" or warm winds that allow the cluster to move to new stores.

Most of the beekeepers in Alaska fall into the "hobby" class, operating one to five colonies to produce enough honey for their needs. In the State's largest operation, Alaska Honey and Pollen Company in Eagle River near Anchorage, three partners run 200 colonies. They have plans to expand to 500 in 1991. Perhaps 20 to 25 beekeepers operate from 15 to 50 colonies and sell their honey to gift shops, tourists, and at farmers markets. Statewide there are between 1,000 - 1,300 colonies.

There are blessings mixed with our problems. Every time I speak to a beekeeper from "outside" they tell us how lucky we are to have little or no problem with pesticides. We don't have large scale agriculture in the State and a crop duster would go broke in a week trying to make a living. The vast majority of forage comes from the wildflowers that grow profusely during our long summer days. Several important bee forage crops, such as the clovers, have taken over highway shoulders and expanded the honey potential, much to the delight of the beekeepers. The major bee forage crops include willow, dandelion, raspberry, other wild berries, clovers and fireweed. Besides pollen from these forage plants, honey bees collect abundant pollen, but little nectar, from the wild rose, *Rosa acicularis*, which blooms in early June for a couple of weeks. Its pollen tastes as wonderful as a wild rose smells, and bees collect it avidly. I collected more than one kilogram (2.2 pounds) in one twenty-four hour period from one colony. At $20 per pound for rose pollen, you can afford the slight decrease in honey production!

Besides the "Alaska wildflower honey" most beekeepers produce, there are a few speciality honeys. Alaska Honey and

Continued on Next Page

ALASKA ... Cont. From Page 157

Pollen Company is proud of its extra water white fireweed honey. "So clear you have to tip the jar and see a bubble to know if the jar is full," says John Liska. "We place our colonies out in the fireweed as it begins to bloom in late June early July. Our favorite location was cleared a few years ago in preparation for a State sponsored dairy project, and now fireweed has taken over."

In 1990 Alaska Honey and Pollen Co. harvested several thousand pounds of the water white honey and hundreds of pounds of the dark blue fireweed pollen. The site is not without problems, last season they killed three bears that had caused more than $4,000 in damages to their operation.

Honeydew, secreted by aphids and scale insects, is an important nectar source for beekeepers in the Interior. If you have ever parked your car under a poplar or willow tree and found shellac-like droplets on the paint job you've probably seen honeydew. The bees can be seen working the underside of willow and birch leaves all summer long when we have a heavy aphid infestation. This honeydew honey, favored by our European visitors, is darker and more strongly flavored than off-the-shelf type honeys. Microscopic examination of the honey reveals pollen grains not usually associated with floral sources of honey. Birch, spruce, alder, and "honeydew elements" such as sooty molds and algae are deposited by the breeze on the aphid secretions and incorporated into the honey.

Agriculture is a struggle in Alaska – it's hard to compete given our high transportation costs and lack of infrastructure. Farmers are always looking for the "perfect crop" that will withstand our cold soils, cool summers and harsh winters. This last summer a farmer near Fairbanks planted twenty five acres of buckwheat as a trial. He contacted a couple of local beekeepers who placed nine colonies on the crop in late June. By the second week in August we harvested two hundred pounds of the strong smelling dark honey. It sold well and before Christmas I had moved 100 lbs. at $5.00 pound. The secret? Give the customer a recipe card using Alaskan Buckwheat honey.

Beekeepers are always looking for an opportunity to increase their yields. In the Peace River region of Alberta and British Columbia, per colony yields are three times our 50 - 70 pound average. Perhaps with the greenhouse effect and global warming Alaska will become the land of milk and honey.

Besides dealing with bears, Alaskans have smaller pests too. To date, testing for *Varroa* with Apistan® strips has not shown any infestations, but we have found low levels of tracheal mite infestation. Because we import our packages, it makes us susceptible to all kinds of problems associated with transportation of bees. It may be as unfortunate as the well meaning, but uninformed, air freight handler who covered a shipment of package bees "so they wouldn't get cold", and suffocated more than 150 packages. Or, more of a long term problem, the importation of pests and diseases from the "lower 48" To address some of these problems the State's beekeepers have worked to create a simple bee law to control disease. No used beekeeping equipment is allowed into the State, no bees on combs or nucs may be imported, and packages must be accompanied by a health certificate. Colonies infected with AFB or EFB must be destroyed by burning, although the woodenware may be scorched or boiled in lye water for 15 minutes to salvage it.

What are Alaskans doing about the future of beekeeping in the 49th State? The Alaska Science and Technology Foundation funded an $82,700 grant in November of 1989 to help expand the industry. A book targeted to Alaskan conditions, a Master Beekeeping program, a couple of economic models, and an indoor wintering research project are all part of the two year "Beekeeping in Alaska" project. With the information and training for new beekeepers plus the research on overwintering I see a future for the industry. Our primary goal is to become completely independent in honey bees before we are hit with *Varroa*. We need to produce our own queens, perfect overwintering in our harsh climate, and put Alaska on the map as a honey producing state. □

For more information ...

Georgeson, C.C., *Alaska Agricultural Experiment Station Report 1906.* U.S. Government Printing Office, 1907.

West, S.S., *Beekeeping in Alaska, Farthest North Collegian,* University of Alaska, August 1947

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START RIGHT

The new beekeeper may find colony inspections difficult at first. Honey bees sting intruders as they seek to protect their food stores, queen and themselves from hive intruders. Knowing when and how to manipulate a colony can greatly reduce the chances of being stung and the adverse effects to the bees themselves.

What To Wear Always wear a veil. Stings on the face are painful. You could have permanent injury to the ear drum or eye if stung at these sites. If a bee gets inside the veil, walk away from the apiary and remove the bee. *Do not remove your veil in the apiary.*

Use protective clothing. Wear white or light colored coveralls over regular clothing if it's not too hot. Use boots and fasten pants or coveralls in or over them. A windbreaker jacket with long sleeves, instead of overalls, will help avoid stings above the waist.

Use gloves sparingly. During unfavorable weather or when moving colonies, gloves are handy, but you can manipulate colonies better and with a finer touch without gloves. Do not wear dark or rough textured clothes. Beware of dark socks when boots are not used. Bees can grab hold of rough texture better than smooth surfaces. Avoid wool, suede or leather.

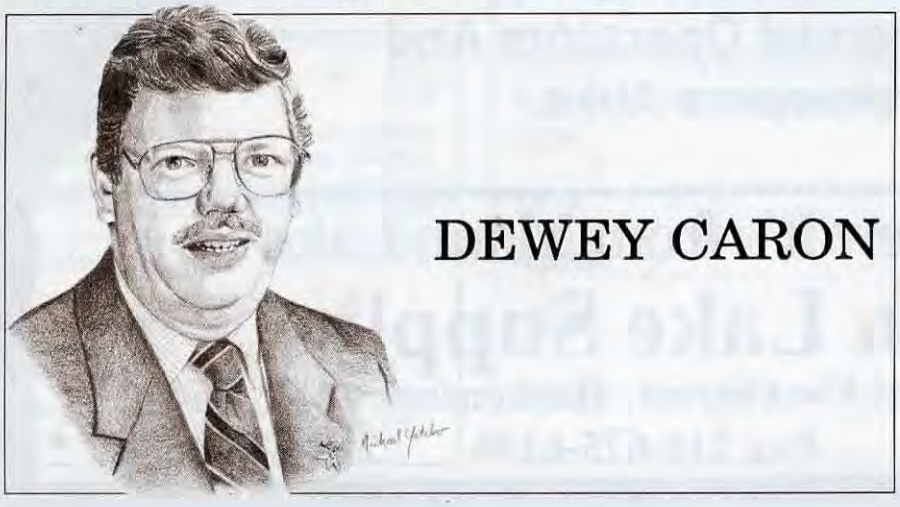
Keep veil, pant legs and shirt sleeves bee tight with elastic, velcro ties or tape. If a bee gets inside clothing squeeze her in the clothing or walk away from the apiary and open your clothes to allow her to escape.

When To Manipulate Bees Open and examine bee colonies on warm, dry, windless, sunny days between 10:00 a.m. and 4:00 p.m. Avoid cold, windy or showery days when most foragers are in the hive. More bees will be in the hive on cloudy days than on sunny or partly sunny days.

It is easier to examine bees during a nectar flow. Even the most gentle bee colony may be hard to handle during a nectar shortage (dearth) when few flowers are available for forage. Feeding colonies sugar syrup may aid your manipulations.

Colonies are easier to examine when they have a smaller population. Inspections are usually easier in the spring or late fall than in summer or early fall because colonies have smaller populations. During the summer inspect only the honey supers of large colonies; there will be fewer bees inside the supers.

How To Manipulate Colonies Make certain you have a lighted smoker that readily dispenses "cool" smoke. Puff smoke in the hive entrance, wait a few minutes, then lift the cover and puff a couple more times. Then, proceed into your colony at a leisurely pace to permit the bees time to respond to the smoke. Continue using your smoker as you examine the hive. If bees are "looking at you" on the top bars, disperse them with one or a few puffs of smoke.



DEWEY CARON

Make all movements around bees smooth and deliberate. Avoid jerky or rapid movements. Use your hive tool to free propolis sealed frames. Pry hive covers off gently. Avoid jarring or bumping the hive since bees are very sensitive to vibrations.

Work your bees from the back or the side of the hive. Stay out of the bee flight path from the front of the colonies when walking near or examining them.

If you wish to examine all boxes (or supers) in a colony, start with the lowest one. Pry up the top box to break the propolis seal and puff smoke between the boxes. Remove the top box and place it on the hive cover which should already have been placed upside down on the ground. Proceed to remove all boxes until you reach the lowest one you wish to examine. Cover the boxes not being examined with the inner cover if you use one, or a piece of canvas. Examine a box after you replace it on the lower one, working upward.

In each box you examine start by removing a frame near the outside; the frame adjacent to the outermost one is a good first one to remove. If robbing is not a problem (nectar should be available and bees are busily working on flowers) you can lean this first frame against the outside of the hive, leaving room in the super to work the remaining frames with ease. If robbing could start, be sure to cover hive bodies you remove and do not leave frames exposed. In fact, if bees become over-active, and begin bombarding you, your colony and the frame on the ground it is best to replace everything, close up the hive and return another day.

When removing a frame, pry it loose on both ends from adjacent frames with the hive tool. Grasp the loosened frame firmly and pull it up gently, being careful not to scrape the bees on the adjacent frame. This is difficult to accomplish with the first frame you remove but be as careful as possible. Frames with lots of burr or brace comb may take extra prying and care in removal.

If you scrape burr and brace comb put it into a can or container of some sort. Do not leave bits of comb or wax

Always, always, always wear a veil when working your bees.

Start examining a new colony by blowing a few puffs of smoke in the entrance, then a couple under the cover or inner cover.

lying about the apiary. Scraping burr and brace comb can be an irritation to the bees so scrape only comb that is in the way. Save this valuable wax to make candles or for other uses.

How Long To Keep A Hive Open Bees are usually quite tolerant to moderate beekeeper manipulations of 10 to 15 minutes. Brood examinations should never be prolonged. Avoid keeping colonies open where there is danger of chilling brood. In all examinations, keep the colony open only as long as necessary.

If a colony becomes noisy or flighty, close the hive. Supers and hive bodies can usually be separated for 15-20 minutes under normal conditions – 5 - 10 minutes is better.

Combs with honey quickly attract robber bees under conditions other than nectar flow. Keep a cover on hive bodies and supers not being examined. If robbing starts, stop examinations for the rest of the day and reduce hive entrances to help prevent them from being robbed. It is best to avoid robbing because it is sometimes a difficult behavior to stop once it has started.

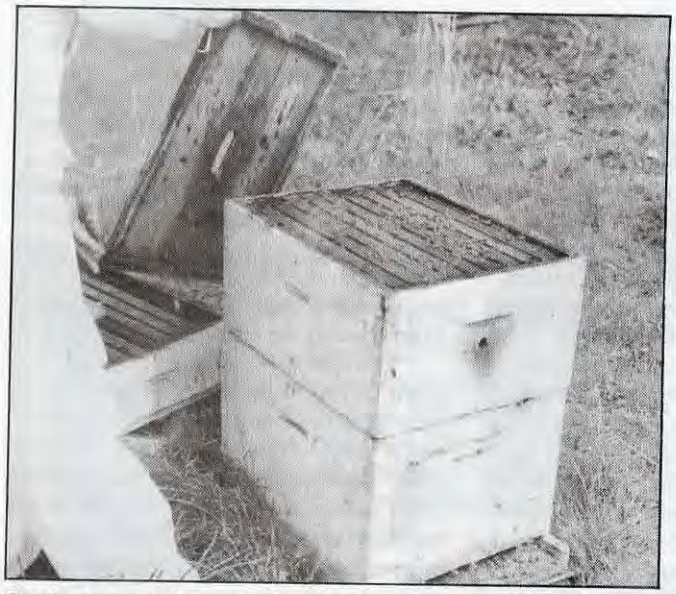
What To Do If You Get Stung When you examine your hive, bees may land on you or crawl upon your hands or clothing. Do not brush them away; leave them be. When a honey bee stings, the stinger stays behind because there are barbs on the stinger. If you get stung, scrape, **do not pull**, the stinger from the sting site. The hive tool or your finger nail can be used to scrape the stinger from the skin.

The stinger contains glands that secrete chemicals that serve as an alarm odor. If other bees quickly sting the same area or buzz about the area, puff smoke on the site with your smoker. You might need to withdraw from the colony and wash the site with water to remove the chemical odor. Washing isn't usually necessary as the chemical is with the sting; by scraping the sting away and removing it, you remove the alarm chemicals.

The sting site will hurt for a while. Application of a sting relief remedy helps some individuals. Otherwise, a cool compress (ice, mud, cool water, etc.), may provide some relief.

With a normal reaction, you will experience pain and the sting site will begin to swell in the first five to seven minutes after receiving the sting. For the next few hours, the site may continue to swell. The amount of swelling you can expect is

Continued on Next Page



Set the cover on the ground, upside down, & place the inner cover on top of it (if you use one). Place any supers on this platform. Always work from the side of a colony.

When removing frames, be careful when they have built-up wax or propolis. They will stick and be more difficult to remove.

Remove the second from the end frame first on the side closest to you.

Slowly and carefully remove the frames for examination. Try this without using gloves so you can feel those little tugs and bumps.

Stand up straight, with the sun behind you when examining a frame.

START RIGHT ... Cont. From 161

highly variable with each sting, but if the swelling stays at the sting site, you should not be concerned. After a day or so, the sting site will itch. Try to resist scratching since that only makes it worse and you could get an infection. A first aid cream may provide relief from the itching.

However, if you are allergic to honey bee stings, you will quickly notice a reaction. Typical symptoms are difficulty in swallowing, shortness of breath, itching on parts of the body away from the sting, a rash or blushing of the skin, dizziness or faint feeling and swelling in the throat or around the eyes, face or nose. In an allergic reaction these symptoms occur even though the sting is at another location. If such symptoms are severe, seek medical attention quickly.

If You Receive Multiple Stings Multiple stings may create more discomfort than a single sting. The amount of swelling will not necessarily be more extensive with multiple stings but the itching will probably be more intense. Multiple stings are no more severe to an allergic person than a single sting – both are serious.

Multiple stings may be an indication of aggressive bees. Perform your manipulations and close the hive as quickly as possible under such circumstances. In some instances, it is best to close up the colony without further examination.

If there is a specific reason for aggressive behavior by the bees you might be able to eliminate it. After the bees have had time to calm down they may become manageable once more.

Handling Difficult Colonies To manipulate an aggressive colony or to replace a queen of an aggressive colony, you might try to place the colony on a new location several yards away from the old location. Place an empty hive or move a weak hive to the location you vacate. As the foragers leave the aggressive colony to forage, they *return to the old location*. Wait one to two hours to perform your manipulation on the aggressive colony at the new location. A small, weaker colony (which is what will remain) is easier to manipulate.

If a normally gentle colony becomes noisy, overly excited or if you get several stings, close it as quickly as possible and leave it alone for a few days. Likewise, don't examine other colonies in the apiary. Try examining the colony on a good inspection day. If it is still aggressive, replace the queen.

If robbing is a continual problem, construct an open top screen large enough to enclose you and the colony (4' x 4' x 6' or larger). Perform all colony manipulations inside the screen enclosure. Bees will exit through the open top but not reenter. Reduce the colony entrance before removing the screen after finishing the colony examination.

To requeen an aggressive colony, order a gentle queen from a queen breeder. A week before delivery put queen excluders between hive bodies that have brood to isolate the queen in a single box. Move the bee colony forward from its normal location one to two hours before you begin to search for the old queen, placing an empty hive at the old site to capture the foragers. Find the box with the queen (you will see eggs and young brood) and, using as little smoke as possible, quickly but efficiently examine the frames for the old queen.

When you spot the old queen, kill her. Reassemble the hive and put it back on the original stand. Then introduce the new queen you purchased, still in the shipping cage. Let the bees remove the queen by chewing through the candy plug (you must remove the cork or metal tab covering the candy) but be sure the bees have access to the screen covering the cage side. The bees will feed the caged queen and pick up her chemical odors, reducing the chance of them killing her when she is eventually released. Check the hive in a week to be sure the queen is out of the cage and remove the cage. Hold off on colony examination for a couple of weeks.

The more you handle your bees the more information you will learn and your efficiency will improve. Compare notes with other beekeepers. Watch other beekeepers as they manipulate their colonies. Eventually you may realize you are concentrating on what is happening in your colony and not worrying about being stung. You are *now* a confirmed beekeeper. Enjoy! □

OLDER ... (BUT WISER!)

Things I have learned the hard way

I have not put my pen to paper for many years to write about bees or beekeeping, but somehow, I thought I ought to share with others my 33 years of beekeeping experience and all the wonderful mistakes I have learned from.

I used to teach the definition of a "professional beekeeper" as one who "had made a lot of mistakes – and learned from them."

Let me tell you a little background material on the old beekeeper writing this article. I started bees when I was 11 and have since worked commercial bee operations in Utah, Idaho, Wyoming and California. I have also had direct contact with Bee operations throughout the U.S., especially Florida and the South. I studied Apiculture at the University of California at Davis and for 13 years I cared for 2,000 hives and currently manage 200 hives. It is important, I believe, that you know the source of your information.

I might add, bees have been good to me all of my life. They paid for my college education, got me into my first home, sent my brother to England for two years and I even bought my sweet wife with honey. I live in a lovely home that has been totally paid for by the bees and I have no unpaid bills. This last October I took my children to San Juan Capistrano, California, and vacationed for a week in a rented home on the beach on just part of the proceeds from 200 hives. Bees have been good to me and they can be good to you.

And along the way I've learned a thing or two "the hard way" And I would like to share these mistakes with you that we might all learn.

And so, with my first article, I would like to look closely at the single most important aspect of beekeeping, at least to a beekeeper in my neck of the woods. You don't hear much about this problem anymore. I guess most beekeepers think it has been solved by migratory beekeeping.

In my case, I was fresh out of graduate school in Apiculture and had recently discovered the source of all "correct" knowledge – ***The Scientific Method.*** I was sure all problems could be reduced to scientific equations plugged into a computer using double blind tests to reach a rationale and "correct" conclusion. So, I was properly primed for the great light and understanding that was to flow from the agriculture research station in Wyoming on this most important topic of ***"Wintering Bees In Cold Climates".***

As a researcher, I had to be impressed with the methodology used. The thousands of thermocouples, the three different treatments and finally the overwhelming conclusion drawn from unbiased scientific data, that packing bees was not needed and bees without packing actually did better and that packing kept the bees cold, not warm.

I was so impressed with these "facts" that I spoke on the research at the December State Beekeeper's Association Convention. Somehow, I thought this would enlighten my fellow beekeepers to follow a more scientific way of beekeeping. Now I shudder to think I tried to convince my friends that packing bees was a waste of time and money.

Well, the short and long of it is I believed it. I followed it. And, I suffered the consequences. I stopped packing 2,000 hives, and for the next few years of mild winters, only suffered losses of 10 - 15%. I also lowered my expectation of what overwintered colonies should look like in March. Then, severe winters hit the West. The first March was a real shocker and I got very tired of scraping big clusters of bees out of dead hives. I had to develop all new techniques for handling dead bees and equipment. We suffered a 50% loss two years in a row and the bees that were left were junk. But then I had sent 500 hives to California and I made up the loss with good dividing techniques. California was the ace in the hole, I thought.

"I've learned that science doesn't have an answer to everything."

But making 1,000 four frame divides each Spring by yourself gets old – fast. So, with aching back, knowing there had to be a better way, I called a large, commercial beekeeper in Missoula, Montana, who was also a good friend and asked for help. The Mitchell's were very kind and understanding, but they were also very experienced with successfully wintering bees.

The first thing he did was warn me. Of what, you say? The consequences of having nearly 100% of your colonies come through winter as strong as they went into winter. I didn't understand the warning then. Six years later, I understood all too well.

So what have I learned the hard way? First, I learned that scientific research doesn't have an answer to all things. It takes time and practice to prove all new ideas. And second, I learned there are good ways and poor ways, easy ways and harder ways to winter bees in cold climates. If you are a beekeeper who likes to pull the honey, extract and go hunting, then certain consequences will follow. If you are a beekeeper who wants to spend the time and money at the "most critical time" of the year, you will reap the proper consequences. The choice is yours.

Older But Wiser

WINTERING – FIRST THOUGHTS

Every action during the bee year should be aimed toward the wintering effort: how much to divide, how to super, how and where to place the bee yard and most important, how much honey to leave or feed the hives.

Speaking of feeding bees, you can feed bees anytime you like, but the right time is in September and October – not in the spring. An old beekeeper here in Utah, Otto was his name, believed not to waste feed on bees that were going to die anyway, so he fed in the spring those hives that didn't starve to death. Good idea right?

I learned the hard way that if you fed bees syrup in the fall you had better feed it when it is still warm and the bees can cure it easily. Feeding in the spring is "Catch up Beekeeping" If you have to, you have to, but you can plan not to. It is a choice the beekeeper makes in most cases.

What to feed? I learned the very hard way that bees overwinter best on *HONEY*, not sugar syrup. I may not have scientific facts to prove it, but I have tried it the other way and judged the results. I've got strong bees today to back it up and I have seen the difference – honey vs. syrup – there is no comparison. The beekeeper who "robs" his bees of their winter stores and then feeds back three - four gallons of syrup year after year, just never knows what good bees can do. I had a local big beekeeper listen to me talk about "Swarm Prevention" He said "We never have swarms, not in 16 years have I caught one swarm." And the thing is, he didn't know why.

I worked for a commercial beekeeper with 10,000 hives in Yuba City, California. He sold his extractor be-

Continued on Next Page

WINTERING ... Cont. From Page 165

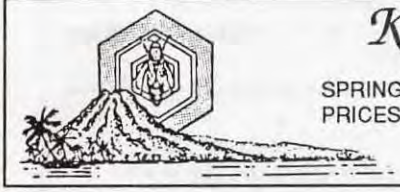
cause he never used it. By "proper" management, his bees were never in the honey storing or swarming condition. That may be fine for a Pollination and Package producer, but not for the honey producer. *The Key Is Winter Preparation.* Spring activities to prepare for wintering include –

1) Don't super too soon. See to it the second brood chamber is filling with honey before putting on a super;

2) Don't add a second super until the first is almost full (capped). This needs to be adjusted to areas where more than 60 lbs. of honey is produced. The goal is to end the honey flow in the fall with a full box of honey in the second brood box – full means side to side, top to bottom. And if it isn't full, feed or replace empty frames with full ones. This requires setting aside honey from extraction. Only the best frames should be kept, the best honey fed.

A little later I'll go into the details of preparing your colonies for winter in cold climates. We'll have this in August, so you have enough time to get the necessary materials, and get your bees ready. Stay tuned! □

"Winter preparation starts right now, in the spring. Don't play catch up this fall."



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March 4, 1991 –

LOOK AHEAD ...

RICHARD DALBY

The very beginning of another bee season seems the appropriate time to look back at the season just ended and ahead to the one soon to begin. This is the perfect time to apply the experiences of the past to beekeeping schemes and dreams for the future. No doubt all beekeepers – hobbyist, sideline, or commercial – do this in various ways and to varying degrees. Some of us even make notes. Write things down. Keep a journal of sorts.

This is a practice with much to recommend it. Unless you have a perfect memory (and who does?), you are likely to forget from one season to the next much that you vowed to remember. But if you write down your beekeeping experiences – those you deem worth remembering – then you have preserved them. More than that, if you keep such a record, you will in effect be compiling an informal textbook on beekeeping in your own particular area. A valuable guide to such matters as when the first pollen appears in the spring. When the first honey flow usually begins. What plants are important sources of nectar and pollen.

Once you have kept a written record for a season, you can look at it and learn what you did right (got the supers on early); what you might have done, and will do next year (double your number of colonies); and what you'd like to do as soon as you can, (upgrade your extracting equipment).

With a beekeeping journal, you'll have a record of schemes that worked for you (such as producing your first round comb honey sections). As well as a record of why they worked (you used only your strongest hives and there was a good honey flow). And your journal is the place to record schemes that went awry (making some fall nucs). And why, (too late in the season for nucs this far north). With a written record of what you've done in the past, you can better formulate your plans for the future.

If keeping a written journal sounds like a lot of work (which you probably have enough of already), be assured it needn't be. You don't have to write at great length. You don't have to write every day (unless you want to), and you don't have to write for the world's critical gaze. What you write in your journal about your bees and your adventures with them is just for you. You don't even have to read it aloud to your bees, unless you want to.

As you might have guessed I kept a journal of sorts over the last bee season. I had made notes before, and occasionally written down bee matters I felt were important. But I had never before kept a written record on a more or less regular basis.

There is much in my bee journal about the weather (what beekeeper doesn't notice the weather?). Frosts in April that froze the plum blossoms. Below normal temperatures in May. Snow falling on the first day of June. The rest of the month cool, except the last third. Hot and dry through July and August and on into September.

About honey flows (none of which lasted long enough). About bee behavior (which continues to intrigue and sometimes baffle). But most of all about the eight nucs I made last spring to increase my number of colonies (what beekeeper ever has enough bees?). These nucs became the focus of my journal. Many of the entries deal with them and their progress. An example:

June 4th –

Checked several of the nucs today for the first time since making them. The first one I examined was just fine. Three frames full of eggs and brood in all stages. A textbook case of success. Found the queen and admired her beauty. She seemed to want to hide, as is common with young queens.

June 11th –

Again today I checked several of my nucs. The first one turned out to be as satisfying as the warm afternoon itself. Brood in all stages, from egg to larva to pupa. A brief search and there was the queen. A large brownish-yellow one. She appears to be a good one. I have high hopes for her.

Like a mother hen with chicks, I

– Warm, sunny and windy

watched over my nucs and did all I could to safeguard their welfare. Long after they were, technically speaking, no longer nucs but full-fledged colonies, I still referred to them as nucs in my journal. Of the eight I started with, seven made it and made it well. This during a summer which was – as my journal reminds me – one of the driest.

when this season rolls around. To compare the date when the first willow pollen appears (usually near the middle of March). To check when the first dandelions ought to appear (with their abundance of pollen and nectar so vital to spring build-up). To see how the weather compares.

Already I've discovered the value of

in it whatever you wish. Whatever strikes you as important at the time (weather, honey flows, new hives). Or humorous (that bee that stung you on the tip of the nose?) Or unusual (that wonderful pungent honey you find in your hives, whose source remains a mystery). Or absolutely anything worth noting.

... by Looking Back

A summer when the honeyflows were (again my journal reminds me) meager and of short duration.

No doubt I shall be making good use of the journal I kept last season

a beekeeping journal. And I'm glad now that I kept one last season. And I certainly intend to keep one this season, too. And so should you. Remember, your journal is just for you. Write down

You'll be surprised how soon you'll have a record that can help you become a better beekeeper. And you'll also be surprised how much you'll enjoy reading what you have written. □

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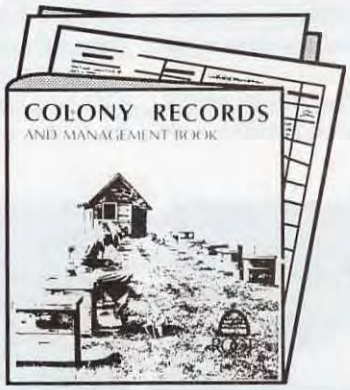

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CONDOS For Bees?

ALBERT E. CARL

There is something new afoot in housing – housing for bees, that is. There's a reason for this, according to Alvin Loy of North Highlands, California. Bees just plain get tired of the working conditions, overcrowding, lack of air conditioning, and all the other things they have to put up with.

"Think of it," says Al Loy. "They go out and work all day, come winging in loaded down with pollen time after time, crowd through the doorway, crawl over everybody, climb upstairs, find a cell in the complete darkness, make their deposit, climb back down, crowd out the doorway, and go fly off and do it all again. And we just take it all for granted, and never ask ourselves what we can do for them."

What a life! They just keep producing honey and pollinating valuable crops, asking very little in return. Where would we be without them?

But they do have their little idiosyncrasies. For one thing, bees don't know they belong to anybody. Bees are independent. They'll put up with people, as long as people leave them alone, but they can get a little cantankerous. If they're unhappy enough, or too crowded, they may even go on strike and clear out, among other things.

All this is not news, of course. Many deep thinkers over the years have tried to come up with ways to try to cope with these little foibles. But have they ever asked the bees what they want?

Al Loy has. Or at least he has watched them pretty closely and tried to get inside their little heads and take a look at things from their perspective. And he's come up with some interesting observations. He says maybe all they want is their own little condo. That's right, their own little condo.

Al Loy has been a bee-watcher and a beekeeper for over 50 years. He's an observer, an inventor, a doer, a ponderer, a dreamer, and he seems to hear a different drummer. And he listens to the bees ...

And just because it hasn't been done before doesn't mean anything to him. As a result, things that haven't been thought of before seem to work for him. The Bee Condo is one of these things ...

The last major change in beehives occurred about 150 odd years ago, when the Rev. Mr. L.L. Langstroth invented the Langstroth hive, still in use today. Al Loy pondered this, along with his observations of bees in the wild, and decided that a little modification was in order. "There's got to be a better way ...," he said.

The results of his experiments have been interesting, to say the least: His Loy Condo hive came in with two to three times as much honey as his standard hives. And there was little, if any, observed tendency to swarm. Besides that, his bees seemed to be stronger, healthier, and more aggressive. He now has several condos set up and producing, and is currently pursuing other bee-related experiments.

Simplicity seems to be the keynote. Al Loy says the Condo is not a complicated nor expensive matter. However, he notes, as with most new ideas, many people will scoff

Al Loy's Condo, with the honey supers removed.

The complete set-up.

initially. A few adventuresome souls will have a go at it, and later, others will jump on the bandwagon. Finally, if it follows precedents, it will appear that this was a good idea, all along, and the benefits should have been obvious ...

"There's not anything complicated here," says Al. "Mainly, you give them more room to get in and out, and at the same time you give them more air circulation. That's about it."

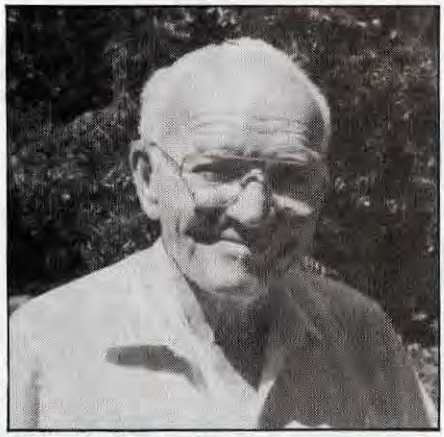
You can't buy the Condo. It's not available anywhere. But you can build it very simply and easily. It requires standard frames and nothing out of the ordinary in the way of supplies. It's actually deceptively simple to accomplish. But the benefits are many:

- You double the access, thereby getting the bees in and out faster, resulting in more trips to the honey source.
- You increase the air flow, so fewer bees are needed for fanning and cooling the hive; therefore, more bees are released for field work.
- You'll have a larger population because you've got more room for brood rearing.

In one bee's lifetime she'll probably make about one-twelfth of a teaspoon of honey. She'll live maybe a month or so. So it follows, the more bees the better. Also, bees put a lot of work into fanning out the moisture and cooling the chamber, so a little breeze is helpful, too.

The Condo consists of a double-wide unit as a brood chamber, with an access vent across the entire front. Stack the honey supers on top in the center, either single- or double-wide.

"Place the brood frames at the center of the Condo," says Al, "and put in four or five empty frames containing starter comb on either side. In early spring check the brood frames. Sometimes we'll find the brood is toward one side or the other, and we may want to move the brood frames toward the center as we clean up the hive. We tried one year just leaving the whole brood chamber alone. It's less work. But we'll see ...



Al Loy, Condo developer.

"We also tried a triple-wide one time. But the bees wouldn't go for it. Eighteen or nineteen frames was about it. They would't build any wider."

To start with, take two standard hive boxes. Cut off the left side of one and the right side of another, just at the dovetails. Slide the left and the right sides together so you have one double-wide hive. Use hive staples to connect them, and then nail a board vertically, covering the seam on the back side and the front side of the hive. This strengthens the joint.

When the hive seems well-joined, put in the frames. Place the brood frames, with he queen, in the center. Then drop in four or five empty frames containing comb on each side of the brood frames.

Put a queen excluder in the center, on top of the brood frames, and place a honey super on top of the queen excluder, in the center. Then put a half hive cover on either side of the super. It might be a good idea to put a piece of wood molding over the small crack where the half hive cover meets the honey super, to keep out moisture. Either that, or a piece of duct tape.

When you cut the two bottom hives, you lose about 3/4" on each end, which is no problem if you use a single honey super up the center. However, if you choose to put on two honey supers side by side, they're going to extend over the end of the bottom double-wide by 3/4" on either end. In this case, you can tack a small board there, to eliminate any openings.

Chances are, after you experiment with the Condo concept for awhile, you may want to build full double-width brood chambers from scratch, to eliminate the overlap.

At any rate, Al believes the Condo has a future, and he thinks it's important enough that beekeepers ought to try it out. For one thing, as Al says, "Most of our living comes, essentially, because of the efforts of these little friends of ours. If they weren't around to pollinate our plants we'd be in a world of hurt. Now if there's a possibility of making them a little happier, or easing their work load, and maybe even getting a little more production out of them, it should be worth at least taking a look at ...

"It's worked for me," says Al. "One thing about it, it doesn't cost much to try. We depend on bees. If most people have the results I've had, think what it would mean to the business ... " □

If you would like more information about this novel idea, as well as a full set of plans, you can write to: Al Loy, 3931 Ward Ave., North Highlands, CA 95660. Please include a self-addressed stamped envelope.

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Relatives of the garden onion offer a wide variety of ornamental flowers which are very attractive to bees. As well as the familiar edible Alliums such as onions, garlic and chives, there are many ornamental species with small to massive flower heads, all providing both nectar and pollen for bees.

In the course of the vegetable gardening year, consider allowing some of your onions, garlic and leeks to bolt. The magnificent spherical flower heads, which may need staking to keep them upright, are irresistible to bees. There are up to 3,000 star-shaped flowers in a single leek flower head, which blooms over a long period as the individual flowers open. The dried heads are also excellent in arrangements.

Most flowers in the Allium genus are fragrant; the "onion" odor is only released when the stem or leaves are cut or bruised.

Chives are easily grown, useful culinary herbs with tubular leaves. A variety of dishes benefit from their subtle flavor. The highly decorative pink to purple flowers appear in profusion in early summer. Honey bees work the star-shaped blossoms for nectar and pollen throughout the bloom.

When they become crowded, chives may be divided and reset to maintain good production. Consider potting up a small clump to grow on the windowsill for fresh chives through the year.

A close relative of common chives, Garlic Chives, have flat dull green leaves and starry white, violet scented flowers. During their summer bloom, they are well worked by bees for nectar and pollen. The leaves add a mild garlic flavor to savory dishes. Garlic chives may be propagated during their winter dormant season, by root division or seeds. The small seedlings look just like grass, so mark their place well to avoid weeding them out!

Pollinators of onion crops say the odor of onion does not taint the honey, as long as the honey has been ripened. In the home garden, it is unlikely that enough Allium nectar would be collected to affect the honey taste at all.

All of the edible and ornamental Alliums belong in the Lily Family, or Liliaceae, many of which have showy, six-part flowers. Most have perennial growth habits, and overwinter as a bulb or corm or rhizome. As well as the garden varieties there is a stunning array of ornamental Alliums. There are over 400 species of Allium, native primarily to the Northern Hemisphere.

One variety, unusual for its cornflower-blue flowers, is the Blue Allium, *Allium caeruleum*. The flower stems grow to about 12" high, producing two-inch wide globes of blue blooms each June. Purplish-red flowers, in tight clusters, are produced by the Drumstick Allium, which grows to two feet. Golden Garlic, *Allium moly*, native to southwest Europe, sends up shiny yellow flowers in loose clusters in June. These species are hardy perennial bulbs which should do well in most areas of the country. They become dormant in late fall, when they may be dug up and divided if crowded. Plant ornamental Alliums in deep, rich soil in a sunny place to get best results from bloom and bee visits. The bulbs need lots of water while growing, but repay their care with the production of multi-flowered blooms which are attractive to both the gardener and the bees. □

QUESTIONS? ANSWERS!

Richard Taylor

Armed Robbery!

Q. I began with two, three-pound packages last spring, and soon ran into a problem that has stumped the old-time beekeepers in the local association as well as the extension agent, and sent me into despair. Here is the story.

April 21: I installed my two packages, began feeding sugar syrup. One hive flourished, the other was pathetic. The pattern of eggs was irregular, and the queen acted like a rickety puppy, gangly and awkward.

May 14: Replaced the bad queen with another. She went right to work laying eggs like a house afire. I continued feeding sugar syrup.

May 20: Tulip poplars had stopped flowering, so I kept on with the sugar syrup, and the new queen was laying eggs like a machine gun.

End of May: A sad contrast. The one colony, which had done fine from the start, continued just as the books said it should – drawing out comb, storing honey, building up population. But the other, with the new queen, was pitiful – very little comb drawn, very little honey, small population. So I gave them a frame of brood from the strong hive and continued feeding them.

June: I found that the new queen was laying thousands of eggs, but there were virtually no larvae. Same thing in July – thousands of eggs but no brood. True, the honey flow was long past, but I had kept plenty of sugar syrup available right along.

So I gave up, stopped the sugar syrup, and left them alone. At the end of August I opened the hive, expecting to find it dead, but amazingly, even though the queen was not laying much, there were both larvae and pupae!

I'll be grateful for any explanation you can offer of this total mystery.

George Robertson
Raleigh, NC

A. Your two colonies got off to a slightly uneven start, and one of them, which soon became the stronger, began robbing the other, building up on the sugar syrup which, as you say, you were feeding continuously. It takes awhile for a colony begun with a package to establish defenses. So bees from the colony which soon gained the upper hand were simply going in and out of the other hive, helping themselves to the syrup feeder and whatever they found in the combs. The weaker colony soon became completely demoralized, particularly the queen, as the other colony continued to rob them blind. The reason there were no larvae is that there was nothing for the larvae to be nourished on. Bees are especially vulnerable to robbing when there is a dearth of nectar, and in your territory there is a dearth when the tulip poplar flow stops, as you note that it did. Your continuing the sugar syrup exacerbated the tendency of the strong to steal from the weak. You thought you were feeding the weaker colony, but were in fact feeding the other which, not surprisingly, was able to build up beautifully. You finally gave up and, as you note, discontinued the sugar syrup – whereupon the weaker colony, no longer a mere avenue to the syrup feeder for the other colony, began to recover.

Bad Pollen?

Q. I have a chalkbrood problem. I have collected pollen from my bees, but do not dare feed it back to the bees for fear of aggravating the chalkbrood problem. Is there any way I can sterilize the pollen so that it will be fit to feed back to the bees to stimulate brood rearing?

W.V. Rumpler
Pinedale, WY

A. I know of no way to treat pollen for the presence of chalkbrood spores. It has, however, been my experience, for whatever it is worth, that chalkbrood can to a large extent be controlled by having the hives out in full sun and up off the ground for dryness. Chalkbrood is a fungus, and seems to thrive on high humidity. I will appreciate hearing from anyone who can shed further light on this.

Moth Crystals?

Q. In mid-November I noticed that one of my hives had very little activity. The next week I checked it and found it had no brood, plenty of honey, and just a handful of bees. There were no signs of wax moths. So did the menthol crystals I treated the hive with in September prevent the wax moths from taking over?

L.E. Spangler

A. I have never heard that menthol is effective against wax moths, but would appreciate receiving any definitive information to the contrary. The condition described here is strongly indicative of colony loss by tracheal mites, raising doubt whether the menthol crystals achieved their purpose. It would be useful to know whether this happened in a northern or a southern climate.

Why Eight-Mesh?

Q. You have said that it is essential to use eight-mesh wire screen, not fly screen, for making beekeeping apparatus such as escape screens, double screens, etc. I have not been able to get eight-mesh screen. Why cannot ordinary fly screen be used?

Joseph E. Vollmar, Jr.
St. Louis, MO

A. The eight-mesh, eight-holes-to-the-inch, screen is much stronger, that's all. Fly screen will work. But I can provide the address of a supplier of the heavier eight-mesh screen to anyone having difficulty finding it.

(Questions are welcomed. Please enclose stamped envelope and address: Dr. Richard Taylor, Box 352, Interlaken, NY 14847)

NOTE: To readers who have expressed interest in making mead, Pat J. Howley, of St. Albans, WV advises me that one can join the American Mead Association, P.O. Box 206, Ostrander, OH 43061, for an annual fee of $10.00 and receive useful information.

INNER ... Cont. From Page 132

But some of us aren't experienced enough to automatically see if this ratio is correct, and it takes practice to 'see' this balance. Moreover, it takes planning to get this ratio to come out so that the population is 'right' at honey flow time (see above).

Breaks in this pattern, such as having far too much uncapped brood to either eggs or capped brood indicates a problem with the queen's laying, or available workers to care for the eggs, or some other situation.

On the other hand, little capped brood means that there aren't enough nurse bees to care for the uncapped brood or eggs present. Nature has a plan for success, and maintaining that ratio is the goal. An unbalanced ratio will spell, if not doom, at least less than success.

•

Collison also mentioned honey production per bee during a honey flow, and how the adult bee:open brood ratio affected it. With a queen laying at a 'normal' rate, a colony with 10,000 adults will have 8,500 brood cells to care for, for a ratio of .85, which means that for every 85 brood cells, 100 adult bees are kept busy caring for them.

When the adult population reaches 40,000 adults, there should be about 19,600 brood cells, for a ratio of .49, which means that just over half of the adults are available to forage. When the population reaches 50,000 adults, the ratio is only .38, which means that 62% of the adults are available to forage.

What this means is that a large colony will produce significantly more honey than a smaller colony, and even more importantly, will produce *more honey per bee.*

But this all comes back to managing your colonies so you not only have the maximum population at the right time, but that the correct amount of adult to brood to egg ratio exists to maintain that 'most efficient' level.

It's only basic math, and I learned it in a beginners class. So it goes.

•

If you have ever doubted the power and influence of the media to inform or influence the average information consumer in the U.S., think of this: Had you *ever* heard of the word SCUD before your last birthday?

Kim Flottum

ERRATA

Robert Hutchinson should have received recognition as co-author on the Jenter Queen Rearing article in the January, 1991 issue of *Bee Culture.*

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BEE TALK

RICHARD TAYLOR

Box 352, Interlaken, NY 14847

"Bees are not greedy, but what they do may be considered robbing."

Let's talk about robbing. It is one of the most familiar and yet most frequently misunderstood aspects of bee behavior. It is also of considerable practical importance to beekeeping.

I got to thinking about robbing as a result of Mr. Robertson's question, on this month's Q & A column. I puzzled for awhile over the mysteries he described, which had apparently stumped a lot of other beekeepers, and then suddenly the simple solution dawned on me. And this got me thinking about the dozens of similar things that have happened to me.

Norman Gary once said that robbing is simply an expression of normal foraging behavior.This is doubtless true, and it is a good place to start for getting an understanding, but it can also be misleading. Normally foraging bees do not, for example, fight over existing sources. Bees from different colonies ignore each other while gathering nectar from the same apple tree. If two such bees encounter each other on the same bloom then one of them simply flies off to another bloom. But if you set sticky supers out in the yard for the bees to rob out dry, the resulting feeding frenzy and competition sometimes results in many dead bees.

We tend to think of robbing as the result of a strong colony discovering a weak one and simply plundering it, but it is really far more complicated than this. Other factors enter in. Weak colonies are not normally vulnerable to robbing unless something else happens. Often it is started by the bees of a given colony losing their orientation, or the hive identity necessary for protection by the guard bees.

For example, suppose you decide to split a two-story colony by simply setting one half off onto a new bottom board and requeening whichever half was thus made queenless. Now if you leave the heavy half, that is, the one with most of the honey, on the original stand, then there will probably be no problem. But if you simply set the top story off on a new stand, which is the simplest and most obvious way to make the split, then you've got trouble, because the top story is invariably the one with the honey in it. The bees just cart all that honey back to the original stand where it belongs, and of course there are no guard bees to stop them. Both colonies "smell alike" to each other. The moved one has lost its identity.

I once undertook to help a friend move his one colony of bees to a new spot, several miles away. The hive was so heavy that we decided to move half of it at a time. We moved the heavy top half first, giving it proper bottom board and cover, then moved the rest a couple of days later, only to discover that the part already moved, which had been so heavy it took two strong men to lift it, was now light as a feather.

Contrary to common belief, honey is not especially attractive to bees, except in a special sense. For instance, bees will not be attracted to a bait hive, as a nesting cavity, by putting honey in it. The honey just gets robbed out and taken home.

A lady once consulted me about getting rid of the bees in the siding of her house. She had come up with what seemed to her a simple and obvious procedure. She was going to set a big pan of honey out in her yard and then, as soon as the bees were all out there drinking the honey, she would plug the hole so they couldn't get back in! You have to be a beekeeper to see how hilariously funny that is.

If you set up some new hives with package bees or nucs, then there will be several days before the new colonies acquire separate identities. Bees from different packages, for example, drift from hive to hive, with no idea which is "theirs" Some get strong and some get weak. If, under these circumstances, you start feeding sugar syrup, then you are inviting trouble, the more so if the hive entrances are left wide open. Some of the colonies will simply start foraging from the feeders nearby, on other hives, without exhibiting any typical robbing behavior at all. A corps of guard bees is slow to get established, and even once they are in place they are of little use if they cannot tell friend from foe. All this settling down and getting colony tasks and routines established takes time. But it doesn't take much time for the bees to discover that there are copious supplies of sugar syrup nearby.

Robbing, of the kind that is considered typical – that is, a strong colony plundering a weak one – is seasonal. There is almost never any robbing in the spring, except under abnormal circumstances of the sort just described. In the spring you can even switch a weak colony with a strong one, that is, exchange their places in the apiary, without inducing robbing, even though

Continued on Next Page

BEE TALK ... Cont. From Page 177

you have thus totally confused their identities. The exception to this is when one of the colonies is not merely stronger in population, but much heavier with honey. In that case, the bees take the honey back to the stand where it came from. When you move a hive, the flying bees, that is, the foragers, retain an identity, not with the hive itself, but with its original location.

The seasonal character of robbing was driven home to me one spring long ago, when I still had lots to learn. I had a super of honey from the previous season which, for some reason, I wanted to get emptied out without going to the trouble of extracting it. Probably it had granulated; I don't remember. Anyway, I set it out in the apiary, for the bees to help themselves. They never went near it. The spring blooms interested them more. Now had I done this in August, when there is always a dearth of nectar in the fields, there would have been a feeding frenzy within minutes.

If I try to sum all this up, I come up with this: Try to think of nectar, honey, and sugar syrup from the bees' point of view. We see a syrup feeder simply as a feeder, to help a colony along. But to a bee it is like a huge flower in bloom with an immense nectary. She dashes home and tells her sisters about it – and "home" may not be the hive where the feeder is. Now these bees are interested, not because they're hungry for sweets, but because they have a powerful impulse to fill with honey whatever hive they identify as theirs – and that may not be the one you think of as "theirs" Similar considerations apply to a comb of honey, or a super of it. Bees are not like greedy pirates. They are seekers and hoarders. □

Comments and questions are welcomed. Please use Interlaken address and enclose a stamped envelope for response.

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MARCH, 1991 ALL THE NEWS THAT FITS

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2. The state government can and will seek prosecution. In some states, this means a fine AND jail time.
3. Honey can be seized. ALL OF IT! Yes, the entire production will be seized – cannot be packed or moved. The government is not under obligation to trace the honey's source. If you packed it, it's your problem!
4. Honey can be recalled.
5. Hives can be destroyed.
6. Honey can be destroyed.
7. Adverse publicity results.
8. The market nationwide is endangered.
9. Regional honey gets a bad name.
10. Increased cost of doing business.
11. Increased mistrust among segments of the industry.
12. Discourages research & development of miticides.
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How-To & Why

EXPORT NEWS

The National Honey Board is accepting proposals for its fiscal year 1991 Branded Products Promotion Program. Under this program, NHB will match funds with U.S. companies that wish to conduct overseas promotions of their U.S. honey and honey products. The Branded Products Promotion Program is part of NHB's Marketing Promotion Program for branded honey.

Promotions may be conducted in any country in the world (excluding U.S. territories). Allocations will be based upon the company's adherence to the Foreign Agricultural Service's regulations and NHB guidelines.

Companies that apply to NHB will be charged a 5% submission fee for participating in the program. This 5% fee is based upon the total amount of award received through NHB. The fee is non-refundable and is not prorated if the company does not spend the full amount of its award. The deadline for submission of proposals is March 20, 1991. Promotions must be completed by December 31, 1991.

To receive a program application portfolio, please contact Diego Garcia T., export director, at the National Honey Board, 421 21st Avenue, Longmont, CO 80501, (303) 776-2337.

And Who?

WHO TRAVELS OVERSEAS

Exports of processed agricultural products are inversely related to the amount of domestic market power held by processing firms, according to Ohio State University agricultural economist Dennis Henderson. Exports help reduce national trade deficits and promote a stronger U.S. economy. Studies of what determines export sales by U.S. food manufacturers note a statistically significant, inverse relationship between exports as a share of total sales from U.S. plants and the concentration of domestic market power. That is, industries in which a few firms dominate the domestic market tend to export relatively little compared to less concentrated industries. These findings also show that food processing industries selling products that are not heavily advertised at home tend to export a significantly larger share of their U.S. production. This suggests that firms who do not have dominant positions in home markets are more aggressive exporters.

California Laws Change

MIGRATION GETS TOUGHER

There have been some recent developments in the Apiary programs in California which migratory beekeepers should be aware of as plans are being made for this pollination season.

The first is the decision of the California beekeepers to withdraw their support of the state's Apiary Protection Act. This will result in the deregulation of the beekeeping industry, at the state level, *sometime* in 1991. Whether this will become effective January 1st or some months later is not known at this time. However, existing entry regulations will be enforced until at least December 31, 1990. The California Department of Food and Agriculture's (CDFA) decision to deregulate does not necessarily mean that apiary regulatory activity will cease. Individual county agricultural commissioners may continue to enforce regulations in their respective counties. With the culmination of the Apiary Protection Act, the CDFA will not coordinate the activities between counties. More importantly they will not have funds to contribute to the county commissioners to offset administrative expenses. It therefore seems likely that inspection fees will increase. Most counties are expected to continue inspections for out of state shipments. Some agricultural commissioners may continue to inspect colonies brought into their respective counties.

To enter the state, beekeepers will need:

1. An individual Varroa Mite Compliance Agreement on file with the CDFA. Compliance Agreements approved by the CDFA during the past two years are valid this year, unless they have been revoked. CDFA port of entry inspectors have this information available on their computer network. You may want to have your copy to avoid delays.

2. Certificate of Apiary Inspection. Each shipment must be accompanied by an original certificate of apiary inspection. California port of entry inspectors *will not*, under any circumstances, accept photo copies of the Arizona health certificate. The blue copy is considered an original certificate.

   Owners of comingled shipments must have a certificate for their portion of the load.

   Each certificate will be stamped at the California port of entry. Once it has been stamped, it cannot be reused.

   The certificate must be based on an inspection made within 60 days preceding the date of entry. If AFB or Varroa Mite is detected, the certificate will not be issued until the inspector is satisfied that the disease has been successfully treated or abated. Varroa Mite inspections will be conducted using the Ether roll procedure.

The Workers Glean

'Tis great to know that when you go
And taste your fresh honey flow.
That it's all there the bees didn't spare.
The nectar from the fragrant flower.

The best she brings, the pollen springs,
The bouquet of the garden of God.
And as they reap the golden store,
The droplets glisten with sunshine more.

Remember this, all that sweet,
The bees have gathered your tongue to great.
The honey is pure, 'tis fresh and clean
The sweetest taste you've ever seen.

It is that golden nectar stream
Refined and cured by the workers glean.
The queen she rules the army on wing
They labor to glean honey to bring.

D.L. Gilpatric

New Publications For You

SMALL SCALE AG NOTES BEES

A new publication by the Agriculture Dept plugs the joys and rewards of beekeeping, even as the Africanized bee makes its way north from Mexico.

But the report, part of a series by the department's Office for Small-Scale Agriculture, says an increase in the number of domestic bees might dilute the spread of Africanized bees.

Domestic bees are descended from European bees. The intruding Africanized bees are hybrid offspring of African bees brought to Brazil in 1956. Some escaped and mated with native bees.

Their descendants have been moving north for 30 years. A swarm was recently trapped and killed near Hidalgo, Texas.

"From a biological viewpoint, one defense would be to increase the numbers of European honey bee colonies to compete with the others," the report said.

The report mostly described the importance of honey bees to U.S. agriculture and consumers.

There are more than 200,000 beekeepers, with about 3.2 million honey bee colonies. Thousands are small-scale operators and hobbyists who keep bees for the fascination and pleasure of producing honey and other products of the trade.

For the person interested in starting a honey bee program, the report could be a valuable primer. And it describes some of the pitfalls as well as the rewards of beekeeping.

"Beekeepers should know about bee biology, flora and management, and possess business ability," the report said. "They should understand that they are subject to factors beyond their control – market price and weather elements ranging from drought to floods and temperature extremes."

For free single copies of the report, write to: Howard W. "Bud" Kerr Jr., Program Director, Office for Small-Scale Agr., Cooperative State Research Service, Rm. 342-D, Aerospace Bldg., USDA, Wash., DC 20250-2200; or phone 202-401-4640.

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But will it help bees?

PESTICIDE RESEARCH HELPS

Pesticides drift from orchards in minute but measurable amounts, report scientists at Ohio State University's Ohio Agricultural Research and Development Center. The findings could lead to better ways to spray fruit trees with less pollution risk, they say.

"Pesticide drift is a concern, and growers should be taking steps to reduce the amount leaving the target," says Bob Fox, an agricultural engineer with the U.S. Department of Agriculture ARS "Regulations are probably going to get tighter and tighter. We'd like as little pesticide as possible to leave the spray areas."

The drift amounts are harmless under normal conditions, Fox says. But he says excessive drift sometimes may occur due to wind or improper spraying. Concentrations may contaminate nearby land, groundwater, or harm beneficial insects.

While growers are advised to spray only when wind speed is low, CA and several other states have enacted or are considering regulations requiring buffer zones around sprayed areas.

Fox and colleagues measured the drift of pesticides applied by orchard air sprayers as part of an ongoing study at the Wooster, Ohio OARDC Research Center.

"When you spray, some pesticide almost certainly will miss the target," Fox says. "With a field sprayer, most of that pesticide is placed close to the ground. With an air sprayer, you're spraying up into the trees, and more of the pesticide may go downwind. That's a concern to growers and their neighbors."

In tests, the researchers found that most spray will fall within 400 feet of the spray line, and that less than 0.1 percent will fall 500 to 1,000 feet away. Big spray drops – those of more than 200 microns, or about one-third the size of a printed period – will fall in the first 200 feet. Drops ranging from 10 to 200 microns will evaporate to even smaller sizes and may be carried farther.

"There may be small amounts of spray carried a half mile or more," Fox says. "But they're very dilute. The chance of an amount deposited in any area in a high enough concentration to be a hazard is very small."

The studies were conducted in a plot of dwarf apple trees. Mean wind speed was 5 to 10 miles per hour. Humidity was considered typical for Ohio. Temperature was about 50°F for all the spray applications.

Most spray-drift research has been on field, or "boom", sprayers, devices that are ground-operated or mounted on aircraft.

But the Ohio study is one of the few that has centered on air sprayers, the "mist blowers" commonly used in orchards.

"So far, we've been measuring pesticide movement to get a background figure," Fox says. "In the next two years, we'll run studies to look at other sprayer designs to see if they can reduce drift. We're also conducting studies to see how different meteorological conditions affect movement downwind.

"If we can get a good bank of data on what's going to happen, we can develop models to predict where the pesticide is going to go. Then there might be a better way to tell what's going to happen to the spray. They could monitor the weather to control how much drift there will be."

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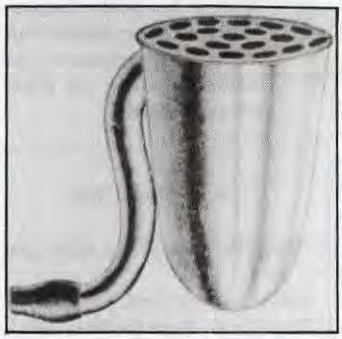
News from Mangum's Museum

ANTIQUES – WHERE YOU FIND THEM

In acquiring antiques for my beekeeping museum, I have traveled to many parts of the country and have come across some very unusual situations. Once, while searching through some abandoned farm buildings (with the owner's permission) I serendipitously found a very unusual item. It was in a pile of trash on the second floor of a structurally unsound building. I recognized it the moment I laid eyes on it.

This unusual antique was a hearing aid horn. With the stem held close to the ear canal and the flat part of the dome pointed towards the sound source, one realizes this device would have helped some of the hearing impaired people in the age before miniaturized electronics. Given its unusual shape, I was surprised at the level of amplification.



Now, how did I know this antique was a hearing aid? Well, curiously enough, because I have studied the back issues of *Bee Culture*. In the September 1, 1892 issue of *Bee Culture* an article appeared entitled, "L.L. Langstroth's Experience With the London Ear-Trumpet" The article was written by the Rev. Langstroth and was furnished with a drawing of the device. (By 1852 Langstroth had patented his beehive which utilized the concept of the bee space). Apparently he was very pleased with the ear trumpet, "... and took it to bed the first night to have the pleasure of hearing the clock" I was very pleased to rescue this small piece of history from the eventualities that befall the contents of a forgotten building.

In my travels I am always searching for apicultural artifacts. These items are usually directly related to beekeeping (i.e. old beehives, smokers, etc.), however, once in a great while I find an artifact with an unlikely connection to our beekeeping history.

For more information on Mangum's beekeeping museum, contact him directly : Wyatt A. Mangum, NC State University, Box 7626, Raleigh, NC 27695-7626.

TWO NEW FOR BEESWAX

What do mushrooms and taxidermy have in common?

Beeswax! A couple of entirely new markets for the beekeeper to explore have come to light and may prove an additional income for those who want to do a little market investigation.

Shiitake mushrooms, that treat from the orient usually sold in dried form and taste similar to steak, couldn't be produced without beeswax.

Because farming shiitakes has picked up interest in the United States due to sky-high prices on imported varieties, many farmers are looking to them as an alternate income. Some extension services have also had seminars on them and are happy to provide information on their growth.

These mushrooms do not grow like native mushrooms. They need to feed on wood logs, oak being the most preferred. The grower must have his logs, he must drill holes into them, insert

Continued on Next Page

READ IT FIRST IN *BEE CULTURE*

Need Customers?

SOUND PUBLIC RELATIONS

It costs businesses almost five times as much to get a new customer as it does to keep an old one. That means getting along with customers is critical. But customer relations can be a real mystery for small businesses, according to an Ohio State University specialist.

"Small businesses have to pay more attention to customer relations," Grey Passewitz says. "That's particularly true if the business is service-oriented or seasonal in nature.'

Small businesses, especially family operations, are less likely to have the business management and marketing background that is necessary for long-term success, Passewitz says. Customer relations are a big part of that.

Service-oriented businesses depend on their ability to deal with customers to be successful. Seasonal businesses, on the other hand, face the challenge of training part-time workers each season, Passewitz says. And often the emphasis is on production instead of customer relations.

"Let's face it, most small-business owners are more interested in producing their product," Passewitz says. "If they have a fresh produce market, they probably are more concerned with growing the finest produce they can and making sure their help knows how to do the same. That's all well and good, but someone has to be concerned with selling."

Passewitz trains people from small businesses on how to deal with their customers. He says the first 10 seconds of contact between buyer and seller will probably determine whether a sale will be made and whether or not the customer will return.

"Communication is imperative," he says. "The standard 'Hello, may I help you with something' greeting to a customer can either turn them on or turn them off. It all depends on delivery."

Passewitz says most skill in dealing with customers is gained from practice over time. However, he advises business owners to work with their employees to help them be more attuned to customer needs.

Pleasant greetings are a good first step in dealing with customers, but Passewitz says it's critical the greeting be more than courteous. The seller must show interest.

That means listening carefully for hidden messages in the buyer's questions or statements. A buyer who dislikes a color of an item may merely be asking if it comes in other colors. Likewise, customers who say they don't mind waiting and then act impatient probably feel their time is too important to waste. The business person who recognizes such signals and deals with them has a better chance of retaining that customer.

BEESWAX ... Cont. From Page 182

the spore, then seal the spore by brushing beeswax over the hole. And the good part is that the grower doesn't need to have pure beeswax. He can use it right out of the hive, saving the beekeeper extra work.

Sources for the names of these Shiitake growers could probably be obtained through a local extension office, or by contacting Agri-Forest Services, 108 E. Main St., Lexington, Ohio 44904.

Taxidermy is a little more specialized and might prove a little harder to get buyers, but Buzz Riopelle of Valley City, Ohio, has been selling his wax to a taxidermist who can only get his life-like renditions with wax.

Riopelle reports that this taxidermist produces museum quality reproductions and finds that only beeswax is pliable enough for this work. He also said that it provides the right transparency for the pieces. "It's all he uses for iguanas, and frogs and for animals insides, like an eagle capturing a fish," said Riopelle.

Strange uses, but a little added profit may be worth the investigation in your part of the world.

Help Your Honey Bees

WILDFLOWERS & YOU

Mention wildflowers, and most of us think of mountain meadows, cool, damp forests, or vast prairies splashed with color. However, wildflowers are now being planted in parks, along highways, on golf courses, and in home gardens. Beekeepers are also going wild. Low maintenance is just one incentive. Wildflowers provide an excellent, low cost, supplementary source of nectar and pollen, and they create honey with a rich, full-bodied flavor.

Tidy Tips

Wildflowers that are good nectar producers include Cosmos, Gilia, Baby Blue-Eyes, Lacy Phacelia, Five-Spot, Black-Eyed Susan and Wild Thyme. For pollen, good choices are California Poppy, Corn poppy, English Daisy, Tree Mallow, and Sweet Alyssum. Wildflowers that provide both nectar and pollen include Cornflower, Coreopsis, Gaillardia, and Sunflower.

While it is best to plant wildflowers native to your area, many non-natives will adapt readily. Choose wildflowers that are compatible with the conditions in your planting site. Factors to consider include soil type, moisture and sunlight. A mixture of all annuals, or annuals and perennials, is a good choice. Annuals bloom the first year, and they act as a "nurse crop" for the slower-growing perennials. Most perennials will not bloom until the second or third year.

To succeed with wildflowers, proper soil preparation is essential. First remove all weeds, and loosen the soil to a depth of two to four inches. Sandy or clay soil may be improved by mixing in peat moss or weed-free straw. These materials lighten the soil and increase its moisture-holding capacity.

Scatter the wildflower seeds evenly by hand or by use of a mechanical seeder. The seeds are tiny, and may be mixed with sand or vermiculite for even distribution. Rake in seeds very lightly, to a depth of about 1/8". Soak the area thoroughly with water and keep moist for about six weeks, just like a new lawn. If you cannot water, plant seeds before anticipated periods of rainfall.

Weed control is very important. Most wildflowers cannot compete with aggressive weeds such as bindweed, crabgrass and clover. Pull all weeds as soon as they can be identified. Fertilization is unnecessary unless your soil is unusually poor.

California Poppy

A good source of information about growing wildflowers for bees is *Honey Plants of North America* by John H. Lovell, published by A.I. Root Co., Medina, OH (now out of print).

Applewood Seed Co. offers an annual wildflower mix especially formulated for bees, as well as other special-use and regional mixtures. For a free flyer, write Applewood Seed Co., P.O. Box 10761, Edgemont Station, Golden, CO 80401. Dealers may request wholesale prices by inquiring on company letterhead.

SEND YOUR NEWS TO THE GLOBE

POLLEN SUBSTITUTE

Feed your bees Pollen Substitute early in the spring to stimulate brood rearing. However, be sure the bees have plenty of honey or they may starve before a honey flow. Especially valuable for early package bees received before natural pollen is available. This is a hi-nutrient, heat-treated soy flour, high protein, low in fat, moisture and fiber, with ample ash, carbohydrates and nitrogen solubility. This is a fluffy flour and can be easily blown by a light wind so it is far better to mix it with sugar syrup into a patty form which may be placed on treated paper or thin sheets of plastic directly over the cluster on the top bars.

Cat. No. 72 — 5# Pollen Substitute, Ship Wt. 7 lbs. — $3.75
Cat. No. 73 — 25# Pollen Substitute, Ship Wt. 27 lbs. — $13.50
Cat. No. 74 — 50# Pollen Substitute, Ship Wt. 55 lbs — $20.50

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Display Index

Beelzebub's Bees

CHARLES SIMON

Greetings. I am the beekeeper from Hell. I live on the high and lovely hill outside your city limits, and I keep my bees in the yard behind the house.

Old number 22, my favorite hive (it swarmed 13 times last season), swarmed at 11:15 a.m. today.

I look at the clock. It is 12:30 p.m.

The phone rings. Right on time.

"Help!" A hysterical voice on the other end of the line. "Help! We're being invaded by a million bees! We're prisoners in our own home! They're banging on the windows!"

A smile spreads slowly across my darkly handsome face. That's just what I like to hear. I am the Master.

"Just calm down, dear soul." I advise soothingly, though with that carefully cultivated edge to my voice which invariably produces even greater panic. And then I add what I call *The Clincher*: "There's nothing to be alarmed about." Gets 'em every time.

"Nothing to be alarmed about? You should see them. Can you help us? Please! You've **got** to help us! We got your number from the **police**!"

"Now try to be calm. Stay in the house. Of course I can help you. I'll be right there."

"Oh, thank God!"

It so warms my heart, that flow of gratitude when you ease the people toward peace of mind.

"There is of course a nominal service charge: only $50.00. Is that acceptable?"

"Yes! Yes! Fine. Only please hurry!"

Naturally, my swarm gear is all in order. I throw it into the van and arrive at the scene in just 12 minutes – a possible world's record in swarm response.

Three pairs of terrified eyes peer imploringly out at me from behind the window through the cloud of bees which are clustering, hanging from the window frame and swirling, whirling and flying about in the air.

Bareheaded, barehanded and undaunted I wade into the maelstrom, for I know that swarm bees, abdomens tight with honey, are not inclined to sting, being unable to conveniently assume the position. (But beware the inexperienced – take it from the master; swarm bees can and often do sting.) Meanwhile, I bask in the adoring awe emanating from those safely hidden behind the glass.

So I get my specially-prepared swarm-gathering box and ladder from the van, setting it up so the hive entrance is against and slightly into the cluster. Instantly they begin marching in as more and more perform the Nassanoff maneuver at the entrance.

In twenty minutes all but 143 are in. I quickly and carefully close the hive with eighth-inch hardware cloth and put it in the van. I know from thousands of repeat performances that the remaining bees circle the captives in the house for a little bit, but then head for home, indeed, probably beating the rest of us there – not having to stop for red lights, stop signs, and coffee.

The front door cracks open six inches and a slender arm extends a lovely hand holding two $20.00 bills and a single $10.00.

"Thank you! Thank you! That was miraculous! Unbelievable! Are they gone?"

"Tut. Tut." I decry "It's easy when you know how."

"Well. Thank you again."

"It is my pleasure to be able to be of service."

I normally would like to chew the fat, as it were, with these good people, but I must head for home. Numbers 32 and 46 will swarm at any time now, perhaps they have already done so in my absence. I must be there, to wait for the phone to ring again. □

This is a somewhat tongue-in-cheek treatment of a subject which is unfortunately not as far-fetched as it ought to be. Having the ring of truth, it is, nonetheless a work of fiction. The author does not manage his bees thusly, nor does he condone such behavior.

BOTTOM·BOARD