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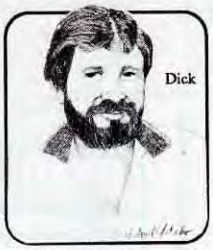
GLEANINGS IN BEE CULTURE

FEB. '87

114 Years Continuous Publication by the Same Organization

(ISSN 0017-114X) Vol. 115, No. 2



CONTENTS

COVER . . . This beautiful beeswax sculpture deserves a First Place ribbon. The technique used for producing this work of art will be gladly explained by the artist, Paul Krepicz, R.D. 2, Box 131, Slatington, PA 18080. Please enclose a SASE as a courtesy for his time (and expertise!).

ROOT PUBLISHING

THE A.I. ROOT CO.,
PUBLISHERS
P.O. BOX 706
MEDINA, OHIO 44258-0706

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Clarence Collison, Glenn Gibson, Ann Harman, Elbert Jaycox, Roger Morse, Charles Mraz, Steve Taber, Richard Taylor and James Tew.

Subscription Rates: United States, one year, $11.20; two years, $21.70. **Newstand Price: $1.95.** Other countries including Canada, Pan American countries and Spain (U.S. Currency only), $5.75 per year additional for postage. Remittance should be sent by post office money order, bank draft, express money order or check. Published monthly. Discontinuance: Subscription stopped on expiration. Change of Address: Fill out and return form contained inside issue.

Articles are solicited. Stamps should be enclosed to insure return of manuscript to author if not printed.

Opinions expressed by the writers in these columns are not necessarily those of the editors.

Advertising rates and conditions will be sent on request.

Advertisers' Reliability: While the publishers do not guarantee advertisements in this journal, over the years very few complaints have been received.

Microfilm copies available at: University Microfilms, Inc., 300 North Zeeb Road, Ann Arbor, Michigan 48103.

Second Class Postage Paid at Medina, Ohio and additional offices.

POSTMASTER: Send Form 3579 to:

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Inside in February

For most of us, Inside in February is the best place to be — and reading *Gleanings* is a great way to spend that indoors time, especially this month. Spring probably occupys much of your thoughts and we have some good 'get ready' material this month for you to be thinking about.

Starting with 2 articles on Swarm Prevention and Honey Production — all in the same move. Austin Knox shows how to improve honey production, cut production costs and save money, all at the same time. He uses two rather unique pieces of equipment that look like they should have rapid pay-back.

The Snelgrove board is a tried and true method of increasing honey production, reducing or eliminating the swarming impulse and even raising a few queens. Buzz Richardson gives a 'How-To' for using it in his part of the country.

It's also time to start thinking about moving hives, and the better prepared you are now, the easier the job when it's time. So we've included two methods that require equipment you can make yourself, and we take a look at one you can buy that takes some of the hazard and a lot of the work out of getting those colonies from here to there.

Another good article on marketing and customer rapport, a survey you can participate in on plastic equipment, the mystery of the African Honey Guide Bird, and a quick look at spring bulbs as bee flora too! Plus, 'Starting Right With Bees' has received such acclaim (even more than we thought!) from beginners and experienced beekeepers alike, that we've expanded it just a bit — just for you, Inside in February.

Coming in March . . .

Here at *Bee Culture* we don't care if March comes in like a lion or a lamb — we'll be ready for spring, and so will you after reading *Gleanings*.

Are you ready for the rush? How to make splits; Managing colonies on pollen traps; Stress on Bee Colonies; Backyard Round-Section Production; and Queen Excluders in the S. E. U.S. Plus some right-now information on spring feeding — these, our regular columnists, a game or two, and, if we have room after all this a couple of good surprises. Whatever the weather — *Gleanings* will be roaring — Coming in March!

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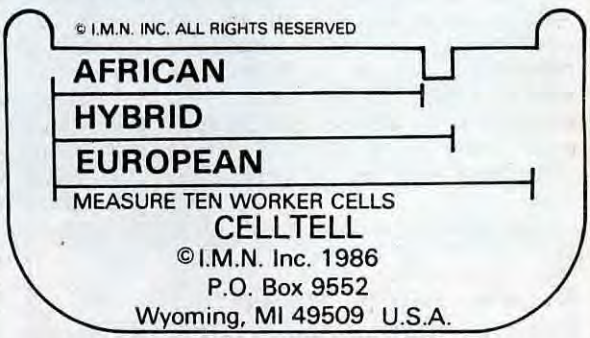

Check up on Queen suppliers, feral colonies, APHIS.

African bees can't build European comb. Blackbirds can't build a Bluebird nest. They simply don't know how because it is not in their genes or DNA blueprints. If allowed to hybridize, there is an exchange of blueprints (DNA instructions) and it will show up in their comb building brood nest.

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THE INNER COVER

HAS THIS EVER HAPPENED TO YOU?

Two independent, but related events happened to me this past Christmas that I think you should hear about. Now, you may think these are isolated instances that could never happen where you live and I sure hope that's the case. But if what happened to me is even somewhat common —

Diana produced some comb honey this past summer. Not much, maybe 3 or 4 complete supers. She used 3 different kinds of equipment — wooden sections, round plastic sections, and another new plastic section she's been working with. The purpose was to see which of the 3 the bees worked best, and which took the most amount of work and expense for the keeper.

After making our analysis this fall, we were left with all of this comb honey. (One of the benefits of research is that you get to eat your results.) Now, we like comb honey as much as most beekeepers, maybe even more, but 4 supers worth is more than even we could eat in a year.

We decided to give most of it away as Christmas presents. We've been giving extracted honey to friends for years, but this was the first time we had enough of the comb to share.

I started with about a dozen friends at the office, giving all of them round plastic sections. Although these folks are all associated, in one way or another, with the purchase, manufacture, distribution or sales of beekeeping equipment, none of them are beekeepers. And, unfortunately, they seldom come in contact with our finished product — Honey.

From the dozen I gave out, this is what I heard back:

2 – How do you eat this?

1 – Do you want the plastic box back?

1 – How do I get the honey out?

1 – What's this?

1 – No thanks, I heard wax was bad for you!!

This from a group of folks who probably know more about beekeeping than most everybody except beekeepers. What this says for the marketing forces of our industry speaks for itself – and doesn't speak very well!!

The rest of our comb was given to friends and relatives in more distant places; folks who are for the most part a little Older than us. Without exception the response was: where did you get this; can you get more; I haven't seen it in stores in years.

Does this tell you something?

The second event occured shortly before Christmas when a friend from the city requested a 60 of light honey for Christmas baking. Unfortunately, we didn't have a 60 left. Now I could have gone to any number of beekeepers here for this from our local association. But, I decided to see if I could find a supplier by either driving around and looking for signs, or finding a supplier by other means.

I know some of the beekeepers in the local area, but I only know where a few of them live. So I tried areas I knew they didn't live — just to see what I could find. I didn't hit every road in this township, but I did drive on most of them. After a couple hours I found no, HONEY FOR SALE signs, or any other advertisement easily seen. (No beekeepers?)

O.K., where next? Try the grocery store(s). Lots of 1, 2 and a few 5# jars, all national brands. Finally, a local label in a small store (a 45 min. drive).

I didn't go although if I had REALLY wanted that honey she said she had some when I phoned. I did get a 60 from a friend in our group, and my city friend's holiday cooking was off and running.

I don't know if there really weren't any beekeepers where I was driving, or if I just can't see those signs anymore. I did spot 5 EGGS FOR SALE signs, though, conveniently posted near the driveway and easy to read. I do know that you have to be determined to find honey that isn't imported.

If people aren't beating down our doors, maybe there's a good reason — think about it.

BEWARE OF "THE DEAL"

It's a fact of life that many beekeepers have left the business in the last year or so. Be that as it may, there is a residue from these lost souls — the equipment they leave behind. In a recent issue of a popular journal I counted slightly over 23,000 (that's twenty three thousand) colonies for sale from 38 different sellers. This doesn't include the Pollen traps (270), extractors (16), semis (8), warehouses (5), various types of tanks (22), and other assorted pieces of equipment (15). And this is from only one month's scanning of *one* journal. A quick look at 5 State Association newsletters finds another 1,250 colonies and 41 pieces of assorted equipment that aren't listed in the first batch.

Where does all this stuff go?

Obviously, it gets 're-absorbed' into the industry; bought by beekeepers staying in business who want to enlarge or upgrade their outfits. Most of it probably goes from one large business to another, to be managed in much the same fashion as before.

But some finds its way to smaller businesses, sideliners and hobbiests who generally manage bees a little differently than the big guys.

Often, this equipment is a little cheaper than 'regular' used equipment because of the nature of the sale. I've seen sales for as little as 10 cents on the dollar (sale price VS. new), to 65 - 70 cents on the dollar. The equipment was essentially the same, but the seller was a little more desperate in the first case.

The first question you need to ask yourself is *why* is this for sale? There are many obvious reasons; retirement, health (owners, not bees) or major disaster (fire, flood or drought). But there may be less obvious reasons; poor bee management (didn't know beekeeping); poor business management (didn't know bookkeeping); or poor marketing, (good producer, poor seller). However, the less obvious reasons are the ones to look for the

Continued on Page 113

A Beekeeper's Wishbook

By Ken Olson
87417 Halderson Rd.
Eugene, Oregon 97402

On my desk next to the telephone, I keep a note book which I've titled, "Gee, wouldn't it be nice if someday". When rainy weather keeps me indoors, I read the journals and books and think about my activities in the bee yard. Then I register my thoughts, jotting down a few ideas that seem could improve the industry.

Here's the list I've compiled in recent years. If these were to become real for every beekeeper, the production and marketing of honey would be easy enough and profitable enough to attract thousands of laymen into the industry.

I wish I could tell where a swarm of bees would land.

If the hive would cast a swarm and send it to a convenient location, retrieving it would be enjoyable and easy. I've reluctantly risked life and limb trying to dislodge bees from high chimneys and tree-tops, trying to balance bee-box, broom, and smoker while hanging, with one hand, onto the top rung of a ladder. The scene of dangling precariously over twenty feet of wide open space while the ladder threatens to slide sideways at any moment gives me nightmares even now.

Even safer situations, like removing bees from blackberry vines or from underneath barn floors gives me shudders. I recall the blackberry vines ripping at my clothes, and I remember being wedged beneath the barn in the dark when the bees decided to attack their invader.

If I could tell where the swarm is headed, I could place a prepared box in a strategic location and invite the bees to at least consider landing in it.

I wish the public had an insatiable hunger for my honey.

I dream of my phone ringing every week for back orders of my honey. I'm weary of peddling honey door to door, begging the ladies of the morning to buy a bottle of my honey. These ladies resent my interruption to their "soaps", or their telephone conversations. Often, they are not prepared to greet the public, especially when in bathrobes and slippers. Sometimes they appear with hair uncombed or unbrushed. Sometimes small toddlers are in tears or in the midst of a Major confrontation. The scene at the doorstep often puts me in an awkward, inappropriate position of gently presenting a bottle of nature's sweetness — and, oh yes, for a small donation of $1.50, if you please.

I'm also weary of being bullied about by the big boys in blue uniforms. "You are forbidden by law," they say, "to sell merchandise at parks, at rest areas, at intersections, in parking lots....Next time we'll have to fine you up to $500. Now, get lost!"

Storekeepers, likewise, dress me down with pretty excited language. The local grocer doesn't like me to do my free enterprise, entrepreneur work at his doorstep, (honey on his shelves sells for at least 10% more than mine). "Who told you it's O.K. to sell this stuff at my place?" I meekly tuck my tail, remove my signs and lug my supply of bottles back home. Why do these storeowners always seem to have had experience in the Marine Corps and learned their intimidation skills so thoroughly?

I wish the honey flows were predictable.

For several years in a row I've packed hives weighing 200 pounds on my little utility trailer and jeopardized the tires by loading them so heavily. I've risked losing hives and bees on the freeway and county roads. I tie them together and nail them down and drive slow, but the vibration, the turns, the sudden braking and shifting of gears. . . and who knows when I might be involved in an accident?

I've hauled the bees to fruit trees, to fields of clover and alfalfa, and I've placed them in mountain meadows of fireweed. Sometimes these locations have provided me more work than the bees got from them. The hives weighed less when I went back after them than when I put them there.

I dream of the day I can accurately calculate: the sun will shine for 25 or the next 30 days, therefore the nectar yield of cherry trees can produce 100 pounds of surplus honey for each hive.

I wish the locations I've found for the bees were free from trouble.

I accept that beekeepers are as susceptible to trouble and frustration as other agricultural pursuits. But life for me would be so much more enjoyable if I could reduce those annoyances, both in frequency and in severity.

Vandals from the north swept into my beeyard one year and tipped all the hives over onto their sides. The boxes separated and tumbled apart from each other. When the rains came, the bees shivered and shook. They became demoralized and discouraged. What a pitiful sight it was to see them feebly trying to raise even one leg! Obviously exhausted and on the verge of death, most of them seemed able to only beg for mercy.

Skunks came to my beeyard in the alfalfa field another year. They had scraped and scratched at the door and the cracks between the boxes so badly that the boxes aged ten years in ten days.

And out in the cherry trees one year, the ants and the earwigs were such a nuisance I hated to even open the hives. The earwigs wriggled and fell in on the bees between the frames, and their droppings filtered down through the frames too. The bees became so irritated at this that they flew out —straight at me!!

If I could find a location free from vandals, bears, skunks, ants, mildew, mice and moth I would feel I'd be in beekeepers paradise.

I wish diseases were eliminated — entirely.

The threat of American Foul Brood hounds me like the guilt haunting a murderer. I've seen AFB overpower a healthy colony and

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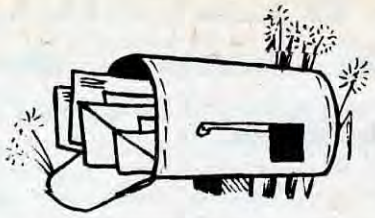
Mailbox



Dear Editor:

I would like to see your magazine print the results of the California Bee Breeders Auction, listing the Breeder, strain, buyer and selling price.

This would benefit all readers, showing who is producing valuable breeder queens for sale and who is buying them to improve their line of bees.

Jerry Greenwell
RR #1 Box 63
Webster, KY 40176

EDITOR'S NOTE: What a great idea. What about it California?

Dear Editor:

I am pleased that beekeepers now have a honey advisory board, and other than that, I haven't heard a progress report or further information. Can you tell me what they are doing now? If so, please pass on some suggestions for me.

Some time ago I saw in a store, a poster on how to tell if eggs were fresh. It was a 3 or 4 color poster with photos of eggs, showing the color, height of yolk, etc. What a great idea for honey, I thought. With (all the money?) the board has, why not put it to work advertising our home-made product. If we want people to buy more honey, then we must educate them on:

- different honey colors, and what they mean
- what does creamed honey look like, how to use it
- how to cook with it (each state has hundreds of recipes, why not have some of it free, to help people eat more honey?)
- how do you eat comb honey? My granddad knew just how to eat it, but the younger generation seems woefully ignorant of this.

Why doesn't the board hire some good ad agency, promote honey (TV, newspaper ad space) just like the Citrus, raisin or poultry people do? Put together a generic ad-packet and make it available to packers, stores, bee organizations, whatever, with all the above facts included, plus address of local bee organizations. Local groups could have a Saturday display at a large store, once a year, say Christmas, or Thanksgiving. Let's work together with our stores instead of against them. Sure, they have cheaper honey; so offer comb honey, honey jam, wax candles, any thing else they don't have, and let the public decide. It may prove mutually beneficial.

If everyone had this packet "How to display honey" or whatever, any group in any state could set up their own honey display and GET HONEY BACK INTO THE AMERICAN DIET.

If we want to sell our product, we have to tell folks it's there.

Name withheld by request
Madison, WI

Dear Editor:

Another addition to the great refractometer debate! I would like to mention that everybody who wrote in so far was off on a tangent.

The original question was not "How does a honey refractometer work?", but "How does the Atago (N3) work?"

The Atago N3 does not measure water content of honey as a honey refractometer does, instead it measures the sugar content of the honey. Nowhere in the instructions does it mention how to arrive at the water content. Inquiries to the importer brought a response that you have to add 2% to the reading, as there are other solids in honey besides sugar.

Nowhere in reference books is it mentioned that there are another 2% solids in honey, but that is how the Atago seems to work, PROVIDED THAT IT IS CALIBRATED RIGHT.

Gerhard K. Guth
P.O. Box 4
Micanopy, FL 32667

Dear Editor:

I have enjoyed reading *Gleanings* for many years. Beekeepers are as diverse as the four winds; and when one publication attempts to provide interesting reading for all, each segment is bound to feel somewhat short-changed. I believe it all boils down to the "bottom line". If beekeeping is one's vocation, then the bottom line can only be cash profit. If beekeeping is only an avocation, then the bottom line may be purely enjoyment received. While I am definitely in the latter catagory, I enjoy reading the articles by and about commercial beekeepers, nevertheless.

Several months ago I wrote a letter to *Gleanings* and received a letter from Basil M. LaVergne of Deerfield Beach, Florida, in response. He provided me with details of his management of hives and this coming season I intend to try his method coupled with the use of a modified inner cover.

Mr. LaVergne must be an interesting individual. A commercial beekeeper of over seventy-five years experience, he related how he visited the late A.I. Root in Medina just past the turn of the century. A good example of the diversity of beekeepers you must satisfy, Mr. Lavergne could say nothing good about Mr. Koover; yet from my point of view, both have excellent ideas.

I am presently working on an article about using the modified inner covers (GBC July, 1985, Extracting and Supering in One Operation); but I want to let another season pass before I submit it for possible publication. The success I had this past season could be just a fluke; but if I get similar results this coming season, then I will know I am on to something that might be of interest to a hobbiest, though probably too labor intensive for a commercial beekeeper.

Demorest B Howard
Rt 1 Box 65E
McNeal, AZ 85617

Dear Editor;

In the November issue, you wondered what to call non-beekeepers. I would like to offer two suggestions: 1. "normal", and 2. "Swatters". Go sit on your patio deck with a cup of coffee and see what your instinctive reaction is, beekeeper or no beekeeper, when a buzzer flies around your head. Didn't I read somewhere that in the Celtic language the word for "bee" really translates into "buzzer"?

Jim Stokes

Dear Editor:

Where do we get those bees that are resistant to chalkbrood, AFB, EFB, Varroa, tracheal mite, are good honey producers, and are resistant to take over by the African Bee? Cerana and African bee might be resistant to Varroa, but they don't do me any good in NH.

Gerhard K. Guth
P.O. Box 4
Micanopy, FL 32667

Continued on Next Page

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Mailbox... Cont. from Page 69

Dear Editor:

We are commercial beekeepers in Michigan operating 1,000 hives. This Spring our sons (4 and 2 years) came in excited about a swarm in their sandbox. By the time we got outside, the swarm was moving to our compost pile. The boys and their father got a super and set it by the swarm. The first few bees stuck their little tongues out and walked into the super and the rest followed. The boys watched at close range. This has been considered their hive, which they have to work. Beekeeping is a family affair.

Oren & Rosie Best
Honey Farm
14688 South Kimmel Rd
Sunfield, MI 48890

Dear Editor:

"Traffic Control" by stopping the menace (?) at the source. Bird in hand is better. Beekeeper's neighbors everywhere keep a wary eye on behavior of bee livestock. Beekeepers, too.

Gender, race, demeanor plays no part in considerable communications . . . ."There's a swarm in my yard; they went into that hole". Yet, Agriculturalists, etc. advocate usage of this menace (?) as necessary; Culinarists, etc. make a good case for bees; and beekeepers, commercial/back yard, also.

So, "Traffic Control" to the rescue: 4. help by capturing swarms; 3. removing unwanted colonies for neighbors; 2. requeening our hives. And, yes . . 1. Queen/drone "Traffic Control" means/methods trapping (especially queens) right there on the flight board. Keeps everyone happy: workers stay put, less frame shuffling; diminished errant and unwanted colonies, less gas and oil; and climbing trees. "Traffic Control" on the landing board is best. Parallel or Parallel.

Roland Bell
6901 Robinhood Lane
Ft. Worth, TX 76112

Dear Editor:

It was with great interest that I looked at the cover of the December issue of *Gleanings*. Something seemed to bother me and at first I couldn't determine what it was . The queen was very evident in the center of the top to the picture but something else bothered me.

It took a couple of minutes to determine that the picture was upside down. The sealed honey at the bottom of the picture should have been at the top. Perhaps it is more artistic the way it was printed, but as a learning tool for beginners I feel it was not printed correctly. The queen was down along the open cells where she was laying eggs before being disturbed.

Several important things can be determined by looking at this picture. This new comb is being drawn out very nicely. There is a good honey flow occurring at the time of the picture because you can see the nectar scattered in cells in the sealed brood. The honey also extends down along the side of the frame. The queen is doing a fairly nice job of laying eggs but she either is a young queen or is a queen that will not produce a surplus of much more than one or two supers of honey.

A queen in her prime should have filled every single cell in the sealed section. If a queen has to return

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Mailbox... Cont. from page 70

across a comb to find cells that she missed the first time she will waste a lot of valuable time which would be better spent laying eggs. A good queen in her prime will not allow the bees to waste valuable brood space with honey down along the sides of the frame. The frame also shows that little smoke was used on the bees to get the picture as few of the bees are actively going after the honey. You can also see the interest that is being given to the field bees that have just returned. If a great deal of smoke had been used it would have disrupted the bees to such an extent that you would not be able to distinguish the field bees.

I guess that the biggest point I would make to a beginner about the picture is that it shows you where to normally look for a queen if you haven't disturbed the hive very much. That is on the empty comb where she can do what she does best – lay eggs. Normally you will not find a good queen walking around on sealed brood unless she has been greatly disturbed.

I would also be tempted to say the picture was taken in the afternoon as I can see no pollen baskets full, even though there seem to be ample pollen in the frame. Quite often bees tend to bring in more pollen in the morning or late afternoon when the nectar is not flowing as well as it is during mid-day.

I do like the way that you are attempting to include articles for all beekeepers – both the beginner and the experienced professional. If the major magazines don't actively help beginners get started, the future of the whole industry will be in jeopardy. Keep up the good work.

Terrence N. Ingram
8384 North Broadway
Apple River, IL 61001

EDITOR'S NOTE: You are a keen observer Mr. Ingram, and your conclusions are essentially correct. The queen, however was a prolific producer in Ohio this year, meaning they made just about enough to get through the winter. I'll blame the weather though, not the queen.

Dear Editor:

In the December, 1986 *Gleanings*, there are items about shipping honey bees to Australia and to the United States. It is reported that it would have taken seven months to ship bees from England to Australia. Alfred Neighbor reported that he sent bees to Australia from England in 79 days. Apparently many of your readers are unaware that bee hives (and apparently the contained honey bees) were loaded on board ship in December, 1621, in England, and shipped to the Virginia Colony. Other early records to honey bees in the eastern part of the United States are listed below under Oertel, 1976.

Neighbor, A. 1866. The Apiary: or bees, bee-hives and bee culture. 274 p. London.

Kingsbury, S.M., ed. The records of the Virginia Colony, Company of London, Vol. 3, 1933, documents 1607-1622, Library of Congress, Washington, D.C.

Oertel, E. 1976. Early records of Honey Bees in the Eastern United States, American Bee Journal, 116,(4).

Everett Oertel

Dear Editor:

At the fifth annual banquet of the Crawford County Council of Farm Organizations (PA), Myrton Gray was inducted into the Farming Hall of Fame. He became the first non-dairy farmer to receive this award.

Fellow farmers and members of

Continued on Next Page

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• Live delivery on package bees can only be insured until May 5, 1987.
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Mailbox... Cont. from Page 71

Ag-industry in the area honored Myrton, his wife and their family for 65 years of beekeeping. Myrton kept as many as 700 hives in an operation which included commercial pollination and queen rearing as well as honey production.

During his career, Myrton served two years as President of PA Beekeepers Assn.; five years as bee inspector, and was on the 1st National Honey Queen Promotion Program. The Grays also organized the Little Corners 4-H Club.

Myrtons' honors are for his commercial success as a farmer, but for sideline and hobby beekeepers present he was honored as a teacher. Generations of people who have kept bees in Northwest PA have looked to him for advice, and no matter how trivial or important the question, young or old the beekeeper, Myrton has and continues to take the time to share his wisdom.

EDITORS NOTE: Congratulations, Mr. Gray!

Dear Editor:

Here is an innovative solution to the farm crisis, promising better programs that solve little . The goal is to improve markets both here and abroad. The way is by federally mandating a balance in foreign trade, rendering harmless all forms of existing trade adversity.

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Continued on Next Page

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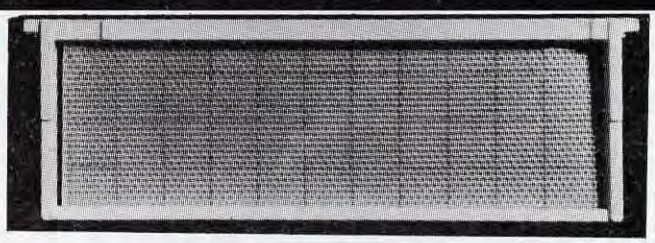

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Mailbox... Cont. from Page 72
buying. Developing nations have been quick to learn this to our growing disadvantage.

It will take a new federal law to indirectly require other nations to buy as much from us as we buy from them, in dollar amounts. When periodic monitoring determines that a nation is buying less, new orders for their goods and services are to be delayed until trade is again in balance. The exception under the law will be positive trade imbalances in our favor. This mandated lapse in commerce, but most particularly bulk and processed food. Nothing has greater universal demand to facilitate re-sale of surplus purchases.

Despite their having to buy more of our products for trade parity, other nations will continue to find U.S. markets the most lucrative in the world. Their profits will be in jeopardy, however, salvageable only by discontinuing unfair trade practices that impede our exports, something years of trade negotiations have failed to achieve.

Not often do we see a federal law proposed that does so much, for so many, for so little. But Congress will do it only if asked repeatedly!

Donald Aldrich
4513 Sierra View Way
Fair Oaks, CA 95628

Dear Editor:

Re your recent obituary on Walter Thomas Kelley, the bee equipment manufacturer who departed this planet on August 22, 1986 in Leitchfield, KY.

Known as THE BEEMAN in life because of his famous registered trademark showing his head fixed to the body of his favorite insect, HE WAS TRULY ALSO A BEEMAN IN DEATH. Let me explain.

On November 5, 1986 on my way back from the Southern States Beekeepers Federation meeting in Nashville, I made a deliberate stop to visit the Kelley factory on Rt. 62 between Clarkson and Leitchfield and the Kelley gravesite in Fair View Cemetery, Leitchfield. Was I in for a surprise at this latter location!

It was no problem finding the large tombstone (it must have measured five feet across by about two-and-a-half feet tall) with his surname on the back. On the front this is what I saw.

Two single-story beehives, complete with bottom board, outer cover and handholds in the boxes. The face of the hive on the right bore his wife's name, while that on the left had his. Between the two boxes was a "field" of four clover plants in full bloom and above them were two of man's most useful insects cavorting. The top corners of the stone each had a triangle of drawn comb. The foundation stone carried this inscription: BEES WERE OUR BUSINESS.

"Requiescat in pace", may he rest in peace.

John Iannuzzi, PhD
RD 4 Ellicott City, MD 21043
The Nectar Collector

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BOOK REVIEW

By Richard Taylor

A Country Year: Living the Questions

by Sue Hubbell
New York, Random House
1986
$17.95

Sue Hubbell is a strong-spirited and resourceful woman who lives by herself in a cabin in the Ozarks and earns a meager livelihood from three hundred colonies of bees. She gets around to her far-flung apiaries in an ancient but reliable pick-up truck that she fondly refers to as "Press on Regardless". One year she produced, almost single-handedly, 33,000 pounds of honey, but that was far from typical. The honey all goes into sixty pound plastic buckets, where it granulates. For the rest of the year she, from time to time, gets these buckets out, ten at a time, and liquefies and bottles the honey by herself, a day's work. Her sales trips, over vast distances, are made in another truck, the seat of which serves as her bed, to save on overhead.

Ms. Hubbell is also a wonderfully gifted writer in the tradition of Thoreau, E. B. White, Annie Dillard and Lewis Thomas. Every sentence, every paragraph and every chapter is masterfully crafted. It is the kind of writing one relishes, over and over, for its sparkle and beauty. Most of her book has nothing to do with bees. She writes instead of spiders, birds, her chickens, the people of the Ozarks, whatever catches her eye and her perceptive and imaginative mind. It is a book that is going to be around for a long time.§

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BOOK REVIEW

By John Ambrose

North Carolina Beekeeping Calendar

Available Again!

Back in 1980 the N. C. State Beekeeper's Association began the tradition of producing an annual beekeeping calendar and the tradition continues for 1987. Distribution of the beekeeping calendars has been made to NCSBA members and a limited number are available for sale to non-members.

The N. C. Beekeeping Calendar serves two purposes. First, and foremost, it is a very attractive and professional wall calendar measuring 11" x 17" when opened. The calendar pages have ample room for writing notes, recording appointments and other day to day activities which need recording. But in addition, it serves the special needs of the beekeeper and anyone interested in bees. Each page of the calendar contains a wealth of information of special interest to beekeepers throughout the U. S. with special emphasis on the mid-eastern states around North Carolina.

Information on the blooming dates of nectar and pollen sources; recipes for cooking with honey; and information on selected topics such as propolis, history of early beekeeping, smokers, the birds and bees are all found in the calendar. In addition, it contains the meeting dates for many of the national and regional beekeeping organizations.

Non-members of the NCSBA who are interested in obtaining one of the 1987 Beekeeping Calendars may purchase a calendar through one of the following methods:

1. **Direct Calendar Purchase.** Individual copies of the calendar sell for $3.00 per copy with the price dropping to $2.00 for orders of 10 calendars or more (mailed to the same address). Checks should be made payable to the NCSBA and mailed to: 1403 Varsity Drive, Raleigh, NC 27606. The purchase price includes the cost of shipping and handling.

2. **Calendar Purchase Through Membership in NCSBA.** Individuals who submit 1987 NCSBA dues of $8.00 will receive a free 1987 calendar plus a free 1988 calendar when they are published. Dues also include additional benefits such as a quarterly beekeeping newsletter and other NCSBA publications. Checks should be made payable to NCSBA and mailed to: 1403 Varsity Drive, Raleigh, NC 27606.§

BOOK REVIEW

By Diana Sammataro

Letters from Honeyhill

by Cecilia H. Hendricks
Bristlecone Book,
Pruett Publishing Co.
Boulder, CO
1986

"When Cecilia Hennell Hendricks stepped off the morning train in the bleak little northwest Wyoming town of Garland in January 1914, she was a new bride who had never been away from her family circle . . . On December 30, 1913 she had married John Hendricks . . . who had homesteaded in the Shoshone Valley in northwestern Wyoming in 1911 . . . From the day the newlyweds left Bloomington, Indiana, on their honeymoon journey, and through the seventeen years that followed, Cecilia wrote letters home . . ." reads the front jacket.

This remarkable book relates the daily lives of this couple who were also beekeepers. It is a poignant journey through life, it's joys and sorrows. For example, during their first winter: February 5, 1914, "This morning the thermometer was 20 below. By ten this morning it had come up to -15, and now, at half past one, it is 12 below. . . We do not have any trouble keeping the house warm even today, if we keep the fires up. Of course, if we let the fires die down the rooms soon get cold . . . " and later that day: "I am sorry to have to tell you some very bad news about our honey crop for the past season. John expected it to be gone when we got

Continued on Page 78

PLASTIC SURVEY

DIRECTIONS: Please fill in the blanks for questions 1-3. For questions 4 and 5, circle your answer. For question 6, place a checkmark next to any plastic items you have used and fill in the remainder of the information as well as you are able. If you have used plastic foundation, answer question 7 by filling in the blanks and circling the appropriate answers. Additional comments are welcome. Please return no later than March 15, 1987 to: *Michael Ferracane, Office of Apiculture, Dept. of Entomology, Comstock Hall, Cornell University, Ithaca, NY 14853. Thank you for your cooperation.*

1. Name (optional) _____
   Address (optional, but please list state)
   _____
2. Years of beekeeping experience: _____
3. Number of colonies: _____
4. Have you ever used plastic beekeeping equipment? (circle answer) yes no
5. If you answered no to question 4, what was the main reason? (circle answer)
   a. price
   b. dislike of plastic
   c. lack of availability
   d. other (explain) _____

6. If you answered yes to question 4, which of the following items have you used, from whom did you purchase them (e.g., Root, Dadant, Kelley, etc.), approximately how many years have they been in service, and how did they perform during this time period?

	√	Plastic Item	Purchased From	No. Years In Service	Performance (circle answer)
a.	___	hive bodies	_____	_____	poor fair good excellent
b.	___	bottom boards	_____	_____	poor fair good excellent
c.	___	inner covers	_____	_____	poor fair good excellent
d.	___	outer covers	_____	_____	poor fair good excellent
e.	___	frames	_____	_____	poor fair good excellent
f.	___	round comb honey sections and furniture	_____	_____	poor fair good excellent
g.	___	feeders	_____	_____	poor fair good excellent
h.	___	bee escapes	_____	_____	poor fair good excellent
i.	___	60 lb. pails or buckets	_____	_____	poor fair good excellent
j.	___	honey jars	_____	_____	poor fair good excellent
k.	___	honey extractors	_____	_____	poor fair good excellent
l.	___	honey storage tanks	_____	_____	poor fair good excellent
m.	___	queen cages	_____	_____	poor fair good excellent
n.	___	queen excluders	_____	_____	poor fair good excellent
o.	___	winter hive covers	_____	_____	poor fair good excellent
p.	___	other	_____	_____	poor fair good excellent
q.	___	other	_____	_____	poor fair good excellent
r.	___	other	_____	_____	poor fair good excellent
s.	___	other	_____	_____	poor fair good excellent

7. If you checked item (f) foundation, could you please provide the following information:
   a. Who is the manufacturer of the foundation (if different from seller)? _____
   b. What sizes and quantities of foundation did you purchase? _____
   c. Is the foundation the type with a thin plastic midrib inserted between two plys of beeswax (e.g., Duragilt, etc.) or is it made entirely from plastic (e.g., Arnaba, Duracomb, Plasticell, Pierco, etc.)? _____
   d. Is the foundation designed to be inserted into a separate wooden or plastic frame (e.g., Arnaba, Plasticell, etc.), or is it attached to the frame as a one-piece unit (e.g., Pierco, Perma-comb, etc.)? (circle answer) a. separate sheet b. one-piece unit
   e. If the foundation and frame are a one-piece unit, how would you rate the *frames'* performance?
   poor fair good excellent
   f. Was the foundation uncoated or did it have a light coating of beeswax on it? (circle answer)
   a. uncoated b. coated
   g. What was the overall level of acceptance by the bees? (circle answer)
   poor fair good excellent
   h. If combs drawn on this foundation are used for producing extracted honey, how well do they stand up to extracting? (circle answer)
   poor fair good excellent
   (circle type of extractor used) radial tangential

EDITORS NOTE:
I encourage you to participate in this survey. The information gathered will be collated and the results published as an article in *Gleanings* as soon as possible. I also appreciate that you may not want to remove this page from the magazine, so either xerox it and send that in, or simply answer the questions on a separate sheet of paper and return to the address noted above.

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QUESTIONS & ANSWERS

Note:
Readers who have inquired about sources of *Vitex* seed may contact Mr. Ed Hager, 3456 Richmond Dr., Conyers, GA 30208, who has a supply.

Q. The December *Gleanings* cover picture is of a comb covered with bees. Near the top, under the "L", appears to be a queen. How come she is on a honey comb and not on a brood comb?

David Tetzloff
Gardner, MA

A. The remarkable photo by Diana Sammataro does indeed show a queen at that place, as every reader should have noticed. And it is true that she is not on brood, although there is brood just a few inches away. What is more odd is that there appears to be no eggs in the cells. But did any readers notice that the picture seems to be upside down? Brood is reared beneath honey and pollen, not above it.

Q. Can bees be moved in winter? If so, which month? What temperature? Can they be moved five miles or more?

Norman Farmer
Bristol, CT

A. I have never moved bees in winter, so am uncertain of my answer, but I believe there would be no danger if they were moved with care, so as not to disturb the winter cluster. They could certainly be moved on any warm day in winter, if properly screened to prevent flight. If moved less than two miles, a few bees might return to the old location later on, but this would, I think, be negligible. It would not matter what month of winter they were moved, but given a choice, later would be slightly better than sooner.

Q. We have extremely damp weather here — lots of fog, dew that has not evaporated even by late afternoon, etc. Would this have an adverse effect on beekeeping?

C. Germain
Moss Beach, CA

A. I do not think this would seriously affect the bees, but honey exposed under such conditions would likely be thin and subject to fermentation.

Q. What causes bees to eat corn feed on a warm spring day?

Gideon Hershberger
Sullivan, Ohio

A. They are looking for pollen, and finding none, they go for the powder and dust scattered with cracked corn.

Q. You have suggested dividing a swarmish colony and leaving the half with the queen on the original stand. Why not leave the queen with the half that is moved to a new stand, as if she had left with a swarm?

Allan Steigerwald
Port Angeles, WA

A. That's okay, if the queenless half is left to raise its own queen, but if you requeen the half that is left on the parent stand, the returning field bees are apt to murder that new queen. The moved half loses its field bees, so a new queen is safe there.

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Q. I purchased six stands of bees at an auction and the hives are a disaster. How would you suggest I transfer the bees to new hives?

D. R. Jones
Greenwich, Ohio

A. Assemble new hives and frames, paint the hives, put them where you want them to stay. Then on a nice warm day in spring take the purchased hives apart and shake all the bees in front of the new hives. When that is done, give each new hive a gallon of sugar water to help them get started drawing the foundation. If you come upon any combs that are good in the old equipment, use them in the new, then make a bonfire out of the stuff that is useless. A bit of brood comb in each new hive will induce the bees to stay put.

Q. How do you deal with wax moths?

Sean Doherty
Corning, NY

A. Wax moths are seasonal, reaching the peak in this latitude in late summer and fall. A strong, queenright colony is in no danger of being destroyed or seriously damaged by an invasion of wax worms. Serious damage is usually found in a colony that has become queenless and developed laying workers. The wax worms get the upper hand and the colony is soon headed for total destruction. If you find such a colony before damage has progressed very far, you can remove excess web and frass with your fingers and give the combs to a strong colony to clean up and restore. The best protection against wax worms in your hives is, accordingly, strong colonies.

Questions are invited, and any questions received will receive a prompt response provided a stamped addressed envelope accompanies it. Address: R. D. 3, Trumansburg, NY 14886.

— Richard Taylor

Book Review Cont. from Page 74

here. It was not as you know. Then last week came the order to ship. He got help and loaded the car as soon as it arrived. Just as they had finished loading our honey in the car and the car was sealed ready to send, John got a telegram from Denver countermanding the order. The person in Texas who had ordered the car had rescinded his order . . ." (sound familiar?) They did finally sell their honey on the 14th of February.

In their first spring, the March 14, 1915 entry reads: "We finished putting the foundation yesterday in the 2,520 brood frames that needed foundation. Yesterday afternoon we hauled the 252 hives full of new frames into the shop. We didn't think it would take so long, but as 36 hives made a wagon load — with high sideboards — it took longer than one would think . . ." Can you imagine hauling that many hives by horse drawn wagon? No automatic loaders here.

On the 19th they set out 150 colonies of bees. "The warm weather made it impossible to keep the temperature in the bee cellar anything like desireable with so many bees there. With 150 colonies less it is easier to keep cool. Each hive makes quite an appreciable amount of heat . . . They wanted water, and every place where there was water to be found you could scoop up the bees by the handfull . . . If we can keep the (rest of the hives) in the cellar till the second week in April, we won't have to go to the trouble of putting straw and boards around each hive. Yesterday morning John and I went through all the hives outside, putting on inner cover boards, seeing if the bees needed more honey for feed, and reducing the entrance to only about half an inch. All this will help to keep them warmer . . ."

I enjoyed reading this book, and any beekeeper, whether a novice or experienced, will find insights on how to keep bees and organize a commercial honey business. Even non-beekeepers will find this interesting reading. It would make a good gift for the beekeeper who has everything. The photographs portray these sturdy folks who homesteaded in the harsh Wyoming landscape, their honey label, and views of their apiary. Treat yourself to this excellent book.§

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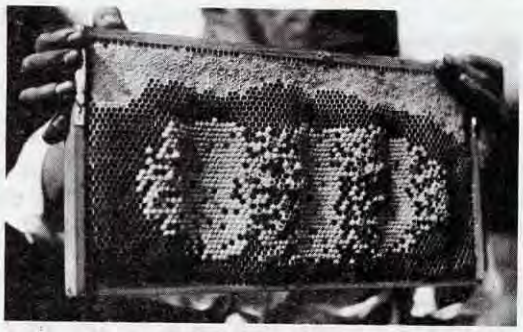

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SIFTINGS

By CHARLES MRAZ
Box 127
Middlebury, VT 05753-0127

"The Bee Barrier Proposal sounds good on paper, but you could do better with a fly swatter."

The honey crop in the Champlain Valley for 1986 was one of the poorest in the past 60 years; producing just about enough honey, we hope, for winter. 1928 was the first bad year I experienced, another in the early 60's, and this year. We gave up feeding sugar syrup for winter feed 30 years ago as we always leave supers of honey on the hives. In a commercial operation I believe it costs about $1.00 /lb to feed sugar syrup. Not being much good at arithmetic, I never could figure out how to make money extracting honey worth 60 cents per lb. and then feeding sugar syrup that costs $1.00/lb. for feed. More important, bees left with honey are stronger in the spring than those fed sugar syrup. With a thousand hives that adds up to a lot of money.

The "African Bee Barrier Program", discussed in the December issue of this magazine, makes for some interesting reading. Some 20 years ago when working with a large commercial beekeeper in Veracruz, Mexico, we moved several yards of bees south of Veracruz, into the Eastern end of the Isthmus of Mexico in Chiapas. It was a lush, typical Jungle Paradise area — lots of vegetation of all kinds. There were also lots of swamps and wet land which were impossible to penetrate by usual means. Most surprising of all, it proved a disaster for honey production.

It would be a good idea for those proposing an African bee barrier 100 miles wide by 130 miles long, to take a good Look at the area and go thru it, chopping a way with a machete. There are very few roads and sparse population. All those proposals sound good on paper, but actually you could do a lot better with a fly swatter.

Chalkbrood clean-up by Steve Taber gives some good advice to control the disease. Chalkbrood has been around a long time. Over 20 years ago in Mexico I saw hives with brood combs so full of mummies that when you shook them they sounded like baby rattles. Some colonies actually died because of it. I've seen it as much as 50 years ago in hives of the old German Black bees, so common in the US 100 years ago. As long as you have a source of bees resistant to it, cleaning up the disease is simply a matter of requeening with a resistant queen. Caging a susceptible queen and letting her go again simply means the disease will come right back. This is true with all brood diseases. Our greatest problem is a lack of bees resistant to these Diseases – and that is difficult to develop. Roger Morses' comments on American Foulbrood illustrates that AFB spores are everywhere, even in hives that do not show the disease. This shows that disease resistance can vary greatly with different strains. In the 1930's there was a strain of bees called "Lockhart's Carniolans". These bees were 100% resistant to AFB, it was impossible to give them the disease. In the 1930's I cleaned up hundreds of hives infected with AFB simply by requeening with these queens. Unfortunately, they are no longer available anywhere that I know of.

I do admire Glen Gibson's articles on the Washington Scene. What a thankless job he has trying to work with politicians. I suppose we do need lobbyists, since what the government does has a large effect on what happens to beekeeping. While I may not agree with some of the efforts to make beekeepers wards of the government, much good can come of it. One must really be dedicated to stick to a job like that. I would have given up and gone home long ago. Bees are a lot more fun to work with than politicians.

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MORE ON APITHERAPY

It is interesting to see that interest in apitherapy (bee venom therapy), continues to grow in the medical profession. While my 50 years of experience has been mostly with Rheumatic diseases, I feel it has great possibilities in other forms of Calogen Diseases in the Rheumatic family. Some of them are; multiple sclerosis, Lou Gerigs Disease, fibrositis, lupus erythematosis, scleroderma and others. About a month ago I had my first experience treating MS. Medically, it is an incurable disease and there are no treatments today that have beneficial effects of any kind.

Recently, I was pleasantly surprised to get a translation of an article from a friend of mine in Poland. The article was about research in USSR with Apitherapy on MS.

It was even more interesting because since we know nothing about each other, we appear to be using just about the same basic treatments. So far the results look encouraging.

Next August, Poland is the host country for the International Beekeeping Congress. Over the years, Poland and the USSR seem to show the greatest interest in Apitherapy. Somehow, one way or another I'll have to hitch-hike to Poland and see first hand what they are doing. With my friend as interpreter it should make an interesting experience. Any good ideas on how to hitch-hike to Poland? I hope to see many of you there.§

Testing Your Beekeeping Knowledge

By CLARENCE H. COLLISON
Extension Entomologist
The Pennsylvania State University
University Park, PA 16802

Insects are the dominant group of animals on the earth today. Over one million species are currently known to man. Even though you are primarily interested in the western honey bee, *Apis mellifera*, it is also important for the beekeeper to be familiar with other closely related species and subspecies.

Please take a few minutes and answer the following questions to find out how well you understand this important topic. The first nine questions are true and false. Place a T in front of the statement if entirely true and an F if any part of the statement is incorrect.

(Each question is worth 1 point.)

1. ___ Most species of bees live entirely solitary lives.
2. ___ Midnite honey bees are four-way hybrids developed from inbred lines derived from the carniolan race.
3. ___ Breeding stock used to produce Starline queens is produced by instrumental insemination, whereas the final queens sold by the queen producers are open-mated.
4. ___ Alkalai bees, which are managed extensively for alfalfa pollination, nest in the soil.
5. ___ Honey bees in the United States are a heterogeneous blend of several races introduced from Europe, the Middle East, and Africa.
6. ___ Carpenter bees have a strong tendency to cut holes in the bases of flowers that are long and slender in form.
7. ___ The bodies of yellow jackets and wasps, like honey bees, are covered with branched hairs that assist them in the collection of pollen.
8. ___ The social paper wasps (yellow jackets and hornets) have three castes like honey bees: workers, males and queens.
9. ___ Yellow jackets construct a nest out of a papery material that is secreted by glands located in the abdomen.

Multiple Choice Questions
(1 point each)

10. ___ Honey bees belong to the family: A)Vespidae, B) Megachilidae, C) Andrenidae, D) Apidae, E) Halictidae.
11. ___ Bees, ants, wasps and hornets belong to the order: A) Diptera, B) Coleoptera, C)Hymenoptera, D) Lepidoptera, E) Isoptera.

Listed below are several characteristics and scientific names of the various races of honey bees found in the world. Please match the correct race with the appropriate response.

A) The Cape Bee
B) The Africanized Honey Bee
C) Caucasions
D) Italians
E) Carniolans
F) The Cyprian Bee
G) Japanese Bee
H) Dark or Black German Bees

12. ___ Second race of honey bees introduced into the United States.
13. ___ *Apis mellifera mellifera.*
14. ___ Laying workers of this race can produce female offspring.
15. ___ *Apis mellifera ligustica.*
16. ___ Known as the "quietest and most gentle" race.
17. ___ Original race of honey bees brought over by the colonists.
18. ___ *Apis cerana cerana.*

19. Various bumble bee and carpenter bee species are similar in size and appearance. Please indicate how you can differentiate between the two bees. (2 points).

ANSWERS ON PAGE 117

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Good Customer Rapport and Mall Shows: More Money Making Marketing Tips

By RICHARD T. EDWARDS
1233 Laurel Street • Westlake, LA 70669

MALL SHOW — GET YOUR GROUP INVOLVED

If you are a dedicated beekeeper, chances are good that you are willing to go that extra mile just to help educate the consumer on the value and importance of both honey and beekeeping to their lifestyle.

Honey is simply good food for healthy bodies. A good theme for a mall show. Mall show? What's that?

Actually, there are two types of mall shows you could get involved with. One relates to health and fitness, the other relates to putting on your own show.

But, is it worth the effort and the time and the money? That's up to you to decide. First of all, if you are satisfied with the amount of sales you have, you may not want to get involved with being part of a mall show or doing one on your own.

However, consider this: Anytime you can place your products in front of a high volume of consumers, you are going to sell your products, and you are going to increase business in the future.

You may be happy with what you already have as an established business, but you may also want to increase your business, see a higher return from your invested time and wind up becoming a full time beekeeper instead of a hobbiest or sideliner.

These and many more are some of the benefits of either being part of or self-generating a mall show. And, with that said and done, it is time to see how you can get involved with or start your own annual show.

First of all, you need to check with the show coordinator at your local mall. They will be able to tell you when there is going to be either a health food show at the mall, as well as the point of contact (POC). You will need to find out who the POC is and check with that person on availability of space and cost.

A place with one of these shows is going to cost you from $100 per day to $350 per week, depending on how long the show will run and the volume of consumers during the time of the show.

Double that figure if you are going to run a one person show. You will need to advertise, but this shouldn't cause any big problems, especially considering the uniqueness of what you do. In fact, local press will be more than willing to do a story about you and your honey bee operation.

You may want to run some radio spots about a week prior to the show and have fliers out about two weeks before the show, especially in the mall itself.

Either way you go – alone or with the health group – the rest of the material will apply to both.

Send the local press a news release or give them a call and tell them what you will be doing, how the show is going to be set up, and inform them that the bee display is safe and educational. Then tell them about the advantages of honey compared to refined sugar and the value of honey bees in general.

You will find that they will be more than willing to work with you to acquire a television or radio news story, as well as the paper will be interested in running a photo feature.

TIMING IS IMPORTANT

You have no power over the timing of a health show, but you can certainly place your own show on the right day of the calendar. The best time to have your own show is when you are about to offer your new crop of honey. This should also occur when the desire to buy honey or by-products is on the consumer's mind. Some suggestions are right after the first harvest in your area, or during the holiday baking season. You must decide the best time for your area.

SETTING YOUR BOOTH FOR THE SHOW

Ideally, you will want enough room so that you can set up a long table for your booth. You want enough area so that you can offer the consumer your products while educating them at the same time. Bring along plenty of pamphlets, free hand-outs, a slide show if you have one, and a video if you can arrange it.

You may also want to display an observation hive, show how it is structured and what you look for when you manage bees. You could talk about some of the problems you face with beekeeping such as wax moth damage, ants and mice you have to contend with as well as other problems you may encounter in your area. Remember, all of this information is geared to show the consumer how a colony is managed and how the bees produce the various products you offer for sale.

Consequently, almost everything you use or do could be used as part of your display and show. That includes the protective clothing and your smoker used to manage the bees. You could cover supers, explain how these are built and managed. You could even cover the different kinds of bees in the colony and explain their function.

When all of these are combined, you have a show that will educate and inform as will as sell your products, there and in the future. Combined with the press coverage you have arranged, chances are good that the cost of the show, either with the health group or solo, will pay for itself within the first few hours after opening. From this perspective, the mall show is one of the best advertising methods you can use.

••

CUSTOMER RAPPORT

Okay, you beekeepers out there, listen up. You've been messing up by the numbers. And I have a headache. Three of my five kids are home sick with flu. And . . .

I think you have the picture. As with writing an article, having the right rapport with your customers can certainly effect your business. Would you want to read any further than past the first paragraph? I certainly wouldn't.

They say the first impression is the last impression and it is certainly true with Customer rapport.

Attitude is everything. You have a valuable product you are offering your customers. One you have worked hard to make sure it is the best, the top quality honey in your area. Why sour the sale and possible repeat business by not having the right attitude.

After all, they could buy from the grocery store and be done with you. You want to give them TLC and

Continued on Next Page

Edwards... Cont. from Page 82

show a "we care" attitude when talking with the customer. But you want to do a lot more.

Consider every new customer a new challenge. You want to leave a positive, upbeat impression, but you also want to motivate that customer so they will want to buy more from you.

How do you do this? Well, in the first place, take a look at your packaging. Look professional? Good! That base is covered. Second, look at yourself. Look professional? Good, that base is covered too. You don't have to look like you just walked out of an IBM meeting, dress casual and clean, and you will have done what you need in order to sell your product.

If you want a direct line to the consumer or customer's stream of consciousness (reality), provide them with a flier on the honey you sell as well as how to prepare some recipes with it.

You can also connect with information concerning the use of refined sugar and how it effects consumer's health. You can explain that refined sugar has few nutritional benefits, and doesn't taste nearly as good.

This will help you target your indirect advertising directly to those who are aware of the health-related benefits of healthy eating, and to those who have heard about the healthfood lifestyle.

It will also help you enter their world. And you have to reciprocate. In other words, when the customer asks you a question, you answer in a cordial, as well as informative manner.

This is what is known as sharing realities (and common sense). And without getting too technical, it induces cordial communication, which brings both you and your customer closer together.

If the customer can relate to your business and appreciates the value and importance of it, that customer is sharing your reality. This rapport will continue on in a friendly business atmosphere and will help you sell more of your product.

Generally, you can't do much on the first purchase contact except be warm and friendly and answer questions they might ask. But you are going to gain some clout by asking questions regarding your product on the second sale. If you ask if they tasted the difference between your honey and others they have tried, you are opening the door between you and them a little further, which will allow you to have a two way conversation about the consumer's life and lifestyle.

Once in, your objective is to let the consumer know that that person has a friend, willing to answer questions concerning honey and beekeeping.

Here's where you begin consumer involvement. Chances are good that one of those contacts you have made is part of a social or business organization. If you want to sell more honey, work with these groups – talk to them about the value and importance of honey and beekeeping any and every chance you get.

Of course, you always want to thank your point of contact for connecting you with their group, and mention the person through your discourse.

But the key ingredient here is the rapport you establish with your customers. If it isn't there or if it runs negative to customer's expectations, well, word of mouth is definitely sharper than the sword and you'll find your business in some serious trouble. Remember, the best way to convey a positive attitude is to keep in mind that age old adage: The customer is always right. Do this and your business will grow by leaps and bounds.§

Packaging as a Strategic Marketing Tool

There are nearly 17,000 products in today's average supermarket, with almost 30 new ones being introduced each week. In 1985 alone, 2,300 new products were placed in grocery stores. Because shelf space is growing at a far slower pace, marketers are competing like never before just to get their products into the stores.

According to S&O Consultants, a marketing/design firm based in San Francisco, packaging may be one of the most effective tools that marketers can use to influence consumer decisions. "The supermarket is the most competitive environment in the world," says Gerror Vartan, senior VP of S&O. "When you watch a television commerical, you're watching one ad at a time; but when you walk into a store, you're looking at every brand within a category at the same time."

Research studies show that a shopper "sees" about 300 items per minute while in a store. Compared to most of the available marketing tools, packaging is low in terms of cost. It can be useful for increasing sales and maintaining brand loyalty. Proper selection of package size, shape ,graphics, color and overall design can reinforce a product's brand positioning. Since consumers usually don't specify brand names when they prepare their grocery lists, packaging can often influence the purchase decision in their impulse-buying patterns.

For cookie and other snack-food products, for example, a mouth-watering photo will often inspire indecisive shoppers to make up their minds. No longer are TV dinners packaged as convenience foods that trade quality for increased convenience; the packaging now conveys a different product image of an appetizing home-cooked or restaurant substitute.

The bold primary colors used on cereal boxes do a good job in attracting children. It's important that the product has eye appeal and doesn't look dated. Sometimes a technique as simple as adding a stripe or changing a typeface can significantly change a brand's image and improve sales.§

Reprinted from Sales & Marketing Digest, December 1986. S&O Consultants, 575 Sutter ST., San Francisco, CA 94102

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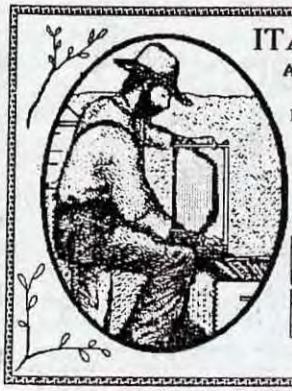

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RESEARCH REVIEW

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

"The Entomological Society Meetings in Reno"

A wide range of papers were presented on bees and beekeeping at the annual meeting of the Entomological Society of America in Reno, Nevada, December 7 – 11. I can cover only a small number of them here. Many of the papers were on Africanized bees and tracheal mites.

AFRICANIZED BEES

Robert Danka of the USDA laboratories in Baton Rouge, Louisiana, has worked with both Africanized and European honey bees in Venezuela. He found the two races have quite different foraging preferences. In his tests Africanized bees consistently collected more pollen at all times of the day, but in particular early in the morning. What I found to be of special interest is that when the two races are mixed in a hive all colony members show the same foraging behavior. In other words, despite the racial mix in the hive the unit works as one.

Morphometrics, the use of various body measurements, is currently used to determine if honey bees are Africanized or European. Since Africanized bees are about ten per cent smaller than European bees the method has been most useful. Three papers were presented on this topic. Professor Howell Daly of the University of California at Berkeley, together with Dr. David De Jong, who is working in Brazil, reported on how Varroa mites feeding on pupae affect the body measurements of the adult bees that develop from the pupae. De Jong had earlier reported that bees that developed from pupae on which mites had fed weighed 15 to 20 per cent less as adults than did unparasitized bees.

Interestingly, Daly observed that the dimensions of the external body parts of adult bees (the exoskeleton) were little affected by mite feeding. Apparently, the bees lost weight internally; measurements of the legs, wings and other body parts were similar, but not exactly the same, for parasitized and unparasitized bees. The reason for this is that when the bee transforms from a larva to a pupa the outside body parts are the first to be fixed. This takes place before the developing mites do much feeding. Daly concluded that mite feeding can affect morphometrics and that one must exercise care when using this method in areas where mites are found. These studies have been done on Africanized bees only and studies have yet to be done on European bees. A concern, of course, is that mite feeding on European bees might make them appear to be Africanized.

Allen Sylvestor and Tom Rinderer of the USDA laboratory in Baton Rouge said that measuring the length of the worker forewing, the total body weight or the length of the femur of the hind legs are all good, rapid field methods for determining whether bees are Africanized or European. In using body weight, the abdomen is removed before weighing since the amount of food in the honey stomach, as well as the amount of feces, can vary. If a question arises additional measurements can be made in the laboratory

Professor Daly told me later in conversation "Morphometrics is good as far as it goes but a genetic approach along the lines now being worked on by Deborah Smith and earlier by Glen Hall and Will Sheppard is the ultimate solution." Both Smith and Sheppard reported at the meetings. Both have shown there are substantial genetic differences between the two races of honey bees.

TRACHEAL MITES

Norman Gary of the University of California at Davis reported on his studies in Florida of bees infested with tracheal mites. He checked the nectar loads of bees without mites and those of bees with varying levels of infestation. No significant differences in load size were found. Gary concluded that bees infested with tracheal mites appeared to forage normally.

Harvey Cromroy of Florida has been studying mite control. He found no relationship between the percentage of infestation and colony weight gain. There was a negative correlation between the mite population and the strength of honey flow; when the flow was good the mite population decreased. Cromroy has not been able to show that mites have an adverse effect on honey production.

A third investigation on mites is underway by Alfred Dietz and F.A. Eishen of the University of Georgia. They are working under a USDA grant with infested bees in Mexico. Their studies, which involve a large number of commercial colonies, indicate that colony populations are adversely affected by the mites. This, in turn, has an effect on honey production. Their studies are continuing.§

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Woodworking and Beekeeping: Companion Hobbies

By DR. JAMES TEW
The Agricultural Technical Institute, Wooster, Ohio 44691

"Candle sticks, jar lids and family heirlooms are easy — it's the time I need!"

Believe it or not, one can't constantly be consumed by beekeeping. Most beekeepers have other interests; albeit those interests probably support their interest in beekeeping in some way. Mine is woodworking. Oh, I have other incidental interests and hobbies, but woodworking has been a long-time favorite. For all my diatribe, my best efforts at working wood are only good. Until recently, my saws and jointer were extremely close to being dead square — but by the smallest fractions of an inch, they were not. I've found that several "small mistakes" frequently total one big mistake — not just in woodworking, but in many aspects of life.

Christmas just came and went again. As I grow older, Christmas seems to come more frequently. At the risk of sounding like a Scrooge, I'm beginning to think that having the commercial aspects of Christmas every other year would be a gracious plenty, but none-the-less, I decided to try to make Christmas unique at my house. I decided to use by woodworking skills and build my kids good, solid gifts that would become a gift of a life time and a treasured heirloom. Even as I write, it again sounds practical.

While waiting for the monthly bee publications to arrive, I browsed through my copy of the December, 1984, Workbench magazine. (I suppose I should confess at this point that I had this Christmas gift idea several years ago.) That publication had the perfect project for my nine year old daughter — a corner desk that included a secret compartment. The kids loved it, I loved it and the decision was made to bring this desk to life in my very own (unheated) shop.

It's two years later now. The desk is nearing completion; maybe another year. The magazine had some clap trap about being a week-end project, simple plans — all that rhetoric. It really hasn't been all that difficult, it's just that everything takes longer than one thinks. I've had to put my lasting Christmas gift concept on hold. It's still a good idea. I just need about 40 elves to help me stay on schedule.

As I was making the rounds a few weeks ago delivering honey gifts to my yard owners, this old "meaningful gift" concept reared its time consuming head again. In that I really do appreciate the effort my yard owners go to when they allow me to open gates, drive down rows of planted corn, and occasionally use a tractor to get myself out of a bind; it seemed a bit hollow just to drop off a gallon of honey. I began to ponder the idea of building something simple to show my gratitude. Coincidentally, Workbench again surfaced. A bit buried in the April, 1985, issue is an article entitled, "Make Glass Jars Special with Lathe Turned Lids", were suggestions describing procedures for using common jelly jars, decorative jars or glasses to make honey serving jars. They were fitted with a flanged lid turned down on a wood lathe. Included were simple instructions for turning a ridged honey dipper between the lathe centers. The idea was ideal. Along with the honey supply, I could take a serving container with a personalized honey serving jar. Now the idea has begun to grow. I should probably consider investing in industrial woodworking equipment. Plans are already being made to out-fit school teachers, piano teachers, neighbors, and friends with a personalized honey jar.

Another time honored bee gift, beeswax candles, can be made into a deluxe gift by adding candle holders as part of the gift. Again, the wood lathe can be used to turn down the candle sticks and candle stick bases. Candle holders (brass or maple) along with brass ferrules for wood candle cups may be purchased commercially ("The Woodworker's Store"). Additionally, complete maple candle sticks can be purchased from "Trendlines". These still require a protective finish.

A few candle holders that don't require any wood working skills are presented in the Reader's Digest "Complete Do-It-Yourself Manual". All things considered, candle holders for beeswax candles would be a small project and when combined with beeswax candles, make a nice gift.

Now if I could only figure out some way to get this desk project under control . . . .§

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HOME HARMONY

By ANN HARMAN • 6511 Griffith Rd. • Laytonsville, MD 20879

Breakfast is a mistreated meal. Ask any two people what they had for breakfast and you will probably get 6 different answers, complete with excuses for eating what they did or for not eating at all. Many will admit that breakfast time is a rushed affair, trying to meet the deadline of "off to work" or "off to school". On weekends, lethargy sets in and nobody knows what time it is.

Perhaps with a bit of encouragement, and some useful recipes, you can make a more interesting breakfast, at least on a weekend. Who knows, you might even be persuaded to try some of these on a weekday.

CINNAMON MUFFINS

2 cups sifted flour
1 teaspoon baking powder
1/2 teaspoon soda
1/2 teaspoon salt
1-1/4 teaspoon cinnamon
1 egg, well beaten
1/4 cup honey
1 cup sour milk
3 tbls. melted shortening

Mix dry ingredients. Combine egg, honey, milk and shortening and mix well. Add to dry ingredients, stirring just enough to moisten. Fill greased muffin cups 2/3 full. Bake at 400° for 15-20 minutes. Makes 12 muffins.

THE HONEY KITCHEN
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Now for the encouragement. The night before, perhaps while you are fixing dinner, mix the dry ingredients together in your mixing bowl. Cover and set aside. Either grease the muffin tin or use the fluted paper cups. The paper cups are an excellent choice for those who eat breakfast in the car or while waiting for the school bus. Set the prepared muffin tin aside. For this particular recipe you will have to treat the liquid ingredients a bit differently. You can combine the melted shortening and honey and leave in a warm place overnight. You can beat the egg in a small dish but DO NOT ADD IT TO THE HONEY. You can prepare the sour milk by adding 1-1/2 tablespoons lemon juice to a cup of milk and refrigerate. Now you can go and watch your favorite television program. The next morning, while one hand is putting on the coffee pot, the other hand can be turning on the oven to warm up. Mix all of your prepared ingredients, put in oven and by the time the coffee is ready, the muffins will be, too.

If your family is insistent on toast, try having an interesting honey spread for a change. You can make several flavors and keep them in margarine tubs.

HONEY CINNAMON SPREAD

1 cup honey
1/4 cup butter
1/2 teaspoon cinnamon

Heat honey in top of double boiler, stir in butter and cinnamon and mix well. Pour into container and allow to cool.

THE HONEY COOKBOOK
by Juliette Elkon

HONEY-ORANGE BUTTER

1/2 cup butter or margarine
2/3 cup honey
1 tablespoon orange juice
1 teaspoon grated orange rind

Combine all ingredients and blend well. For easier mixing, heat the honey, then blend.

COOKIN' WITH HONEY
Minnesota Beekeepers Association

COFFEE HONEY BUTTER

1 carton (9 ounces) honey and butter OR plain creamed honey
1 tablespoon instant coffee
1 teaspoon very hot water

Bring honey and butter, or creamed honey, to room temperature or slightly warmer. Combine instant coffee and water in small cup. Add to honey butter or creamed honey. Stir in quickly but do not blend completely, leaving some swirls of coffee. Chill until ready to serve. Makes about 1 cup.

HONEY NATURALLY
California Honey Advisory Board

On some dreary weekend make the following recipe, but don't eat them then. After the "butterflies" have cooled, put them into the freezer to use on a busy weekday. Actually, they will smell so good while baking, you should plan to make two batches — one to eat hot from the oven and one to freeze. The frozen ones can be warmed quickly in an oven, a toaster oven or a microwave.

HONEY BUTTERFLIES

2 cups sifted flour
3 teaspoons baking powder
1/2 teaspoon salt
1/3 cup shortening
3/4 cup milk
1/4 c. softened butter or margarine
1/2 cup honey
1/2 cup chopped raisins
1/2 cup chopped nuts

Sift together dry ingredients. Cut in shortening until mixture resembles coarse cornmeal. Add milk and stir only until ingredients are moistened. Turn out on a lightly floured board or pastry cloth. Knead lightly 10 to 12 times. Roll into a 12 inch square. In a small bowl, cream butter and honey until well-blended. Fold in raisins and nuts. Spread evenly over surface of dough. Fold sides to center and over again. Cut into slices 1/2 inch thick. Place on greased baking pan. Bake at 400° until lightly browned, about 15 minutes. Makes 18-20 butterflies.

EAT HEARTY WITH HONEY
Alberta Beekeepers Association

Although these recipes will not return breakfasts back to the Victorian days when sideboards groaned with fish and sausage, eggs and hot porridge, they may make those Monday mornings a bit more cheerful.§

If your group or association has published a recipe book or pamphlet, and you would like your recipes considered for this column, please send Ms. Harman a review copy at the address above.

BEE TALK

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

"In the accounts I read about the barrier, the word 'coordinate' is used often — a verb loved by bureaucrats because there is no recognizable activity associated with it."

Last October, TIME magazine waxed merry over the idea of the U.S. Congress appropriating one million dollars to create some sort of "bee barrier" in Mexico to stop the northward spread of Africanized bees. Since then I have done a bit of reading on this proposed bee barrier, but the accounts I have read are so vague that I really don't know much more about it now than I did before. One thing was made clear however, and that is the cost would be closer to eight million dollars, just for the first year. And the people who came up with this idea concede that it would be no permanent barrier. It would only, they hope, retard the migration of these Africanized bees, buying time for scientists to come up with something better.

Well, eight million dollars is a lot of money. Just an awful lot of money by my standards. And all this talk about a bee barrier across Mexico got me to thinking.

I remember when I was a boy, the corn borer was seen to be a great threat. The agriculture people decided to create a barrier to it's spread and one summer police officers were posted along the highways to stop every car and determine that they were not transporting corn across the barrier. Even as a kid this struck me as pretty absurd. The corn borer, I thought, must turn into some kind of moth sooner or later, and I didn't see why the moth couldn't just fly right over the heads of the policemen. I guess I was right, because the corn borer barrier was soon abandoned.

More recently we had a population explosion of gypsy moths here in the East. That sort of thing happens periodically, with various species. One summer it was voles, or short-tailed meadow mice. I had never seen one before, then all of a sudden they were all over the place. I've only seen one or two since. As for the gypsy moths, which devastated woodlands in some areas, it was decided to halt their spread with a great spraying project, confining these caterpillars to the eastern southern area here in New York. The people raised a howl about airplanes flying over and spraying everything, so the agricultural authorities, with wonderful logic, came up with a more modest plan. They decided that the gypsy moths were spread by the egg masses deposited by the moths on campers and house trailers. And they decided that these campers and trailers stop over at state parks. So, they concluded, we can stop the spread of gypsy moths just by spraying the state parks. People with campers and trailers would never, apparently, think of stopping over with friends or relatives outside the parks. Of course the big, unmentioned consideration here was that they didn't need anyone's permission to spray the state parks. It was absurd thinking, but no matter; the gypsy moth population declined on its' own accord after a year or two.

Probably the greatest attempt in history to create a man-made barrier against the spread of a pestiferous animal occured in Australia earlier in the century. There, in 1859, a gentleman named Thomas Austin, living near Melbourne, imported a few rabbits from England, to bring a bit of his native Youkshire to his estate down under. Without natural enemies the rabbit population exploded to the point that, by the turn of the Century, there were estimated to be about 300 rabbits to every human in Australia. Eventually their damage to grazing lands was creating a loss of about 60 million dollars a year just in lost income from wool, not to mention destruction of other crops. The Australians tried to limit the spread of rabbits by (what else?) creating barriers. They built an elaborate fence over 1100 miles long, followed by more fences; but hardly were these barriers in place before rabbits began appearing on the other side of them. Eventually, in the 1950's, a virus was discovered which, in a few years, virtually eliminated rabbits from the continent. Whether or not they made a comeback I do not know. (I am indebted to Dr. Webb B. Garrison's STRANGE BONDS BETWEEN ANIMALS AND MEN for this account).

The proposed "barrier" to Africanized bees will not be a fence, of course. The idea is, instead, to select the narrowest part of Mexico and create a zone, about a hundred miles deep, which Africanized bees would not be allowed to penetrate. Teams would be created to monitor this vast area in an effort to keep truant swarms to the south of it. Just how this is to be done is somewhat vague. The people living there would be encouraged to report swarms of bees, and paid to do so. These swarms would then be inspected to ascertain whether they were Africanized. Beekeepers in that zone would be supplied with modern equipment, and their hives monitored by the teams. Drone congregating areas would be identified (I do not know how) so that the kinds of drones entering those areas could be checked. Bait hives would be set out to attract stray swarms. And so on. In the accounts I read, the word "coordinate" was used fairly often – a verb that is loved by every bureaucratic mind because there is no recognizable activity that it stands for.

How a few teams of watchers imagine that they are going to spot even a small fraction – say one percent – of the swarms that enter an area one hundred miles deep and the width of country I do not know. Even

Continued on Next Page

Bee Talk... Cont. from page 89

beekeepers miss about half the swarms that fly through their own back yards. And as for bait hives, bees seem sometimes to have a perverse preference for hollow trees, even when the nicest bait hives you can imagine are put right in front of them.

It is, I think, a strange notion. I do not object to that. I rather like strange schemes, and I am sure I have come up with plenty of hair-brained ideas of my own over the years. But eight million dollars does seem like an awful lot of money to me, and I also have the idea that people, lots of people, have to work very hard indeed their whole lives to earn that much money.§

Questions and comments are invited. Use Trumansburg address, and for prompt response, enclose stamped addressed envelope.

Wishbook... Cont. from Page 68

reduce it to death in a matter of months. The sight of holes in the cappings affronts my pride as greatly as cavities on incisors. The smell of decaying larva and sight of death is nearly as oppressive as a death in the family.

The threat of Nosema, and the occurrence of the tracheal mite is just as serious.

What pleasant work beekeeping would be if all these diseases were eliminated. Think of healthy, happy, humming hives, free from stress, free from anxieties, free from fear of disease.

I wish experience weren't such a difficult teacher.

A stranger once read my ad for swarms, called and offered his three hives for free. He had decided the bees were too hostile for his neighborhood. When I got these free bees home, I discovered they were all badly infected with foulbrood. I feared all the bees within 10 miles would catch the disease.

Another time a fellow sold me his equipment at a bargain. But the boxes and frames were not the same size as my equipment. His shallow frames in my deep box permitted the bees to add comb to the bottom, and turn them sideways, obliquely, diagonally, and every-way-but-straight. I had a real job to remove the frames, scrape them clean, and start all over.

One winter I tried feeding the bees sugarwater. The jugs dripped too fast, soaked the bees, and ran out on the porch. Robbing soon developed, and I had pandemonium city right before my eyes.

I've learned how to haul bees on a trailer, too. The jarring and bouncing of the hives on the floor of the trailer caused the combs to break and sag. Honey spilled out and ran onto the porch. It dripped onto the grass and soaked into the ground. I've since learned to put a foam rubber cushion under the hive, drive slowly over the bumps, and tie the hives down securely.

What a painful way to learn! How much easier to watch experienced beekeepers, to attend the meetings, to read the journals, and to share experiences.

I wish I could buy all the equipment I needed to make my operation top-flight.

I don't have honey pumps to pipe the honey from floor-level to the storage tank. I don't have an extractor to remove the honey from the comb. I don't have trucks and mechanical loaders. I don't have facilities for raising queens, or equipment for making hives and frames. When I consider what I don't have, I'm tempted to ask why am I monkeying around with the little I do have.

The resolution to the problem is to recall these questions as psychological gymnastics. Really, a small operator such as I has the time and freedom to visit other beekeepers. You can read the literature and attend meetings in distant cities. You can research at libraries and write letters of inquiry. Bigger operators with greater responsibilities find precious little time for these activities. Although more, better and bigger equipment would expedite my operation, I must also consider the cost, the storage space available, and the potential for pay-back. I'm dreaming of being satisfied with what I have, and being happy with my present methods.

I wish the queen were perfect.

Some queens lay their eggs where I try to produce honey. Some queens seem excitable and fiesty which makes the whole colony nervous and difficult to handle. Some queens forget that only one egg per cell is all we need. Some get lazy and don't lay eggs enough to meet the quota. Some produce hundreds of lazy drones.

I wish all my queens were bright yellow in color, good, strong egg-producers, easy-going and gentle, and produced bees with an inclination to not sting. I wish the queen would double or triple the population of the hive without causing a swarm.

I wish I understood bees.

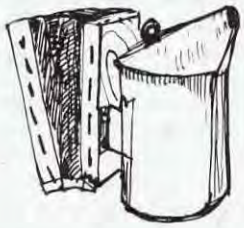
I would like to hear bees talk. I want to hear them decide to swarm, where the swarm will go, and when it will start on its' journey.

I would also like to hear them discuss the nectars available. They surely list the pros and cons about cascara, marigolds, mints. Why do they prefer one over another? And how do they determine how many bees are required to bring in the goods?

And I'd like to hear them describe the weeks of early spring when nectar gathering is so difficult and yet so critically necessary. Maybe I could learn how to care for and reduce their anxieties of survival.

Also, if I could understand bee-talk, I would learn why they sting the dog or the horse or the neighbor boys with no apparent provocation.

Well, these are a few of the dreams I have collected in my notebook. Some of them may come true this spring, others may come true only after many springs have come and gone. But, whether they come true or not, one thing will always be true. The bees certainly do make an interesting challenge for the beekeeper.§



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Games Gallery

By CARSTEN AHRENS

HONEYBEE WORDS

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H	U	M	C	R	O	W	D	R	E	N	P
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V	Y	U	O	N	E	A	I	U	L	U	T
E	O	Z	E	K	N	C	M	L	R	E	G
E	L	Z	R	I	A	E	I	M	A	N	D
H	C	O	Z	T	R	N	U	C	I	L	E
T	W	E	E	A	A	R	H	T	Y	I	Y
O	D	D	B	T	I	E	S	L	E	T	E
O	S	L	O	N	R	E	V	O	G	T	N
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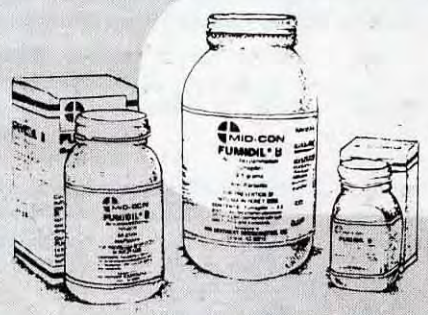

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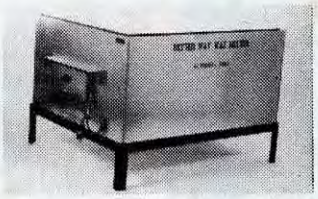

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THE BEE SPECIALIST

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

"Inside or outside, check your colonies — before problems start."

By February, the bees in many different climates may be past the coldest part of winter.

But their problems may be only beginning. The beekeeper must detect which of the colonies, if any, need help and how he can remedy the situation. So let's talk about ways, good and bad, to determine what is happening and what should be done about it. Along the way, we'll talk about the course of events in colonies during the off-season when we do not usually examine them. Even this information can be confusing because it is often based on few and random observations that may have so disturbed the colonies that the activities observed are not normal, or at least not representative of undisturbed colonies.

There are many beepeople who advocate diagnosing the needs of honey bee colonies from outside the hive. They listen to the bees, watch their flight, consider pollen intake, and the dead bees near the entrance. They also may consider any spotting of the hives (signs of dysentery) and any live bees that appear abnormal at the entrance (could be suffering from paralysis). However, if the weather is below clustering temperature, from the mid 40's and below, you can't make most of these observations. You can use a stethoscope or a piece of tubing run into the entrance to hear the sounds of the bees in the cluster. This is easiest if you tap the hive and then guess whether their response is vigorous enough to represent a strong, healthy and well-fed colony, or a weak, sick and starving one. I would have difficulty making such a decision unless there was no sound at all.

How about the number of bees dead in front of or just within the entrance of the hive? Can this tell you anything about the status of the colony? Sometimes it can. High death rates could signal early death of wintering bees from *Nosema* infection and, perhaps, from internal mites. If enough bees are dying from starvation in a strong colony, you may see large numbers near to and within the entrance. Probing the space beneath the frames with a stick of wire could give you a better idea of deaths among bees of the colony than simply looking at the entrance.

In general, you cannot rely on gaining much information from the number of dead bees in front of a hive

unless there was a sudden, heavy loss (as with insecticide kills) that day or shortly before. Dead bees dry up, blow away, and are eaten by rodents and birds. When I sampled extensively for Nosema disease in California, I found no relationship between numbers of dead bees and the incidence or severity of the infection. In many cases, there were no bees at all. In other cases, something had removed all the foreparts, the thoraces and heads of the bees; there were also cases in which only the abdomens were taken. Those animals looking for protein did better with the big flight muscles. Others with a sweet tooth got the honey stomach along with the rest of the abdomen.

Spotting of hives is a good indication that the colonies are suffering from dysentery. This is caused byn poor stores, usually those with a high moisture content. Dysentery and Nosema disease may occur in the same colony, but the *Nosema* infection is not the cause of dysentery. There are two good reasons for this belief: 1) The *Nosema* organism is widespread in most apiaries, yet few colonies have dysentery. 2) When sampling for Nosema disease in California, I took extra samples from colonies showing signs of dysentery. If a colony showing dysentery is still big enough to be worth saving, you can feed it heavy sugar syrup (2 sugar: 1 water) to help it overcome the problem. People who winter bees on stores from sugar syrup say they have little or no problem with dysentery.

But On The Inside . . .

Are there other ways we might learn how our colonies are doing in late winter without opening the hives? Janina Muszyska and Leon Bornus studied a method in Poland and reported the details in *Bee Research* in 1983. They put black trays on the floorboards of their experimental hives. These could be removed easily without disturbing the colonies, and the trays were divided into 10 compartments. The black color made it easy to see eggs on the tray, and the compartments provided a way of knowing the location of the cluster by the location of dead bees and debris that fell onto the tray. Each tray was removed once a week and examined in the laboratory. The researchers counted wax scales, dead bees, eggs, and cappings fragments. In this way, they could estimate the shape and location of the cluster.

In two years of the study, the fewest bees died in December. One

Continued on Page 95

Controlling Nosema Levels in Queen Bees in Mailing Cages

By ANDREW MATHESON

Mated queen are sometimes superseded soon after being introduced to colonies. This loss is a significant cost in many requeening programs, but there is a simple way of reducing it.

Queen bees infected with *Nosema apis* at introduction are usually superseded. *Nosema* levels in caged queens can be reduced by feeding them fumagillin: this will increase the chances of successful introduction.

Fumagillin must be fed in sugar syrup – mixing it with water is not very useful, as the attendants don't take it up very readily.

In an experiment to test the effectiveness of fumagillin in syrup, a USDA scientist fed queen bees with about 100,000 *Nosema* spores. After a week back in the hive the queens were caged with six attendants and stored for another week in an incubator. Half of them were fed fumagillin in syrup, while the others were fed straight syrup.

The results:

- Queens not fed fumagillin – average of 18 million spores per queen.
- Queens fed fumagillin – no spores detectable.

The syrup was 1:1 by weight, with fumagillin added at the rate of 100 mg active ingredient per 3.8 liters of syrup. That's one quarter of a small (0.5g) bottle of Fumidil-B per 4.8 liters of syrup, or the whole bottle per 19 liters.

There are two other main ways of reducing *Nosema* levels in caged queens, but both are used by the person who rears and cages them.

First, Nosema infection in queens can be prevented by feeding fumagillin in sugar syrup to bees in mating nuclei. This ensures that the queens have low or nil *Nosema* levels when they are caged, but is not much use if uninfected queens are caged with workers that are infected.

Experiments have shown that healthy queens caged with workers infected with *Nosema* soon become infected themselves, If all the attendants have *Nosema*, 50% of the queens become infected after 12 days in a cage; and 30% of queens if only half the attendants are infected.

If the attendants are *Nosema*-free, the queen stays free too. Attendants should be taken from hives prepared specifically, with a comb replacement program and fumagillin feeding to minimize *Nosema* levels.

If you're rearing your own mated queens, there's a three-point program for reducing supersedure rates by controlling *Nosema* levels:

- Feed fumagillin to mating nucs, and cull old combs too
- Do the same to colonies which supply escort bees
- Feed fumagillin in syrup to caged queens if there's been a delay between caging and introduction.

If you're buying mated queens there's still one thing you can do:

- Feed fumagillin in syrup to queens when they arrive, even if you are going to introduce them soon afterwards.§

Reference:

Lehnert, T. 1977. *Nosema* control in queens in mailing cages. Reprinted from the *Journal of Apicultural Research* 15:(3): 163-164.

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Bee Specialist... Cont. from Page 93
year it was in March. The results were somewhat variable, but fewest bees died in colonies that wintered well. The number of wax scales found on the trays increased towards the end of winter, as you would expect. The scale count did not relate to the wintering process. In each colony eggs were found on the tray at least once a month. There were more in colonies that wintered poorly, perhaps because the queen's ability to lay exceeded the ability of the bees to rear brood. The shape and size of the wintering cluster, as seen from the debris on the tray, appeared to be an important index of wintering success. Those colonies with the longest dimension of their cluster parallel to the combs were less successful in wintering than colonies with their cluster dimensions longest across the combs. In other words, colonies covering more combs (not necessarily completely), wintered better than those filling space between fewer combs.

I am not suggesting that you should put trays in your hives to detect wintering problems. The technique seems to work but is best suited to research studies with bees. Similar trays with a covering grid, are available in Germany, for collecting samples of debris to check for *Varroa* mite infestations. We should be taking and examining such samples in every state as a routine method of early detection of *Varroa* in this country.

There is really no substitute for looking into the hives in late winter if you want to detect problems and save colonies. I have made this point in previous columns so will not elaborate on it now. For a better understanding of the problems of a colony in mid-late winter, you need to know what goes on inside the hive. E.P. Jeffree of Scotland noted the strong tradition of leaving bees strictly alone during the winter, but added that it is a tradition which, with common sense, may be broken much more freely than is usually imagined. Too many writers speak blithely of brood rearing beginning when the bees have access to new pollen and nectar in the spring. This is not the case. Bees rear brood in the winter and doing so forces them to keep higher temperatures in the cluster and to use more stores. Let's look at a couple of studies that provide good information on the subject.

E.P. Jeffree in 1956 summarized earlier studies on the life within bee colonies during the winter. Most were not truley studies, but observations; they were sketchy and based on too few examinations, so Jeffree looked at colonies in Aberdeen, Scotland between September and March from 1945 to 1954. He made sure they were healthy and queen-right both fall and spring, and measured areas of brood and pollen. He also estimated the number of bees during 367 examinations.

The low point in brood rearing was in October when only 14 percent of the colonies had brood present. It increased rapidly from that [point until February when all colonies examined had brood. Some of the colonies had brood continually from September to March in a fairly severe climate. This is not the story we usually read in the beekeeping literature, but appears to be the true one with reasonably good colonies wintered without any packing in a cold northerly climate. Colony populations dropped from 13,000 to 10,000 during the observations.

The Connecticut Study ...

A somewhat more accurate and revealing story of life in the wintering bee colony was published by Al Avitabile in 1978. He killed colonies from November to March during three consecutive winters in Waterbury, CT, counted their brood, and weighed all the bees. He used colonies with fairly equal late-summer populations and wintered in two deep hive bodies. In part of the study, he compared colonies with new, summer queens and with queens over one year old.

The average colony increased brood rearing slowly until the end of December when there were only some 200 cells of brood. A rapid increase began in January, reaching about 1400 cells in late February. The increase seemed to follow the winter slostice. Avitabile found brood present in most colonies at each examination period except for four colonies killed about 1 December. Adult populations declined steadily from about 21,000 in November to 12,000 in March. A most significant finding was the difference in brood reared by colonies with young and old queens. The young queens produced almost twice as many cells of brood (11,300) as colonies with queens over one year old (5,900).

Consider what that difference in brood production means in relation to the winter survival of your colonies. Those with the best queens are liable to be at most risk because they will generally lay earlier and more heavily, adding to the need for stored food and winter protection. If you detect any problems and do something about them, you may save your BEST colonies. They have the queens with the most potential and their colonies should develop most rapidly in the spring. With good management at that time, they should be your best producers of bees, honey, fruit, and seed.

THE PERILS OF BEE MEETINGS

When you take part in a beekeepers' program or outing, there are certain hazards that you should be aware of ahead of time. A major one is the disappearance of important items such as projectors, extension cords, adaptor plugs, and other items upon which your talk depends.

Many times, I have checked the room in which I am soon to speak to see if everything is there and ready to use. It is. What a surprise when you come back a few minutes later to find that instead of a slide ;projector there is a movie projector, or the screen and extension cord have disappeared. Last year, I put my slides in place on the projector ahead of time, but they were gone when I was called to speak. In this case, another absent-minded professor took them by mistake in place of his slide tray (a different color) which was sitting beside the projector. Most often, things disappear because they were brought by people attending the meeting. When they go home, early or late, they take their equipment, needed or not.

Probably the worst case of the disappearing equipment took place at an outdoor beekeeping affair in England where they had rigged up an outdoor toilet from canvas tarpaulins. A beekeeper who had to leave early took down his tarp, the rear wall of the "ladies' room, exposing a very embarrassed lady occupant to the view of passersby. (From Alan Campion in *The 1986 Beekeepers Annual.)§*

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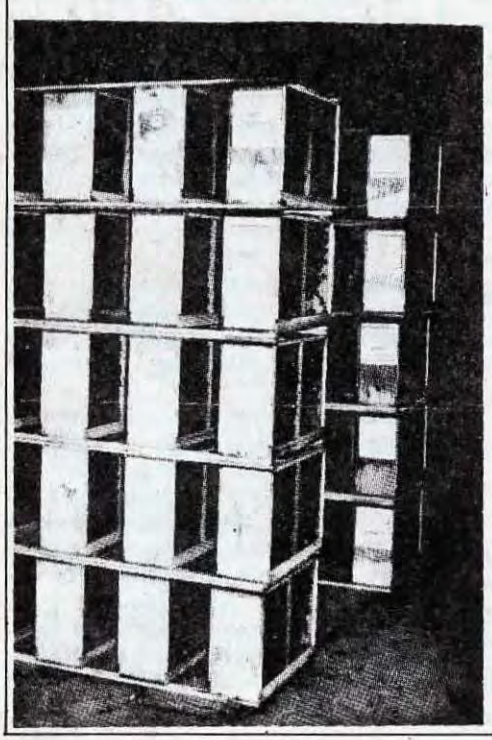

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How do Honey-Guides Guide?

By STEPHEN BAMBARA
N. C. State University
Box 726
Raleigh, NC 27695

Honey hunting, or the practice of seeking colonies of wild bees from which to steal honey, is still very common among many cultures throughout the world. The greater honeyguide, *Indicator indicator,* is a bird that many natives use to lead them to beehives in the wilds of Africa. This interesting bird behavior is not thoroughly understood and is often misconstrued.

The guiding behavior is more than just chatter at the presence of an enemy and seems contrary to the familiar actions of a bird leading a predator away from its nest. There are numerous accounts of this bird coming up to people and then leading them to a bee nest in a cavity or in the ground. The common explanation for this behavior has been that the bird is recruiting another animal to destroy the nest so it can help itself to the unprotected comb.

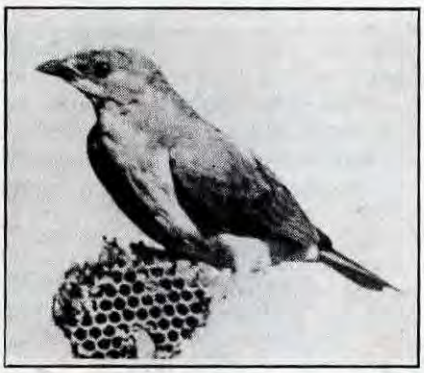
This bird is deep in legend and veiled in superstition. Occasionally, the Honeyguide will also lead a man to a dangerous animal. Many natives believe this happens if you do not reward the Honeyguide with a piece of comb after it has lead you to a hive of bees. Some tribes inflict severe penalties on anyone killing the bird, while another tribe carries the heart of the bird in a horn when looking for honey.

Native legend says that the bird and the mouse were arguing over who had claim to an elephant carcass. They took the matter to a judge, who was a bee. The judge decided in favor of the mouse, the the bird and the bee have hated each other ever since.

The Greater Honeyguide is a small, plain-colored bird distantly related to barbets and woodpeckers. There are about twelve other species of Honeyguide, most of which are found in Africa. Only two or three very closely related species are known to exhibit guiding behavior, although the majority are known to consume beeswax. The geographic range of the Greater Honeyguide is most of central and southern Africa in areas of light forest and bush. This bird is a nest parasite and lays its eggs in the nests of other birds for hatching and raising of its young.

The earliest reference of these birds' guiding habit was by a Portuguese missionary to east Africa in 1569 made after a bird flew into an open window of the church and fed on bits of wax in the altar candlesticks. His account states that the bird lives in the woods and when it finds a beehive, goes to the roads in search of men and leads them to the hive by flying on before them, flapping its wings actively as it goes from branch to branch and giving harsh cries.

Herbert Friedman, onetime curator of birds at the Smithsonian



The Greater Honeyguide: Do they guide or beguile?

—Photo by Ranger

Museum, states that a typical guiding episode might begin by a bird coming to a person and commencing a repetitive series of churring notes. The sound is similar to that of a partially filled match box shaken rapidly lengthwise. The bird perches on a conspicous branch close to the potential follower, constantly calling, fanning its tail, and displaying with its outer rettrices. As the person approaches, the bird flies off with a conspicuous dip and goes to another tree not necessarily in sight of the follower. There it waits, churring away until the follower comes close again. This behavior continues in this manner until the vicinity of a bee nest is reached. Then the bird suddenly stops calling and quietly perches in a nearby tree. The bird waits there until the person has looted the hive and departed. Then it comes down and begins to feed on the pieces of comb strewn about.

From the accounts, it is easy to conclude that these birds actually seek out people and lead them to hives so that they may collect morsels from the destroyed hive. But lone must be wary of attributing too high an intent to this seemingly sophisticated behavior.

Let's Look At The Facts

After looking at all the facts, one can form a completely different conclusion. To begin, this bird does not always lead a man to a hive of bees. Guiding birds have lead people to lions and dead or sleeping animals, or to a bush in full bloom, heavy with foraging bees. Guiding paths are not direct lines, but a series of zig-zags which often criss-cross and are much longer than a direct route.

In addition, these birds prefer clean wax comb and do not appear to show much interest in the bees themselves, the honey, or the brood. Research has shown that Honeyguides are also capable of digesting wax. A guiding bird has never been noted to lead to an abandoned hive which has comb but no bees, or to a new hive full of bee activity, but one in which comb has not been built. The guiding behavior apparently did not evolve as some essential food gathering mechanism since non-guiding birds are also found with wax in their gizzards. In some areas, this bird is not known to guide or the amount of guiding has declined over the years. This might suggest that if this behavior was a critical factor for survival, that the species would be in danger of extinction. Apparently it is not.

Further, one non-African species of Honeyguide found in Malaysia, *Indicator archipelagos,* is thought to be very closely related to the greater Honeyguide and has been observed showing similar excited guiding behavior upon the approach of man. However, there are no records of tales of this bird leading a human to a beehive. In Asia, there are species of honey bees which construct exposed nests and no assistance would be needed by a bird to reach a comb, hence it would not require another animal help to feed on the wax.

New Conclusions

From this additional information we can begin to form new conclusions. In areas of Africa where

Continued on Page 104

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BEE FLORA: THE SPRING BULBS

By DIANA SAMMATARO

Spring is around the corner; although writing this now, with snow flying and cold wind chilling, spring seems far, far away. But soon the bulbs you planted last fall will be up and flowering and eagerly visited by bees. So I thought a little history of these flowers might brighten gloomy winter days.

The spring crocus we are so familiar with, *C. vernus*, probably came from the Middle East to England by the 16th century. There it was called St. Valentine's Flower, blooming on that Saint's day. The yellow flowers (not the purple ones) were picked and placed in his shrine. Colonial wives sewed crocus bulbs into their skirt hems when they left for the New World. Thus the crocus and many other plants made their way across the Atlantic.

The rare fall-blooming saffron crocus. *C. sativus* was more economically important as saffron was prized for it's yellow food color, dye and even it's medicinal qualities. The name Crocus is Greek for *kroke* or thread, and refers to the 3 orange thread-like stigma from which saffron is derived. There are also several myths concerning this flower; the son of Europa, killed by the fleet-footed god Mercury, changed the infant's blood into flowers which bear his name: Crocus.

Snowdrops, or *Galanthus* with their pure white flowers, have long been associated with the Madonna. It sprang from her footsteps as she took infant Jesus from Bethlehem to Jerusalem on Candlemas Day, February 2. The latin name means 'milk-flower' and some say snowdrops were created by an angel from a snowflake.

The Hyacinth, was again named after a Greek youth, *Hyacinthus* struck down by a god. Now, however, each petal is inscribed with the Greek word *ai*, meaning woe. This sweetly scented flower grew wild in Persia and was cultivated first by the Dutch in the 16th century. Another spring bulb, Grape Hyacinth or *Muscari* is also from Asia Minor. It was spread not for it's beauty but for it's edible bulbs. The latin name is derived from the Greek *moschos* meaning musk, referring to the scent. An early American gardener, Ruskin, described it as a "cluster of grapes and a hive of honey, distilled and pressed together in one small boss of beaded blue".

And, lastly, the real favorites, the narcissus and tulips. *Narcissus*, Greek for 'narcotic' was a youth who fell in love with his own reflection and was so transformed into a flower. Its Mediterranean origin is well-documented, and was prized for its medicinal qualities. Bulbs were part of a soldiers' standard equipment, to help staunch blood flowing from wounds. There are many names for this flower, but to help sort them all out, remember Narcissus refers to the white flower with a shallow reddish crown; the Jonquil or "little rush" (a plant with long narrow leaves) was the Roman's yellow flower with a shallow cup. The Daffodil, a corruption of *asphodelus* or "king's spear", has the long trumpet. Today there are many variations on all of these shapes and colors.

Tulips, another Persian original, were brought into Istanbul by travelling merchants. It's resemblance to a turban or *tulband*, in Turkish, accounted for it's name, corrupted later into tulip. Their beauty made them popular in Europe, especially in Holland where from 1634-7 a tulip war raged. Bulbs were bought and sold for fabulous prices, from 3000 to 5000 florin coins, or in crops, livestock or beer. When the inevitable crash came, Dutchmen saw it's commercial possibilities and the Dutch tulips were born.

All of these spring bulbs, and others like the squill and allium, are important early nectar and pollen sources. No honey surplus has been recorded; presumably it is all consumed by the bees. Some varieties, colors and species are more or less attractive, depending on soil, temperature and so on. Keep track this spring of what your bees like and plant more of them in the fall. Don't forget the wild spring flowers too!

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How to Double your Honey Crop in Short Season Areas: Part I

By AUSTIN KNOX

As background to the title, I would like to first list a few statements used to explain the method outlined. I made these observations in southern New England, but the same pattern will hold in other short season areas, although dates may vary.

- In overwintered colonies significant brood rearing is not started until early March.
- The major nectar flow begins between May 2 - 20.
- The nectar flow ceases between July 1 - 15.
- There is a fall flow one year in four.
- A fertile queen will deposit an average of 1500 eggs per day.
- Worker bees emerge in 20 - 21 days.
- There are 15 to 20 days between the time the bees emerge and they begin collecting nectar/pollen.
- It takes about 3 pounds of stores (honey and pollen) to feed one pound of larvae and the adult bees necessary to feed and cover them.
- An overwintered colony will dwindle to about 3 or 4 pounds of bees in a weak colony and 5 or 6 pounds in a strong colony.
- There are 3000 to 3500 bees in 1 pound of average sized bees.

Lets first examine a hypothetical overwintered colony. Assume that on March 1 we have a strong colony of 6 pounds of (19000) bees in a hive. The queen begins to lay strongly. By April 1 she will have laid 19000 eggs.

Unfortunately, 19000 bees cannot feed or cover 19000 larvae at this time of the year. Temperatures are rarely above freezing at night so the bees must cluster to keep alive. From this we can assume that one third of the larvae, or about 2 pounds, survive and emerge as young adults. However, the adult population of old bees is still dying, so we realize a net gain of a pound or so of bees by April 1.

By May 1, the population may have increased to 9 - 11 pounds of bees, but there are also more larvae surviving. This means that the number of bees ready and able to forage for nectar and pollen may be only 3 or 4 pounds. With a weaker hive, these numbers would be probably less than half. The colony will not build up to its maximum strength for another month or 6 weeks, or the middle of June; and the nectar flow is two thirds over. This is not an unusual situation in this area.

CAN THIS BE IMPROVED?

I have been successful in improving this situation by following these steps:

- If you have an even number of hives, a month or so before the main nectar flow, place two hives side by side, as close together as possible.
- About a week before the main nectar flow, find out (if possible) which is the stronger hive. If you are using a K-3 Super Balance the rate of stores consumption can be noted. Otherwise note the number of flying bees etc. Then, cage the queen in the strongest hive. (I use the KS-5 Full Frame Queen Cage which is convenient and safe). Find the frame which the queen is on and insert it and the adhering bees into the cage and return to the hive.
- After this move the weaker colony some distance away, preferably 40 to 50 feet. This should be done mid-morning or after. The field bees from both colonies will return to their old stand and enter the remaining hive. This will strengthen the already strongest colony by several pounds of bees. If desired, add a few frames of bees from the weaker hive to the strong hive and further strengthen the colony.

Do the same for all remaining pairs of hives in the apiary. When you are finished, what you have accomplished is the following:

- Added several pounds of bees to the field force in time to take advantage of the upcoming nectar flow.
- The queen is still present so the colony is content. And, they will not swarm because of the increased work force, no available space for a queen cell inside the KS-5 cage, and no eggs outside the cage to put into a queen cell should one be built.
- The remaining larave will soon be capped and the bees can concentrate on bringing in nectar. Since there are no new larvae to feed, you will add about 10 - 15 pounds of honey to your crop. And, to compliment this there is little need to bring in pollen, so there will be more nectar gatherers.

A honey super or two should be added soon too, as it is not unusual to see 5 to 7 pounds of nectar brought in every day the bees can fly. And, since nectar is about 80% water, a sot of cells should be available for the bees to spread the nectar around for rapid evaporation.

No, I haven't forgotten those with a single colony, or those owning an odd number of colonies. However, first read the following information for the hobbiest who orders package bees for the first-time colony setup, or who orders packages for expansion of the apiary.

From reading the advertisements of the bee breeders in the South, it would seem that most people order a 2 or 3 pound package of bees. Due to the 'normal' spring weather in this area it is difficult to obtain packages before the 25th of April or sometimes later.

Remember, the nectar flow begins only 10 to 20 days after the 25th of April. You can readily see that a 3 pound package cannot, under the best of circumstances, build to the point where there will be enough field bees able to bring in significant nectar before the season is over. In fact, package bees usually have to be fed before the nectar flow, and again in the fall so they can overwinter.

The solution to this problem is simple. Order 6 to 9 pounds of bees with a single queen. Specify that delivery should be made on or shortly after the onset of the main nectar flow in your area.

When they arrive, install them and give a half gal. or so of 50% sugar syrup, just in case the weather turns bad and they can't forage immediately. With an 'average' nectar flow, a strong colony can bring in enough honey for successful wintering and provide from 30 to 100 pounds of surplus. Assuming that bees will cost $6.00 per pound (excluding postage), a queen $6.00 and sugar at 40 cents a pound, the profit and loss calculations come out something like this:

Continued on Page 103

Beekeeping Equipment for Bees — Not People

By STEVE TABER of Honey Bee Genetics
P. O. Box 1672
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"8 Frame, 10 Frame, Plastic and Paint"

Arguments among beekeepers over the proper equipment in which to house and keep their bees have toned down considerably over the p past 50 years, which is probably a good thing. In this article, I am going to review some of the old arguments and types of equipment available, and present information so that you can make a more informed decision when you are buying your new equipment.

If fact, if you are really interested in the subject, I suggest that you get a copy of the *ABC and XYZ of Bee Culture,* and read the discussion on the evolution of hives. Actually, there is very little difference in these hives as far as the bees are concerned. Generally speaking, all of the different hive designs assume that the queen should be kept in one brood box year-round, and manipulations of combs or brood boxes were not practiced.

Perhaps the most interesting argument was from the Dadant firm, run at that time by Charles Dadant, who advocated a larger brood nest and a 1 -1/2 inch frame spacing as opposed to the spacing advocated by Langstroth of 1 -3/8 inches, center to center of combs. A Dadant box designed to hold 10 frames would actually hold 11 Langstroth frames.

Well, just how did we get where we are today with sizes of brood chambers labeled "standard"? Lumber manufacturers had a certain standard size wood then as they do today. A 1 inch thick board that was 10 inches wide after planing or dressing would measure 7/8 inches by 9-5/8 inches. Today, a 10 inch board is supposed to measure only 9-1/4 inches, so bee supply manufacturers have to buy lumber measuring 11-1/4 inches (a 12 inch board) and cut off 2 inches to get a board large enough to make a standard super. Frankly I don't know, and have never heard how or where the 6-5/8 inch depth super came from since there has never been a standard size of lumber anywhere near that dimension.

Today we have the following equipment available from most manufacturers. Brood chambers, or supers are 9-5/8 inches, 6-5/8 inches and 5-11/16 inches deep, each having 10 frames. However, you might occasionally see brood chambers or supers that hold 8 frames instead of 10. Which should you use, and which is the best equipment for the bees?

Introduce Plastic

Wait, we aren't done yet. A significant change which does affect bee behavior is being offered by more and more of the bee supply dealers. These are frames and/or foundation made of plastic. The bees obviously accept plastic and build nice combs on them. And, when you place one of those plastic-based combs in an extractor to remove honey, you'll realize just how tough they are. They never break or disintegrate in the extractor as naturally built beeswax combs are prone to do. But they present the bees with a problem; they can't chew a hole through them as they can and do in a beeswax comb. Take a look at the combs in your hives that are made of beeswax, especially those that are several years old, and notice how many holes there are that give the bees lateral movement in the hive.

In my operation I use very little foundation, letting the bees build their own comb. When bees build their own comb, without the benefit of manufactured bees wax foundation, they build it with holes, providing means for lateral movement. During the summer when it's warm, lateral bee movement is not important. But during winter it is important to have, so bees can get to combs outside the cluster. With the outside combs full of honey, the bees cannot go around plastic frames or comb because it's too cold, so they may starve to death with honey just inches sway.

Plastic foundation or whole plastic combs present the bees with a wintering dilemma which is not good. You can fix it, or the people who make them could, by poking a hole or two right near the middle of the comb. Of course, the same problem is encountered by beginners who want to keep and maintain perfect combs in their hives. Bees don't want perfect comb. in their hives. How do I know? Because if they did, they would build them in nature; and in nature, they would repair them in a perfect (perfect to us) form.

Why equipment that holds only 8 frames? Two reasons; it's less heavy, and more boxes can be loaded on a truck. Where I live, there are many bees rented for pollination – and they are rented by the colony. The bees that are in 8 frame equipment (one colony) are worth just the same as bees in 10 frame equipment, but the beekeeper can put more 8 frame hives on his truck than 10 frame hives.

What I'm saying is that what-ever size equipment you decide to put your bees in is for your convenience, not the bees. The bees will do equally well in all of the equipment that you offer. As to the old argument of bee spacing by Dadant and Langstroth, no one has ever run an experiment to determine if one is better than the other during either hot or cold weather. In some experiments that I ran years ago, the space built between combs varied between 1/4 to 1/2 inch; so it looks as though both those bee masters were correct.

Continued on Page 104

Knox... Cont. from Page 101

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FOR A 10 # PACKAGE

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(60 # surplus @ $1.50/lb)

This leaves a $23.00 increase, which translates into a 34% profit on investment, not bad figures in any business.

If the queen is not caged there will be an 8 to 15 pound difference because of consumption by larvae that are fed during the time of the nectar flow.

The queen is released after the main nectar flow is over, which leaves plenty of time to raise young bees to winter satisfactorily.

Now, back to the hobbiest with one hive or has an odd number of hives. You will find that purchasing a 3 – 5 pound queenless package, which is added to your overwintered colony a few days before the main nectar flow will repay the investment by doubling the honey crop–at a minimum!§

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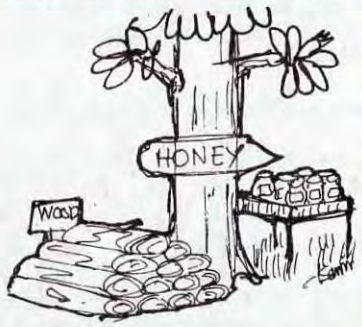

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Taber... Cont. from Page 102

Bees do not seem to do really well in all new equipment; and I don't know why. Maybe it's the smell of the wood or the tightness of the joints. I remember having this argument with my old college bee instructor many years ago, Dr. C.L. Farrar, at Wisconsin. He agreed that bee colonies do better in old equipment with many come and go holes for the bees, than in new, tight bee equipment. But, he couldn't stand not to have all his equipment perfect, and he compensated by drilling a 1 inch hole under the hand hole in the front of each brood box.

Bottoms, Covers and Covering

As for the cover and the bottom of the hive, remember, they are for the bees – not people. The cover should shed rain and snow, and be cheap. The bottom should be cheaper but designed to provide protection against mice entering the hive during the fall. A bottom that provides a 3/8th inch space between combs and bottom, will also prevent most mice from entering.

Beginning beekeepers spend a lot of money on their bee equipment, and they want to keep everything looking good to show off their hobby to neighbors and visiters. If you are in an urban setting, with several close neighbors on small building lots my suggestion is to camouflage your hives, painting them the predominant colors in your yard or garden. ***Do not paint them white! Do not treat them with toxic wood preservatives.*** White paint is an advantage for keeping interiors of hives a bit cooler only when outside temperatures regularly exceed 100 – 105 F.

In the fall, observation hives should usually be united with regular colonies for the winter months. It is possible to keep them going if you keep a strong population and provide insulation over the glass during the time they are not under observation. Make sure they have sufficient honey at all times, and, if you want them to raise brood, feed a little pure pollen every day or two.

I remember Frank Todd telling of an intriguing experiment he did one winter with an observation hive at the USDA Bee Lab in Beltsville, MD. There was no brood in the hive, nor was the queen laying egg, but if he took one pollen pellet, mixed it with sugar water and fed it to the bees, there would be some eggs the next day. We sure need a lot more research on bees and bee equipment to find out what the bees really need and want. We seem to already know what beekeepers want.§

Apisculpture

One of the interesting spin-offs in beekeeping, is the use of beeswax in art. An artist who has recently won recognition and success was the feature of an article in *Peoples Magazine* for August, 1985. His name is Garnett Puett, and many knew his father as a third generation beekeeper and queen breeder. Puett lost his southern accent when his widowed mother married Jim Powers, and moved with her four teenagers to Idaho.

Although Puett had the option of joining Powers Apiaries, he chose art instead and created a new form of sculpture using bees (apisculpture). His exhibits have included a work in progress with live bees that, as you might guess, provided good copy for reviews in *The New York Times, Village Voice,* etc. In New York City the bees flew out from a 10th floor window to the patches of green amongst the roof tops where they gathered nectar and pollen.

Anyone interested in seeing photographs of the sculptures, and reading about philosophical implications of Puett's work, can consult articles in the September issues of *Arts Magazine* for 1985 and 1986. The apisculptures are considered "a crack in the near monolithic facade of the appropriationists". Additional information about the artist and sculptures can be obtained from Puett's agent: Curt Marcus Gallery, 578 Broadway, New York, NY 10012.§

Honeyguide Bird... Cont. from Page 97

daytime honey-hunting is or was heavily practiced, the birds are stimulated by humans (and sometimes other mammals). Along with the sight of man are the grunting tones and chopping sounds which are used in the hunt. Upon hearing these sounds or seeing a man in the woods, a specific innate "excited" behavior may commence. The man is in turn attracted by the bird's activity. Each time he approaches the bird, it flies off to a new perch. The switch which turns off this behavior is the sound of buzzing insects. This buzzing might be from a beehive, a bush full of foraging bees or even flies on a sleeping or dead animal. When the bird comes close to a hive (the buzzing) it sits quietly on a nearby perch. If the bird's initial encounter with a man is rewarded then learned association of man with a meal may develop.

Guiding behavior is not something which has evolved over the centuries in a bird/man dependency. The bird does not require man to obtain its food and, in fact, does not seem to be guiding. The bird may actually think the human knows where the hive is! Areas where modernization has replaced tradition have shown a drop in guiding birds presumably because less honey-hunting is practiced and rewards diminished.

It should be noted that these conclusions are shared by the majority of authors in this field based primarily on the extensive work of Friedmann. D.W. MacPhersohn, however, feels that guiding behavior is deliberate and claims that less than direct guiding routes are from lesser experienced birds. So the argument continues.

The development of the human's behavior may actually be similar to the bird's. Some innate quality compels a man to approach a bird displaying this particular excited behavior. He follows the bird until he is rewarded by finding a colony of bees. The next time he sees the bird, he follows it again. This time it is partially due to expectation of a reward. He may now presume that the bird knows the location. Eventually he may even seek out such a bird in order to follow it. If he had never been rewarded for his initial following behavior this story would not have been written.

In summary, the Greater Honeyguide possesses a fixed behavior pattern. The guiding behavior is triggered by seeing a human or other mammal. The behavior persists if it is rewarded consistently and some learning would seem to be taking place. This behavior is turned off by the buzzing activity of honey bees or similar insects. The bird's behavior is not "guiding" at all, but "indication" instead, and there is no reason to assume this delightful behavior is premeditated.§

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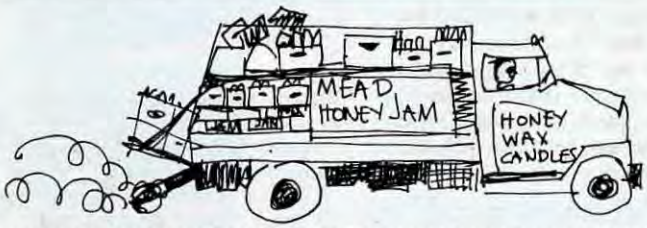

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KOOVER'S KORNER

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

"We need better equipment!"

Saturday, November 22. This is the end of "THE WEEK THAT WAS". What a mess. When you read this it will be the New Year. Hang in there my friends. You have stuck it out this far, stay with it a little longer. I get sick reading those ads of beekeepers who have to get out for they can't make beekeeping pay them a decent living. Our government allows foreign countries to flood our land with honey, God knows produced under what kind of unsanitary conditions, at prices we can't meet.

When beekeepers quit, who will pollinate our crops? As yet there is no way to pollinate by artificial means that give as good results as those done by bees. And don't think they are not working on it, for when that is accomplished farmers don't have to worry about rented bees being poisoned when they have to spray. You can cover a machine from top to bottom with poison and when you touch the starter it will go again.

As for keeping bees to produce honey only, forget it. That is unless the government slams the door on imported honey we don't need. I have touched on that before. You know the story and so do those who govern us. Now is the time to go after them. And demand relief. They are in no mood to fight back for they have been humbled and we have a congress that can make things stick. The editor of this magazine wrote me a letter in which he said "Ouch, do you ever pull punches?" The answer is NO!! I know what you put up with. For I too have a lame back from lifting too many hives and supers full of capped honey. And so does Steve Taber who told us in the November issue how he got his. Now I am wondering about Richard Taylor and Charlie Mraz.

This brings me to what I really want to talk about. Two years from now it will be a hundred years since A.I. Root brought out his improved hive, and he named it after his friend Lorenzo Lorrain Langstroth. It had all the improvements of that time and it replaced all the hives on the market at the time.

If A.I. were only alive today he would agree that it can stand further improvements. For instance, the modern hive should have better handholds. Those shallow slots that only accommodate your finger tips have got to go. No wonder we beekeepers all have busted backs. I did something about it and I wrote about it in *Gleanings*. That was way back and I showed it with pictures. Of course that was after I had put my back on the blink. Closing the gate after the horse got out.

Those metal hand grips were hard to form and not practical commercially. But they did a beautiful job. Then I came up with a better idea. Here it is. Get a piece of wood the width being from the top of the hive body to the top of the hand hold. Glue it on with Weldwood, a carpenters glue available in super markets and hardware stores. Nail it too, if you want. I clamped a 30 pound vise onto it and asked a friend to lift it while I took his picture. You can tell he is not suffering. His thumb and the pad below the thumb are resting on the nice wide top of the super. While his fingers go all the way into the hive wall up to the first knuckle of his hand. That piece of wood you glued and nailed on is doing something else. It protects the rabbet trough where the frame ends rest. They get broken out when you open a hive. With the extra width they are protected.

The late Walter Kelley, practical soul he was, sold those Pieces to be nailed on. And he commented in his catalog, "Makes the body stronger than new but standard covers will not fit over these." True. But why not. once and for all make the cover longer so it will fit over the longer tops of your supers? Here is another advantage. You can now drill a small hole in the rim of your overhanging cover and put a screw through the cover rim into the thick top end of the super. Do that front and rear and your covers won't be blown off. Saves all that business of finding rocks to weigh it down with too. Another benefit, vandals don't go around with screw drivers to open hives. That stops them from opening hives and leaving the covers off when the bees begin to sting.§

Reading Effectively

By CHERYL MAC DONALD
761 N. E. 180 Street
North Miami Beach, FL 33162

Do you feel swamped by the amount of material you have to read? In the effort to keep up with current events and professional news, many of us do. Is there a way out of the jungle of letters, reports, periodicals and books which absolutely must be read?

Yes there is! The five steps listed here can save you time and still keep you well informed.

1. ESTABLISH YOUR READING GOALS. What are you trying to accomplish through your reading? Why do you need to read a particular report, book, or magazine? "Because it relates to my job" or I'm on the mailing list" are not valid reasons. Neither is "everyone else does" unless you're talking about a publication which is regularly discussed by colleagues and which contains information you can't obtain elsewhere.

Your reading goals can be personal or professional, long or short term, but it's important that you know exactly what they are. Whether you're contemplating a trip or visit to a trade show or convention, or trying to keep up to date with the latest breakthroughs in your industry, your reading should reflect these goals.

2. BE SELECTIVE. Would you eat everything in sight just to be well nourished? Of course not! Apply the same principle to your reading. Since it's impossible to read everything, you must select specific goals and gear your reading accordingly, as well as select specific sources of information reflecting those goals.

You should also be selective about what portions of books, magazines and other materials you read. Again, choose those related to your goals. If you find the piece isn't pertinent or isn't telling you anything new, stop reading. Unless you have to report to someone on the contents of the piece, there's absolutely no need to finish it.

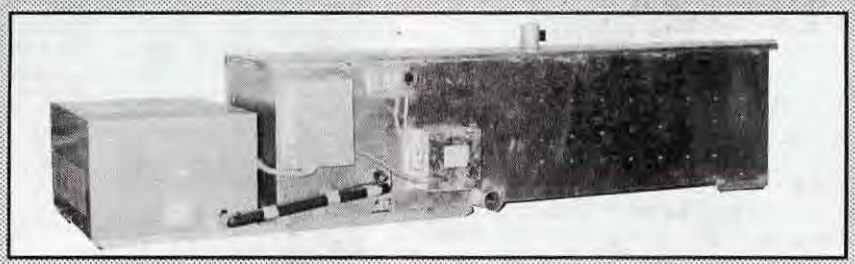
This is especially important when you're pressed for time. In fact, you can eliminate a lot of reading material. Take newspapers. A good report usually is written in the "inverted pyramid" style: the first paragraph summarizes the story, with each succeeding paragraph providing more detail. By reading headlines and the first few paragraphs, you'll stay well informed.

You might even do away with reading newspapers entirely if you're really busy. You can keep informed through radio or television newscasts combined with a weekly news magazine if you need more background information.

Where books are concerned, skim the table of contents and index for topics which relate to your goals. Read those sections first. Whether you complete the book or not depends entirely on how closely linked it is to your goals.

3. SET DEADLINES. What you read also depends on how much time you have. After you've selected material and set a certain amount of time aside to read it, establish reasonable deadlines. If you don't read the newspaper the day it's published, throw it out. Same applies to May's newsletter if it's still hanging around on June 1st. Don't feel you'll miss something vital. Important topics are sure to be featured again.

Continued on Page 112



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  * Temperature of honey leaving processing tank — 93°F. * Moisture content of honey — 17.7%.
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Induce the Swarm to Stay: The Snelgrove Method

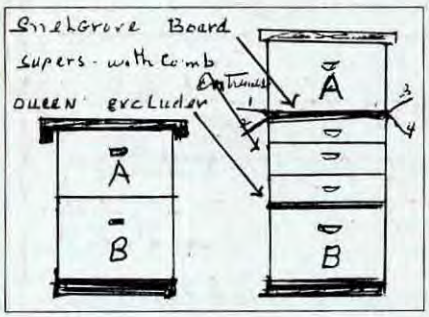
By B. W. RICHARDSON
241 Pommogussett Road
Rutland, MA 01543

It is simple, economical of time and effort, does not interrupt normal bee activity, requires a minimum of equipment, provides for increase or not, as desired, provides for regular requeening and selection of stock, and insures a full honey harvest. It can also be applied to colonies which have or have not developed the swarming impulse and queen cells.

The method is based on the assumption that the presence of an excess of nurse bees induces the swarming impulse and aims to control this impulse, or eliminate it, by separating the nurse bees from the field bees within the same hive. The general procedure advised is as follows:

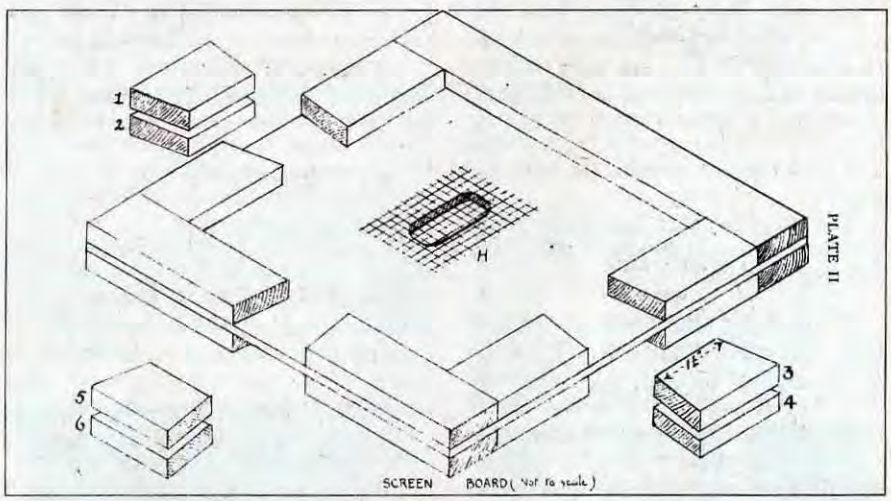
The colony to be controlled is stimulated by slow feeding in spring until the brood chamber is well filled with bees. In areas where an early honey flow can be expected, a queen excluder and honey super may be put on. To prevent swarming, however, the bees must have ample room, and a second brood chamber fitted with combs or frames and wax foundation should be placed over the first.

When the threat of frost has largely vanished, the colony is divided. The combs containing brood with adhering bees are placed in one



brood chamber (A), and the queen with a little unsealed brood is placed in the center of the combs which do not contain brood in the other chamber (B). Chamber B is placed on the floor board of the hive, surmounted by the queen excluder, honey supers and chamber A in that order.

Three days later, a special screen board, equipped with a pair of wedge



entrances on three sides, is placed between the super and chamber A. During these three days, the nurse bees will have assembled in the top chamber, and the flying bees will be using the entrance to the hive. The interpolation of the screen board now separates the two sections, although the need of ventilation is met by a hole in the center of the screen board, covered with perforated zinc. The next step is to remove the top wedge on one side of the screen board, thus affording means of exit and entry to the top brood chamber. The bees, as they attain flying age, use this entrance.

On the seventh or eighth day, the wedge below that already removed is withdrawn, and the first wedge is replace. At the same time, the top wedge on the opposite side is removed. The flying bees from the top brood chamber now leave by this new exit but return to the first opening on the opposite side. This opening, however, now diverts them to the bottom brood chamber, reinforcing the field bees present.

One of the drawbacks of the Snelgrove method, however, is the tendency for pollen to be stored in the supers by bees using the side entrances. It is not a strong tendency, and is of little consequence when working for extracted honey, but it may prove a nuisance when section honey is being produced, for pollen in section combs is unwanted both on grounds of appearance and food value.

On the 15th day, a similar manipulation is made. The second wedge is replaced, and the one below it is removed, then the top wedge at the back of the hive is taken out. The flying bees of the top brood chamber now leave by the back exit, and return to the side where they are diverted to the bottom chamber. By these manipulations the top chamber is repeatedly depleted of flying bees, and the bottom one reinforced for nectar-gathering.

*In the meantime, however, the top colony will be busy raising a new queen, and its possibilities are many. It may be allowed to raise its queen for mating while remaining in place; or the colony may be split up into nuclei for increase; or it may be utilized for reuniting after the honey flow is over. **

• • •

That's what the book says, but what does it mean? I've tried it and it works for me. Here's how you go about it.

About April 10 – Reverse bodies

About May 15th or soon after queen cells are found in the top brood nest, arrange lower brood nest, marked B in the following manner:

Take out all open and coiled brood and place in top body, which is beside you. Capped brood may replace open lower brood as well as honey and pollen. When you find the queen, place her and frame she's on in the middle of the lower body. If you really want to set her back, place foundation on either side of her. What you have in the lower body is a destitute brood nest. The queen will now have to begin all over again. Place a queen excluder on the lower body.

Continued on Page 110

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Snelgrove... Cont. from Page 108

Then, place three extracting supers, or only two if only foundation above the brood box, place a Snelgrove Board on next and open entrance #1 on the board. This is the outlet for the top super only. All other doors should be closed. Place in brood nest A queen cells, open brood and eggs. The bees will tear down all but one queen cell. Flying bees will leave A and return to B where they will start storing honey. They will have no brood to feed so they will put the honey into the super. The nurse bees in B will try to get to A and will go into the supers. This will free the congestion in the brood nest. Since the nurse bees can't get into A they will become worker.

RESULTS:

1. The bees leave A and return to B. "A" cannot swarm and only one queen cell will survive. This queen will start laying for winter stores and future workers. Later, when these workers are strong enough, we will run them to the lower body.

2. Body B will not swarm, although it has a lot of bees from A. The queen will not swarm until she has enough nurse bees to nurture the queen cells. The queen does not catch up with brood and nurse bees until it is too late in the season for swarming. We have kept them home to work for us.

3. The top shallow super is ready and should be capped about July 15th. Take and extract it. Continue to put supers back on until Labor day, or until the three supers are full and mostly capped. Then, take them off and kill the old queen in B. Place newspaper between A and B before joining them.

4. The hive will fill up for winter, the queen will stop laying, the swarm will reduce in size so as not to enter winter with too many bee.

5. You have made 100 lbs. of honey – which is pretty good for New England.

6. Your hive has now been re-queened for next year. If you have 5 hives you will have 5 extra queens, should you need them. If you should find queen cells in the other hives you could drop the frame into a Snelgrove Unit and raise it. Extra queens are good to have around!

RUNNING BEES BELOW TO STRENGTHEN A COLONY

After the first hatch of bees is completed in A, traffic for entrance #1 will become crowded. B may be strengthened by closing #1 and opening #3. Bees will leave from #3 and try to get back into entrance #1. We will open #2 which will put them below with the queen. They will go out the usual bottom board exit and try to enter #1 several times. Since #1 is closed, they will continue to enter #2 a few times before giving up this patter. It is possible to do this twice in a season but the brood in A may suffen, so be cautious.

When the traffic in #3 becomes steady, close it and open #5 which is in the rear, also open #4. The reason for opening #5 in the rear is, should you want to join a swarm to a colony, their flight would be from the rear, and the queen will be easily inspected on a frame. After a few days, when the Pheromones of the queen below are present, the queen can be done sway with, the Snelgrove board removed and the swarm united with your original hive.§

* *Whitehead, Stanley B., Shaw, F.R. Honeybees and their Management. New York: D. Van Nostrum Co., Inc. 1951*

Snelgrove boards are available from the author.

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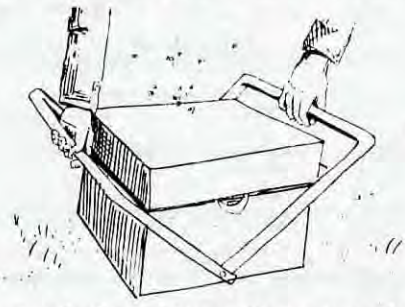

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BEEKEEPING CAN BE A VERY MOVING EXPERIENCE

If you've owned bees for more than 20 minutes, you've probably had to move a colony or 2, or 4 or 100. This happens for lots of reasons. Moving from a present site to a better one; splitting up an apiary because it's to large; pollination; unforgiving neighbors and probably lots of other reasons.

But moving colonies requires work, so the better prepared you are to move the easier it will be. Jim Thompson tells what can happen when certain precautions aren't taken, and how he prepares his colonies to avoid some obvious problems.

Chuck Howe then describes a homemade device that makes moving alot easier and is easy and cheap to make. Finally, we'll take a look at the E–Z Hive Lifter, a commercially available tool that solves some of the moving maddness.

• • •

A MOVING EXPERIENCE

June 19, 1986, I received a telephone call just before 8 AM. Phone calls in the early morning or late evening usually mean trouble and this was no exception.

A friend of mine had been moving bees from an old location to a new yard. He had started loading his six hives just before midnight on another persons truck. Since the hives were established colonies, they were all heavy and some were 4 stories tall. I don't know how he managed to lift all of them into the pickup truck with just himself and his college-aged son, but he did. The incredible part is that he relied on the propolis to hold the hives together. Since he was only going to move them 9 miles he didn't feel rope, to hold them securely in the truck, was needed. However, a board was placed behind the entire load in the truck so they wouldn't slide out the back.

Those of you that have moved bees know by now what happened. My friend came to a stop sign, stopped and began to accelerate. Because he was unfamiliar with the truck, it accelerated far more rapidly than any of his vehicles, and in so doing one hive tipped over the board and went crashing to the pavement.

Two of the hive bodies were completely destroyed. The bottom board and inner cover were shattered into pieces. The cover was all together, but disconnected and thus not useable. The remaining two hive bodies were intact but were no longer "square" and bees were everywhere.

At four in the morning, he attempted to clean up his mistake. Since he didn't have a bottom board, he stacked the parts of the hive on the cover as best he could and covered the mess with the pieces of the inner cover and the bottom board.

At 7 AM, when he returned from unloading the rest of his hives, he found that most of the bees had clustered on the remnants of the hive, and those which were flying were not in the best of humor.

For some reason, I agreed to meet him and help straighten out the problem. Shortly after 8 he arrived with the required replacement parts: a bottom board, two hive bodies, an inner cover and a cover.

We started building a hive from scratch by selecting which frames we wanted in the first hive body and so on. When we got to the two elongated hive bodies, we were able to lift the frames up enough to "square" the super.

Then came the part of securing the hive so that it could be picked up later to complete its journey.

For the past three years I have been moving bees into orchards for pollination, and each year I keep improving the process. My current system works very well.

MY SYSTEM

It starts with the four corner angles. I obtained the heaviest sheet metal in stock from a local heating contractor. It was 24 gauge 48" wide and 10 feet long. I was able to have the contractor cut and bend the metal, if I bought the entire sheet, into 2"x2"x24" angles. Two of these angles are notched to allow the angle to fit in front of the hive without interfering with the entrance.

With a piece of masking tape, I secure two telescoping angle pieces

for each corner of the hive. Then I band these angles together with a nylon web clamp placed in the middle of the hive. This corner treatment keeps the hives "square", keeps them from shifting, covers many of the corner gaps and doesn't leave holes in your hives. I try to keep the winch part of the clamp in the back of the hive.

If you have ever stapled hive bodies together, you have noticed that the hive staples used today break after being used one time, and many times a portion is left behind to gouge your hand later.

To my knowledge there are three types of nylon clamps on the market. I have found that the one from J.C. Whitney (an automotive supply company – catalog number 81-0945Y) with the hooks to be the best. You can undo any twists easily, you do not have to have a wrench or screwdriver in the dark, and it tightens with a straight pulling force. Also it can be purchased for less than the "Stanley" or "Pony" clamps.

I use another clamp around the hive with the winch located on the top.

The hive is now a unit and as soon as an entrance screen is installed and any other holes plugged, it could be lifted into a vehicle and secured for moving to another location.

It's not only a good idea to use good moving techniques for ourselves – it makes the job much easier – but it stops trouble before it starts. Bad publicity ALWAYS results from bee spills. So – protect yourself, your bees and your industry!

• • •

Continued on Next Page

Moving... Cont. from Page 111

Occasionally, you only have to move a hive a short distance, or are in an extreme hurry. Hive hooks seem to fill this bill quite well, and Chuck Howe gives good directions for making your own set.

HIVE HOOKS MAKE CARRYING EASIER

This is not an original idea, at least not mine. Many beekeepers in this area already use them. Recently, I helped a friend move her hives without the use of these inexpensive hooks, (she had never heard of them before), making the work far more difficult than it should have been. I'm sure articles about these hooks have appeared in the literature before, but it seems time to repeat it.

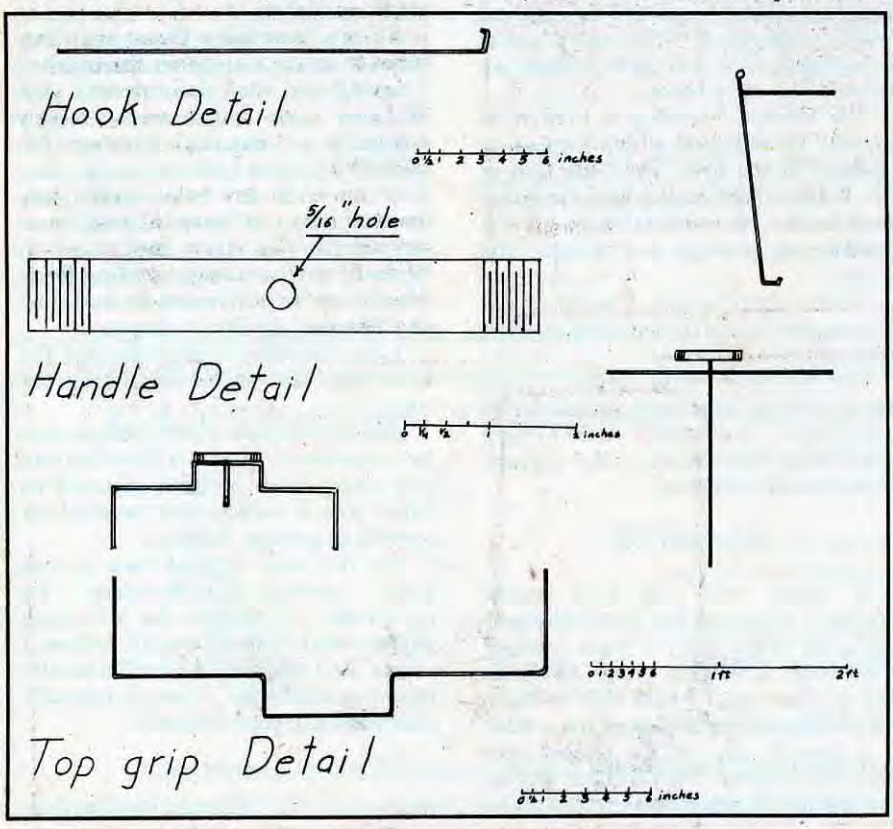
These hooks have several advantages over many other inexpensive devices for moving hives: they allow two people to walk in a normal manner while carrying the hive; they grip the hive from the bottom board, allowing the hive to be moved short distances without other binding straps, staples, tape, etc. (handy for outyard manipulations); the handles are above the center of gravity of the hive, therefore no balancing of the hive is required; they are small and light enough to fit into the trunk of a car if necessary, or even behind the seat of many pick-up trucks. They do have one obvious requirement for their use – a *decent bottom board.*

CONSTRUCTION

To construct these hooks, a propane torch can be used to make the bends in the 5/16 inch rods as required, but an oxy-acetylene torch will work better. The handle and attachment of the two 5/16 inch rods to each other will have to be welded. This may be accomplished either by an oxy-acetylene welding set or an electric arc welder. Brazing of the 5/16 inch rod junction will not produce a strong enough joint unless reinforced by plates. The handles may be attached by brazing as the joint is constructed, but I prefer welding.

First, place the tips of two 5/16 inch rods in a vise, approximately 1/2 inch deep and heat them to red hot. Make a bend of slightly over 90 degrees (we are bending both rods at the same time to insure that both hooks come out the same). Reposition the rods in the vise again to form the second bend in the hook. If possible, leave the long parts of the rods up for leverage when making the bends, otherwise a hammer will have to be used to make them. Heat the rods to red hot again and make the second bend slightly less than 90 degrees. The hook part is now complete, so put it aside to cool.

To make the cross bars I center the bars in a vise which is 4-1/4 inches wide, heat the rods and pull them perpendicular; this forms the center portion of the rods. If your vise is a different size it can still be used by placing the rods vertically in the vise and making one bend and then the other, but this makes centering the bends more difficult. Remember to account for the radius of the bend when positioning the rods in the vise. The rest of the bends are accomplished by placing the rods vertically in the vise and making the appropriate bends until they are complete.



ASSEMBLY

Stack up a completed hive (bottom board, two brood chambers, inner cover, and telescoping or migratory cover), place one bottom hook under the bottom board and temporarily clamp the cross bar to it in correct position with vise grips. Remove the assembly from the hives and weld them together. Repeat this for the other side.

Drill a 5/16 inch hold through the center of each pipe nipple. Slip them over the ends of the hive hooks and adjust to the proper position and mark the rods. Remove the handles,

Continued on Page 115

Reading... Cont. from Page 107

4. WRITE AS YOU READ. Underline, make notes in the margin, put question marks beside confusing statements. By marking the text as you read you're effectively outlining the main points it makes. This way, when you refer to it again, you won't have to reread the entire piece to refresh your memory.

5. DELETE AND DELEGATE. Get rid of any material which is useless to you. If you don't read it, have your name removed from the mailing list.

Still find yourself swamped? It can happen from time to time. This is when you should try delegation. Enlist a co-worker, spouse, friend, or relative to help. Have them read and summarize the article for you. Alternatively, find a co-worker whose reading requirements overlap your own. Then share the overlap. Suppose you both have to read the same four reports each month. If each of you read two, discuss them or trade marked-up copies (see Step 4), you'll both save time and still accomplish your reading goals.

There's nothing difficult about reading effectively. All it takes is a little bit of thought and organization. Follow the suggestions above and you'll probably find most of your reading overload will disappear.§

Inner Cover... Cont. from Page 67

closest; rampant disease (bees, not owner); inefficient operation (old, broken equipment); and maybe unethical business pracitices (!).

So what do you look for in used equipment? I've already mentioned price, but that's not always the best indicator of condition. Does it fit your present equipment? Mismatched frames, supers, tops etc. can be a real headache next summer when trying to combine it with what you already

have. Or, is all the equipment you've bought the same? Be sure to check that all the stuff you're buying is uniform. You could end up with 3 or 4 styles that aren't interchangeable. This should also tell you something about the previous owner.

Next, check for those less than obvious flaws. Dry rot and termite damage are good examples, but there are others: normal wood rot, especially bottom boards; broken frames, especially in those bottom supers in the back row; wax moth infested combs, again at the back; knot holes; cracked boards; peeling paint (or no paint!); are inner covers on all the supers? (if they're supposed to be); are frames in all the supers? (again, if they're supposed to be).

Checking these things in *all* the hives you'll buy is common sense, just like buying a used car. But unless you look close, hidden flaws may come back to haunt you.

The worst of these is of course – disease. If you're looking at active colonies, it's alot easier to tell than at this time of year – but not impossible even now. Foulbrood, either kind, can be a heavy expense next spring, so avoid it if at all possible. This goes without saying. But sometimes strange things happen.

Many researchers feel that disease lurks in every hive, but only some exhibit the symptoms, and then only occasionally. Moving colonies from what was an ideal location to a somewhat less than perfect situation (your yard) may put enough stress on a colony to cause unwanted meanies to arise. Or, your management practices may be different enough to cause stress-related problems to arise. Or, you may have bought sick bees. Or, empty equipment loaded with everything from A to Z and back (maybe that's why they were empty in the first place?).

There are some precautions you can take to avoid most of these disease problems. Take another experienced beekeeper with you when examining the equipment – 4 eyes are better than 2. Check with the local inspector to see how the operator has been doing. Ask around, with local beekeepers, or even some distant, especially if it was a large concern. Look at all the colonies, even if you're only in the market for a few. Finally, look once, look twice, then come back in a few days and look again. Don't get caught up in buyers' fever.

So, after checking it all over, you buy. What next? There are some additional precautions that can help insure a smooth transition. Chances are that at least some brood comb could be replaced. If it's older than 3 years it should be gone anyway. Old comb brings back old problems. I can't stress this enough. Get rid of it, melt it down and replace with new foundation. Scraping frames and supers, cleaning bottom boards and double checking the soundness of all the equipment, before a bee ever enters makes good sense. This is the time to make those minor repairs too, a few nails now, fewer problems later.

If you've bought active colonies – do they have enough food? Were they medicated last fall? When were they requeened last? Have they been used for pollination or honey production?

The answer to all of these questions will affect how you handle them once home. If you have to feed and medicate them all, did you get a good deal? Are they all nasty? Requeening can be expensive and time consuming. Are the populations large enough to do what you want? Waiting a year for a honey crop can make or break a marginal operation.

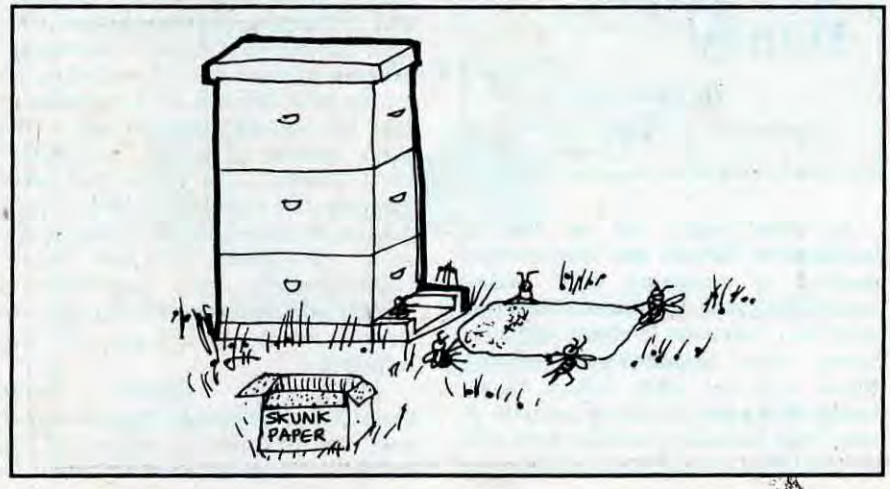
Going in with all these, and probably other questions answered will tell you if you should "beware of the deal"!

As a footnote to all this, I went into the archives and checked the same journal for the same month – for 1976. There were only 9300 colonies for sale, which translates into a 60 % increase in 10 years.§

FOR THE RECORD . . .

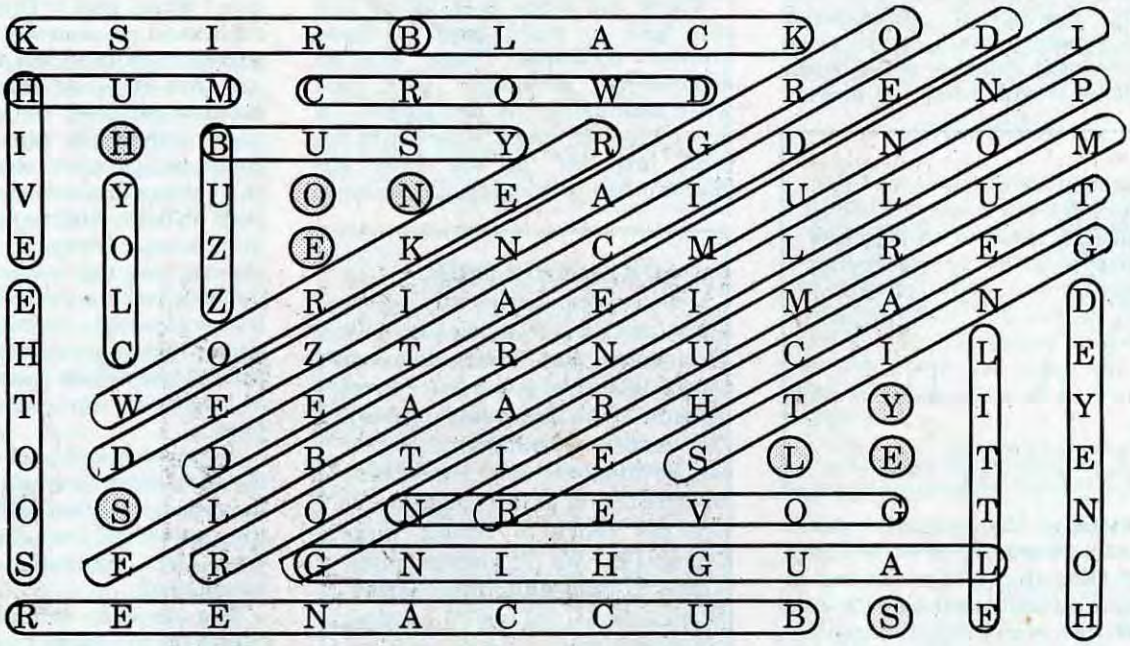
Gleanings continually seeks accuracy in our publication. We recognize that errors do occur and use this space to correct them when discovered by staff or readers. Mistakes may occur in writing, editing or mechanical reproduction of the magazine. It is our policy to correct these mistakes. We encourage questions or comments from readers. Call (216) 725-6677 during business hours or write us at the address on the contents page of this magazine.

Due to a variety of reasons, (the holidays, mechanical breakdown and late mail) the Monthly Honey Report is not printed this month. I regret this lapse in marketing coverage, as I know many readers look to and rely on this information. The information from this month *will* be included in our seasonal summary in May.



GAMES GALLERY ANSWERS, From Page 91

Words may read up, down, forward, backward, diagonally. Unused letters spell _____, an adjective Shakespeare used in "Julius Caesar"; it points out an unfortunate lack in the diet of bee or man.



Missing Letters: Honeyless.

Lowering the Moisture Content in Small Lots of Extracted Honey

By MARION ELLIS
State Apiarist
Lincoln, NE

In nine years out of ten, if beekeepers follow the time-proven method of removing only sealed honey, they will not have a problem with the moisture content of their honey crop; however, occasionally there will be years when heavy honey flows occur during periods of very high humidity and the bees will go ahead and seal honey that is not completely ripened. Nothing is more frustrating to a beekeeper than to discover that his crop of beautiful, white clover honey is high in moisture. The frustration is due to the fact that until now, there was not much he could do about it. He could sell it quickly to a honey packer and let him worry about it, or he could heat it unmercifully to kill the yeast and in doing so, damage the beautiful color and delicate flavor of the honey. When my friend Joe Hile called to tell me he had devised an apparatus to take the excess moisture out of his eight barrels of honey, I chuckled until I tested his before and after samples and saw that he had, in fact, got the job done without changing the color or flavor of the honey. Unfortunately, Joe's apparatus is simple and inexpensive to make, so there is no way he will get rich from selling it.

Joe's idea (which works beautifully) was to blow a stream of hot, dry air into the bottom of the barrels (five gallon buckets could be done the same way) of warm honey and let the air rise to the surface releasing moisture when the bubbles pop. This does create some foam, so you will need to allow about four inches of head space in your container.

To begin with, Joe put the honey in a small room heated with a wood stove. He heated the room to 110°F until the honey temperature was around 90°F. He then used a portable paint sprayer compressor to generate the air bubbles. The compressor was located in the warm room and a 20 foot air hose was strung above a wood stove to give extra warmth to the air. Three-eights inch copper tubing was attached to the hose and a T-fitting above each barrel was installed. A piece of 3/8" copper tubing was run from each T to the bottom of the barrels and a small petcock was placed in each of the tubes going into the barrels to regulate the flow of air into the

Continued on Page116

Moving... Cont. from Page 112
cut the hooks where marked, reinstall the handles and weld them into place. Clean off all slag, grind or file off any sharp or uncomfortable edges, especially in the area of the handle.

Test the hooks for any minor adjustments you may wish to make by trying them in an outyard moving several hives around. When you are satisfied with the dimensions, they are ready for painting. Put on the primer, let dry, and apply any white enamel paint. White is the only color to use. Florescent orange looks the same as black by moonlight and is of no help. You may never have noticed it but you don't see color in the dark – only black and white. The quality of the paint job isn't very important, the paint will get chipped off anyway. Mine get thrown down on rocks, tossed into the back of the pick-up, and have even been dropped on the road once so the paint eventually gets scraped off anyway. Every 3 – 5 years put on a new coat of paint – just so you can find them in the dark.

MATERIAL
4 – 5/16" X 36" steel rods
2 – 1/2" X 5" iron pipe nipples
1 can spray paint primer
1 can white spray paint
2 or 3 welding rods

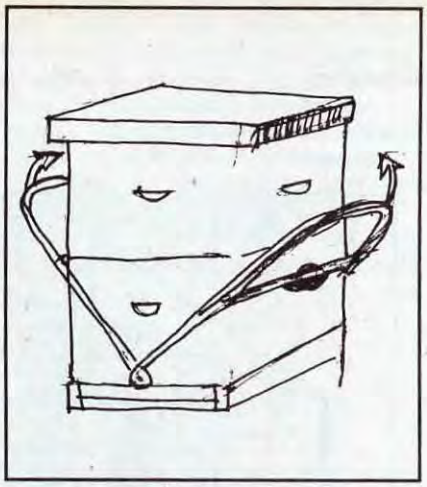
TOOLS NEEDED
Hacksaw
vise (medium or small)
5/16" drill bit
electric arc or acetylene torch
vise grips
tape measure
center punch
propane torch
hammer

MATERIALS COST
rods – $6.00 - $8.00
pipe nipples – $1.50 - $2.00
primer – $1.75 - $3.00
paint – $1.75 - $3.00
Welding rods – $1.00
Total cost – $12.00 - $17.00/Set

• • •

Finally, there must be a few beekeepers who either don't have access to the right tools, or wouldn't know how to use them safely if they did, (I fall under the second catagory). So just for us, there is a commercial carrier that accomplishes most of what the hive hooks do, and have a few other advantages.

Called the E–Z Hive Lifter, it too requires 2 people to use, but has the advantage that it is a single unit. Small, light weight and easy to store, it could be used in almost any



operation.

You do have to have the bottom board secured with this lifter, and unless you grab the bottom super, all the supers must be connected (staples or banded). Grabbing the bottom super of a 4 or 5 story colony can be a little tricky because the whole load is top heavy, but this isn't necessarily a drawback.

Used in conjunction with the first banding technique, it would be and ideal piece of equipment to have around.

Play it safe this spring – save your bees, your back and your reputation. Don't let this year's "MOVING EXPERIENCE" be your last.§

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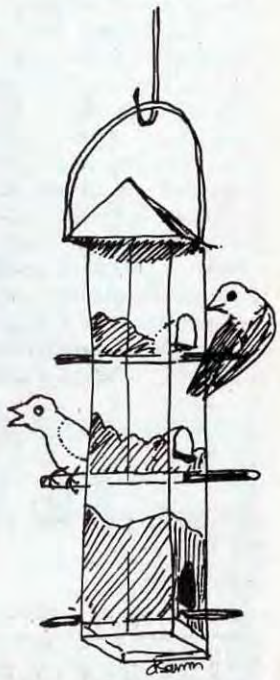

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Moisture... Cont. from Page 114
barrels. A small stream of warm air was directed into each barrel until the moisture content dropped sufficiently. In one test, the barrels were bubbled for 19 hours, and the moisture content dropped as follows:

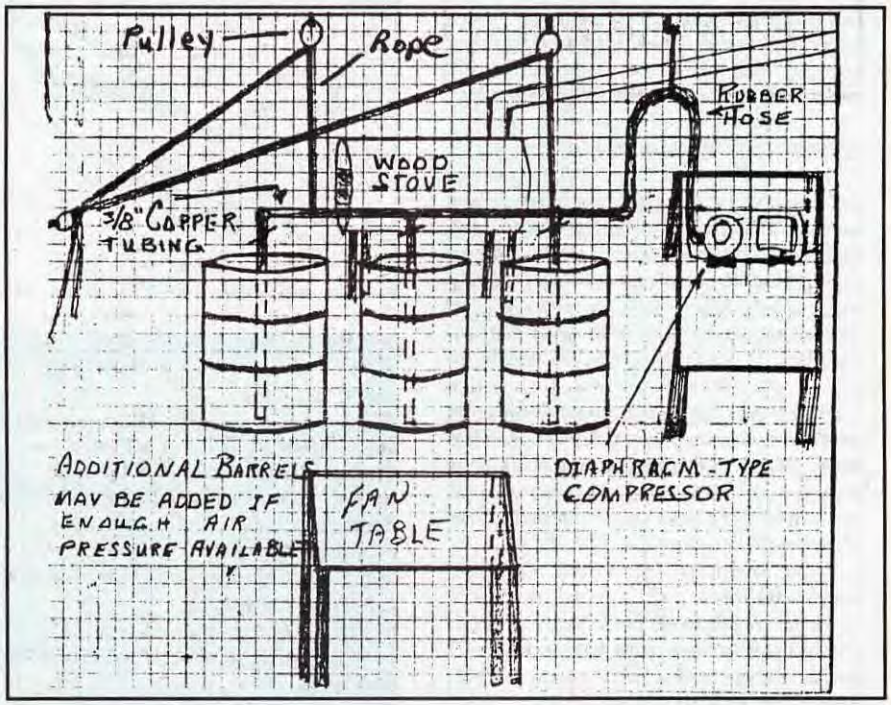
Barrel #	Percent Moisture Before Bubbling	Percent Moisture After Bubbling
4	18.5	17.7
5	19.0	18.2
6	18.6	17.7

This procedure was tried two other times with similar results. A dehumidifier was not needed as the wood stove heat was hot and dry and the ambient moisture content of the air is naturally low in the winter in Nebraska. A fan was used to direct the air flow over the top of the barrels toward the stove to pick up the moisture from the honey. A dehumidifier might be needed in the summer or in an area where the relative humidity is high or if the honey is bubbled in an air-tight room. Anyone using this procedure should use a diaphragm-type pump, and avoid using a piston-type pump. A piston pump could blow oil or grease into the honey. A large aquarium pump would probably work on five-gallon pails and drying would probably be faster if the honey was warmer.

Questions should be sent to Joe with a self-addressed, stamped envelope.

Joe Hile
4303 South Street
Lincoln, Nebraska 68506

Good Luck and Happy Bubbling!§



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Answers to Testing Your Beekeeping Knowledge

ANSWERS FROM PAGE 80.

1. True Most species of bees live solitary life styles. After mating, each female builds her own nest without help from her mate or any other individual. Each cell is provisioned with a mixture of nectar and pollen, then she lays a single egg on the food source. Each cell receives enough food to meet all of the requirements of the larva when it hatches. She continues building, provisioning, and laying eggs in cells in this way until she dies without ever seeing her offspring.
2. False Midnites are produced from a four-way cross of caucasian inbred lines. These hybrid bees have a gray-black appearance and are extremely gentle. Due to its caucasian origin, excessive propolization is their biggest disadvantage.
3. True Breeding stock used to produce Starline queens is produced by instrumental insemination, whereas the final queens sold by the queen producers are open-mated. Therefore, there is always a chance of some mismating, since total isolation of the breeding stock is impossible. Starline hybrids have been selected for general combining ability, which allows for some mismating but still produces a quality hybrid queen.
4. True The alkali bee is a highly efficient and effective pollinator of alfalfa in the western United States. It is a highly gregarious solitary bee that nests in large numbers in saline soils with a silt loam or fine sandy loam texture. Special nesting beds are constructed and stocked by alfalfa growers at the edges of their fields.
5. True Honey bees in the United States are a heterogeneous blend of several races introduced from Europe, the Middle East, and Africa. Currently, there are three major races: Italians, Caucasians, and Carniolans. However, they are not the same as the original races they were named after. Many strains of the original races have developed through interbreeding and selection along with various geographic and climatic influences.
6. True Carpenter bees are of limited value as pollinators of many crops since they are solitary bees and have a strong tendency to cut holes in the bases of flowers. This behavior allows them to steal the nectar supply without making contact with the flower's reproductive organs.
7. False The bodies of yellow jackets and wasps are relatively smooth and shiny; lacking the plumose hairs that are so characteristic of bees. The sparse body hairs of wasps are simple and unbranched. Since they do not depend on pollen for the rearing of their young, they have no special structures for collecting and carrying pollen.
8. True Social paper wasp colonies are composed of three castes: queens, workers and males. Queens and males are produced in the fall. Autumn frosts kill off the nest inhabitants; only queens hibernate during the winter to start new nests the following spring.
9. False Yellow jackets construct a nest out of a papery material that is produced from wood and vegetable fibers that are collected and chewed by the workers.
10. D) Apidae
11. C) Hymenoptera
12. D) Italians
13. H) Dark or Black German Bees
14. A) The Cape Bee
15. D) Italians
16. E) Carniolans
17. H) Dark or Black German Bees
18. G) Japanese Bee
19. The abdomen of the carpenter bee is without hair, shiny and black, whereas, the abdomen of the bumble bee is covered with yellow, black and sometimes orange hair. Carpenter bees also lack a pollen basket on the hind leg.

There were a possible 20 points in the test this month. Check the table below to determine how well you did. If you scored less than 12 points, do not be discouraged. Keep reading and studying — you will do better in the future.

Number of Points Correct
20-18 Excellent
17-15 Good
14-12 Fair

Beef Checkoff QuickScan

This beef checkoff symbol represents a beef industry united in support of the Beef Promotion and Research Program. It identifies programs that use funds from the $1 per head checkoff. A new beginning for U. S. beef industry is under way. The catalyst for this new development is the uniform, national $1 per head checkoff that began October 1, under terms of the Beef promotion and Research Program (BPRP). The initial phases of stepped-up national beef advertising and promotion programs received the go-ahead from the Beef Promotion Operating Committee, which met at the Meat Board offices on September 17-19. The Operating Committee approved contracts with the Beef Industry Council to conduct the programs. The Committee is working with a $4.1 million interim budget that runs through January 1987. The budget was approved by the Cattlemen's Beef Promotion and Research Board early in September. The Operating Committee authorized work in the following program areas: Consumer Advertising. A new advertising campaign called "Beef. Real Food for Real People" will reach 97 percent of the U.S. adults between 25 and 54 years old. The campaign will break as soon as production and media schedules permit (no later than February, 1, 1987) and will run throughout the year. New network television, network radio, national magazine, and national newspaper advertising — featuring well-known celebrities — will be the primary vehicles carrying the advertising message. Sales Promotion. An extensive retail point-of-purchase program will complement the national advertising efforts and help stimulate beef sales at supermarket meat cases across the country. Foodservice. An extensive national foodservice promotion campaign will seek to increase beef usage in restaurants and institutions. The Operating Committee recommended that it should pursue contacts with the Beef Industry Council in education and research as additional funds become available.

— Meat Board Reports

A program similar to ours — Note the eyecatching logo!

WASHINGTON SCENE:

Publicity and Publication

By GLENN GIBSON
Minco, Oklahoma 73059

". . . and the bottom line was a sensationalized bit of garbage."

Writing an article during the Christmas holidays for the February issue of a bee magazine is difficult. The Corpus Christi convention will be past history and the events in Washington are certainly not predictable. So what can I write in December that would interest readers in February? So this month's column will cover some of our perennial problems that should receive attention, but don't.

THE NEWS MEDIA AND THE BEEKEEPER

During the last 5 years the honey industry has received a great deal of negative publicity from the Media Elite. Burton Pynes, Director of the Heritage Foundation, describes the Media Elite as the dominant force on national news. This group includes the NEW YORK TIMES, WASHINGTON POST, LOS ANGELES TIMES, the TV networks, TIME, NEWSWEEK, AP (Associated Press) and UPI (United Press International). And obviously this would include journalists who are influenced by these prestigious organizations. Collectively this group has repeatedly stressed the point that honey producers are subsidy hogs and will soon bring killer bees in our midst.

From time to time several industry leaders have been interviewed for a TV short on the honey loan program and the coming of Africanized bees. These interviews with camera crews lasted from 30 minutes to an hour, but invariably our leaders 'appearance on TV was limited to a few seconds. These "shorts" usually lasted no more than 5 minutes and the bottom line was a sensationalized bit of garbage. Realizing that it would be futile to try for a decent message on the TV, Richard Adee and Roger Morse declined a recent invitation to discuss the honey loan program. (Plans for this short may have been cancelled. I am hopeful that other industry leaders would decline).

Syndicated columnist, James Kilpatrick, wrote a negative article about our honey loan program in 1985. NBC Anchor Man, John Chancellor, urged the Congress to kill our honey program in December 1985, (during the Conference Committee's work on the Farm Bill, no less).

What can we do about all of this besides getting sore? First, we must not lose our cool and tell somebody off. Rather it would be best to ignore everything negative and concentrate on the positive approach. This does not mean that there is nothing you can do. On the contrary, please remember that the Media Elite AIN'T the only news outlet. Forget the bigtime TV and major print medium! Instead work with your in-state TV stations, local dailies and weeklies, radio and cable TV. Also, farm magazines and trade association newsletters and publications offer opportunities for publicity. In due time a volume of positive in-state publicity will gradually create a favorable image and a favorable attitude among in-state media personnel. The best example that local news will command more attention than the bigtime is the political campaigns for state candidates. Which would have more influence on Iowa voters, THE WASHINGTON POST or the DES MOINES REGISTER? Except in isolated cases, the local news media's ideas would prevail. Getting favorable publicity for the beekeeping industry in your state should be a top-priority item for your state beekeeping association.

SOME "NO-NO'S"

What shall I write about this month? Did my last article generate any new effort for the beekeeper - either in the halls of Congress or among beekeepers over the country? Neither question is easily answered. During the last 5 years I have written a number of articles about political Washington and what beekeepers should do to save their business from government bungling. I must be saying the right things since I have not received any criticism from anyone about the tome of the articles or a question about the accuracy of my statements. Now, this puzzles me. Nobody can write for years without sticking foot in mouth.

It is not an easy matter to write for publication. My first problem is the beginning. Clear reasoned thoughts are always much more cogent and firmly expressed than what finally appears on the printed page. One must not provoke supporters or put down potential support and yet writers must try to say something that would be of value to the reader. The most difficult "no no" is too much self serving comment (some writers and speakers engage in an orgy of self-congratulation - like political campaigns).

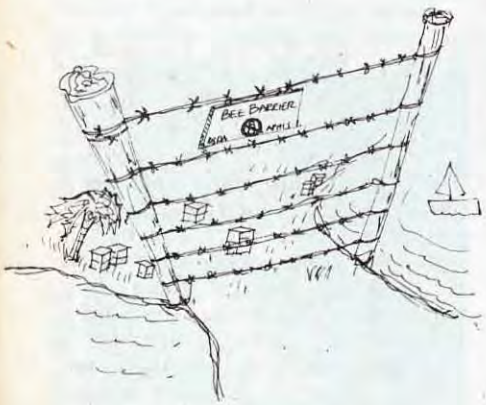
Another point that deserves close attention is the matter of giving credit for material that clearly belongs to someone else. Since I am certainly not big time, I doubt that I will ever be sued for plagiarising another writer's material. Professor Brander Matthews, Columbia University, gives his ideas on plagiarism: "In the case of the first person to use an anecdote, there is originality; in the case of the second there is plagiarism; with the third, it is lack of originality; with the fourth it is drawing from common stock, and the case of the fifth, it is research." It is obvious that one must try to avoid the second and third cases.

Continued on Next Page

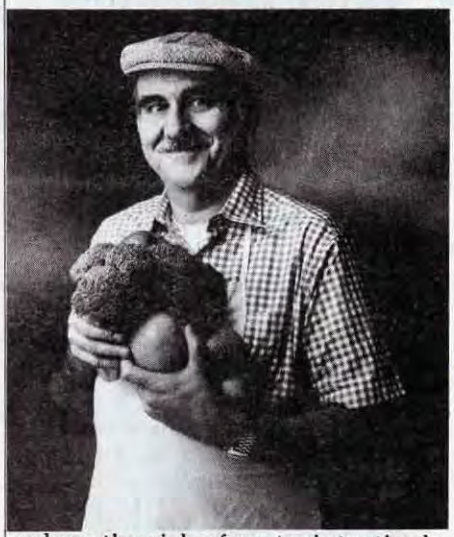
Gibson ... Cont. from page 118

THE NEXT ELEVEN MONTHS

The New Year brings us a new Congress and the beginning of the last two years of the Reagan Administration. Predictions will receive little attention at this point, so I will not say much except politics will play a major role and industries that are listed in the "miscellaneous and others" column (like the beekeeping industry) will receive little attention unless one raises CAIN. Beekeepers, you are the group that can do just that.§



FOR THE BEST DEFENSE AGAINST CANCER, SEE YOUR DOCTOR ONCE A YEAR AND HIM ONCE A WEEK.



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Vegetables such as cabbage, broccoli, brussels sprouts, kohlrabi and cauliflower may help reduce the risk of gastrointestinal and respiratory tract cancer.

Fruits and vegetables (and whole grain cereals such as oatmeal, bran and wheat) may help lower the risk of colorectal cancer.

In short, make sure you do what your mother always told you to do. Eat your vegetables.

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News & Events

☆ ARIZONA ☆

The Sixth Annual Arizona Beekeeping Seminar will be held February 7 and 8, 1987. Steve Taber will lead the program discussing Queen Rearing.

For additional information contact: Brett E. Cameraon, 6849 West Lewis Avenue, Phoenix, Arizona 85035, (602) 245-1391 or Mike Kuzmik, 1544 West 6th Street, Tempe, Arizona 85281, (602) 968-0969.

☆ CALIFORNIA ☆

The Sacramento Area Beekeepers Association will sponsor a two-day workshop, April 11-12, at the Sacramento County Agricultural Extension office, 4145 Branch Center Road, Sacramento, California. The workshop will meet from 9:00 a.m. to 4:30 p.m. each day.

The workshop will be taught by Dr. Norman Gary of the University of California, Davis. who is a noted bee researcher, professor and consultant for television and motion pictures dealing with bees.

The workshop will contain information for all levels of beekeepers.

For more information contact: Sacramento Beekeeping Supplies, 2400 21st Street, Sacramento, CA 95818 or calling Nancy Stewart at (916) 451-2337. The class fee is $50.00 for both days if paid by April 1, 1987, or $60.00 after April 1st.

☆ CANADA ☆

Saskatchewan Beekeepers Association
Annual Meeting and Convention

The Annual Meeting of the Saskatchewan Beekeepers Association will be held February 5, 6 and 7, 1987 at the Sheraton-Cavalier Hotel in Saskatoon. The meeting will focus on the tracheal mite research project which is being conducted in La Ronge, Saskatchewan and on the problems of the approaching Africanized bee in Central America.

Reservations can be made by calling the Sheraton-Cavalier in Saskatoon at (306) 652-6770 and further information regarding the program can be obtained from John Gruszka, Secretary-Treasurer, Saskatchewan Beekeepers Association, Box 3003, Prince Albert, Saskatchewan, S6V 6G1, (306) 953-2790.

☆ COLORADO ☆

Dan Hall has been appointed manager of the National Honey Board, Chairman Harry Rodenberg announced today.

As manager, Hall will oversee research and promotion for the nation's 2,000 commercial honey producers and importers.

Hall was selected following a national search because of his extensive background in agriculture trade and promotional organizations. Most recently, he served as executive director of the Denver based National Potato Council, coordinating the 12,000 member organization and conducting national governmental affairs activities. He previously served in the marketing divisions of three farm bureaus — Alabama, Maryland and Michigan.

Rodenberg said one of the first goals for the organization will be increasing U.S. per capita consumption of honey.

For more information call Dan Hall, (303) 772-9685.

☆ CONNECTICUT ☆

The state of Connecticut will sweeten the pot for Litchfield's Honeybee Museum with a $3,000 Historic Assets Grant, according to Economic Development Commissioner John J. Carson, who also serves as Chairman of Connecticut's Committee for the Restoration of Historic Assets.

The Hewitt Honeybee Museum on Richards Road, Litchfield, houses more than 300 antiques and objects related to beekeeping. The collection was assembled by Philomen J. Hewitt Jr., a Litchfield beekeeper who during his lifetime served as State Beekeeping Inspector and also Editor of the *Eastern Apiculture Journal* and *Connecticut Honeybee*.

The grant, which is subject to approval by the State Bond Commission, will enable organizers to refurbish the Honeybee Museum building, and design and assemble new exhibits.

Matching funds have been secured to assist the project, according to William Raacke, President and Treasurer of the Honeybee Museum and Research Center. The museum will be open during peak tourist seasons, and will appeal to visitors interested in agricultural history as well as those who follow beekeeping.

☆ GEORGIA ☆

A beekeeping short course will be held at Clayton State College, Morrow Georgia, February 24, 26 and March 3, 5, & 10, 1987. The course is sponsored by the Clayton County Extension Service and the Tara Beekeeper's Association of Jonesboro Georgia. All the instructors are members of the Tara association.

The subjects covered in this short course will enable a novice to get started in beekeeping. The courses will help a person who is already into beekeeping improve his/her way of keeping bees.

The class is open to anyone who would like to start keeping bees, anyone who is already a beekeeper, and anyone who is interested in learning more about honey bees.

For more information, contact: Evelyn Williams, 528 Bridge Avenue, Forest Park, GA 30050 (404) 366-6404 or Richard Morris, 174 W. Windemere Way, Jonesboro, GA 30236 (404) 471-3368.

Georgia Beekeepers Association, Inc.

The Georgia Beekeepers Association will conduct a one day annual training program, Sat. Feb. 21, 1987 at the Best Western Olde English Inn, Atlanta, Georgia. A comprehensive program for both beginner and experienced beekeepers has been prepared with the emphasis being on the beginner-hobbyist. Not only will there be an updating on

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recent research results of acarine disease but there will be hands-on, eyeball to eyeball instructions for beginners. Maintenance of bee hives and yards will be discussed including basics of extracting and selling products of the beehive.

There will be a meeting of the board of directors, Friday the 20th from 7:00 to 9:00 p.m. All local bee organizations are requested to have a representative present. Be sure your group has a voice in the decisions to be made.

Registration fee is $10.00 per person, $15.00 per family. For more information contact Paul P. Harrison, Pres., 978 Bramwell Lane, Stone Mountain, GA 30083.

☆ KANSAS ☆

Tammi Anderson of Kansas City, Kansas, was crowned the 1987 Kansas Honey Queen at the fall meeting of the Kansas Honey Producers held in McPherson, Kansas on October 17, 1986.

She will serve as the official ambassador for the Kansas Honey Producers Assn. for the next year and will be traveling throughout the state promoting honey and the beekeeping industry at various fairs, parades, markets, festivals, and presentations to schools and other civic organizations. Other apppearances will include appearing before the Kansas House of Representatives and Senate, and the American Royal.

☆ MICHIGAN ☆

Beekeeping Program
ANR Week
Michigan State Univ.
Kellogg Center Auditorium
East Lansing, Michigan
March 24-25, 1987

Tuesday, March 24, 1987

9:30	Visit and get acquainted
10:00	Movie: Queen Rearing
10:30	"So You Want to Become A Beekeeper?", Dr. Roger Hoopingarner, MSU
11:15	"Nectar Production from the Best Honey Plants", Dr. Anna Wroblewska, Univ. of Lublin, Lublin, Poland
Noon	Luncheon, Michigan Beekeepers Association and Michigan Wildflower Group, Big 10 Room; Speaker: Frederick W. Case, Jr., A Multi-Media Presentation on Wild Flowers
2:00	"The New Beekeeping", Dr. Donald Peer, Nipawin, Saskatchewan
3:00	Blueberries and Foraging Bee, Walter Boylan-Pett, Dept. of Entom, MSU
4:00	Questions and Answers
7:30	Honey Queen Pageant; Beekeeper-of-the-Year Award, Richard Hubbard, Hubbard Apiaries, Onsted, MI; Gadget Round-Up, Dr. George Ayers, Dept. Entom., MSU (Bring your favorite gadget for others to see); Reception following

Wednesday, March 25, 1987

10:00	Movie, Honeymakers
10:30	Direct Honey Marketing: Understanding Your Customers, Dr. Mary Zehner, Dept. of Agric. Econ. MSU, East Lansing
11:15	Bees & Pesticides: Some Research, Solutions and Problems that Remain. Kim Flottum, Editor, Gleanings in Bee Culture, A.I. Root Co., Medina, OH
Noon	Lunch on your own
1:30	Tracheal Mites: The Canadian Experience, Dr. Donald Peer, Nipawin, Saskatchewan
2:45	A Look at Races and Strains of Bees, Dr. Roger Hoopingarner, Dept. of Entom., MSU
3:30	Questions and Answers

For more information, contact Dr. Roger Hoopingarner, Dept. of Entomology, Bee Culture Laboratory, East Lansing, MI 48824-1115.

☆ NEW YORK ☆

The Finger Lakes Beekeepers Club will meet Sunday, February 15, at 2:00 at the Cooperative Extension Building, 225 So. Fulton Street, Ithaca, NY. Dr. Richard Taylor will show movies and slides of the "Shook Swarm" method of raising comb honey.

☆ OHIO ☆

Tri-County Beekeepers Association, in cooperation with the Wayne County Cooperative Extension Service, will hold its Ninth Annual Beekeeping Workshop on Saturday, March 7, 1987 from 8:00 a.m. to 3:15 p.m. in Fisher Auditorium at the Ohio Agricultural Research Center (OARDC), Wooster, Ohio.

This year our featured speaker is Mr. Steve Taber of Vacaville, CA. Mr. Taber is a well-known columnist in the bee journals, with many years' experience in bee genetics, queens, and africanized bees. Workshops will include: Honeybee biology, the beekeeping calendar, comb honey production, beeswax processing, showing and judging honey, and venom therapy. This, plus displays, a honey baked goods contest, door prizes, wax weight guessing, scholarship award and question and answer opportunities will make for a honey of a day.!

Registration is $5.00 and lunch is $3.00 but lunch is available only by pre-registration which must be received by February 25. Mail your check with your name and address to Ruth O'Loughlin, Secretary, 8948 Ickes Road, Wooster, OH 44691. For further information contact: Phil Mariola at (216) 264-3911 or the Association Secretary at (216) 264-8980.

International Symposium on Africanized Bees and Mites of Bees
The Ohio State University
Columbus, Ohio
MARCH 30 - APRIL 1
1987
for Information Contact:
Dr. Glen Needham or Dr. Rob Page
Department of Entomology
The Ohio State University
Columbus, Ohio

ATI/OHIO STATE UNIV.
Summer Sessions Schedule
1987

•**June 15-19, 1987 — *Honey Bee Queen Production***, Practical class discussing queen biology and production techniques. Students assigned individual colonies and nuclei.

•**July 20-31, 1987 — *International Beekeeping Seminar VII***, A comprehensive and

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intensive introduction to international beekeeping that will enable managers and workers to take better advantage of the apicultural potential in designing agricultural assistance programs. Emphasis will be on tropical and sub-tropical beekeeping.

Week 1: Basic beekeeping July 20-24. A combination of classroom and apiary work directed toward inexperienced beekeepers.

Week 2: Development beekeeping July 27-31. Topics relevant to development apiculture. French & Spanish translation available. Seminar coordinators, Dr. James E. Tew and Dr. H. Shimanuki.

•**August 17-30, 1987 — *Honey Bee Diseases,*** Covering all aspects of honey bee diseases and pests. Will identify all common bee diseases and pests and be familiar with current treatment techniques.

All classes have enrollment deadlines and limited available space. **Early contact is strongly advised.** For registration information, contact Dr. James E. Tew, Program Coordinator, ATI, Wooster, Ohio 44691, USA, (216) 264-3911, Cable: ATI-WOOSTER.

☆ SOUTH DAKOTA ☆

The Central Beekeepers Association Annual Meeting will be held on February 14, 1987 at the Courthouse in Murdo, South Dakota from 9 a.m. - 4 p.m. There will be equipment exhibits, a film on Beginning Beekeeping, discussions on Winter Packing by Joe Grimson, Queen Rearing on a Small Scale by Gary Schmidt, Whats New in Bee Laws by Bob Reiners, and An Idea to Sell Honey by John Koskan. Lunch will be followed by a question and answer session, and an annual business meeting. A Ladies Program on cooking will run concurrently. For more information contact: Gary Erickson, Extension Agent, Murdo, SD 669-2512 or David Steffen, CBA Program Chairman, White River, SD 259-3248.

☆ FOREIGN ☆

IBRA moves to Cardiff, S. Wales

From October 1, 1986 the address of the International Bee Research Association will be 18 North Road, Cardiff, CF1 3DY, UK. The telephone number will be (0222) 372409, and the telex number remains the same, 23152 monref G 8390.

University College Cardiff has made available for IBRA's use two adjoining houses rent free. These houses are highly suitable for the Associations needs: the usable floor space is the same as Hill House, but the houses are more modern so the financial burden of upkeep will be far less. The relocation is critical because it gives IBRA the opportunity to invest capital from the sale of Hill House to secure a sustained income that will provide vital funds for core work, but at the same time it maintains the Associations independence.

Apart from ensuring a basic income for IBRA, the move also offers access to University facilities, including the Bee Research Unit , the largest single centre of scientific and technical expertise in apiculture in the UK, and with an international studentship. University College will gain by the proximity of the IBRA's comprehensive information bank, which includes its unique Library of books, journals, reprints and translations. Visitors to IBRA will be able to meet members of the Bee Research Unit without making an additional journey.

BEEKEEPING TOUR OF ENGLAND

Thanks to the cooperation of Eric Ward, an English beekeeper, and the Orpington Beekeeping Association, a beekeeping and sight-seeing tour of London and southern England is planned for July 1987. The cost of the tour including bus transportation, bed and breakfast is estimated to be $725 per person. Note: *Transatlantic air fares are not included.* The tour dates are July 9 through July 22, 1987. We will be hosted and accompanied by English beekeepers. Reasonable transatlantic flights are being arranged. For further details contact: Harold Liberman, Free State Bees, 2701 Oxford Circle, Upper Marlboro, MD 20772.

Itinerary

July 9: Arrive Gatwick. Met and transported to Tonbridge Wells. Quiet evening to recover from jet lag.

July 10: Sightseeing tour of Kent. Hever Castle, Bodiam, Battle Abbey. Cream tea at Battle. Return to hotel. Welcoming supper at home of Chairman, Orpington Branch KBKA.

July 11: Morning free in Tonbridge Wells. Afternoon spent at Orpington Apiary. Tea with local beekeepers.

July 12: London by train. Ferry from Westminster to Greenwich. See Thames barrier, National Maritime Museum, Greenwich Observatory, Cutty Sark. Return same way.

July 13: Visit Rochester Castle on the Medway. Visit Hadlow College and commercial apiary of Mr. Beevor or Mr. Hood enroute.

July 14: Visit local historic homes. Winston Churchill (Chartwell), Wolfe of Quebec (Westerham), Charles Darwin (Downe).

July 15: Free day London.

July 16: Depart for West Country. Visit Stonehenge on way.

July 17: Brother Adam, Buckfast Abbey. Afternoon visit at a butterfly farm. Evening in Torquay.

July 18: Quince Honey Farm, South Molton.

July 19: Depart for Stratford-upon-Avon via pre-historic monuments at Avebury and Silbury Hill.

July 20: National Beekeeping Unit, Luddington. Afternoon Warwick Castle.

July 21: To be arranged.

July 22: Free day. Evening farewell dinner at hotel.

July 23: Depart.

Eastern Apicultural Society Award Nominations Due by April 1, 1987

The Eastern Apicultural Society will present 3 awards for Apicultural "Excellence" at its annual meeting to be held at the Virginia Polytechnic Institute and State University (VPI and SU), Blacksburg, VA, August, 1987. These awards are the James I. Hambleton memorial award, Graduate Student award and the Undergraduate Student award.

Nominations are now being accepted for all three awards. Candidates names submitted for the Hambleton and Graduate Student awards must be accompanied by a biographic sketch of the nominee, a list of his/her publications, specific identification of the research work on which the nomination is based and an evaluation and appraisal of the accomplishments of the nominee, especially of work in the last five year period. Judgement of nominated graduate student candidates will be made on the basis of demonstrated excellence in Apiculture, letters of recommendation (at least 2 required) and other supporting information supplied by the nominee and the person who nominated the student.

An application for the undergraduate award should consist of a resume submitted by the student, at least one letter of recommendation from a Professor about the applicant, a certification of the apiculture background of the student and/or his family, and a statement from the applicant about his intended future. The student must maintain a 3.0 grade point average. Submitting supporting evidence to tie applicant to the field of Apiculture welcome.

Nominations and supporting information should be submitted to: EAS Award Committee, c/o Elton Herbert, Beneficial Insects Laboratory, ARC-East, Bldg. 476, Beltsville Research Center, Beltsville, MD 20705.

STARTING RIGHT WITH BEES

By STEVE TABER

"Getting Bees"

To a beginner, getting bees can be a challenging undertaking. One does not commonly see live bees advertised for sale, but most of us have heard of the beekeeper that got free bees by hiving a swarm, What is a swarm and how does one procure it?

THE SWARM

The bee hive is considered to be a superfamily formed by several subfamilies; each headed by the queen and the sperm of one of the several drones with which the queen mated. Since the queen has all the reproductive potential for the colony there is no hope for the individual workers to establish a colony on their own. Workers cannot move eggs from one nest site to another nor can the queen survive without several thousand workers; consequently, the hive splits the requirements between the parent colony and the first swarm that leaves the colony (NOTE: There may be several swarms that leave the colony over a period of days. The first swarm (primary swarm) is usually the largest and has the old queen from the parent colony). Several days before the colony swarms, the nurse bees will develop swarm cells in the colony. Any where from one to many cells may be developed. Such cells contain developing new queens. After about a weeks preparation period, the parent colony is ready to swarm. The following sequence has occured to this point:

(1) the worker bee population in the hive has increased considerably in number

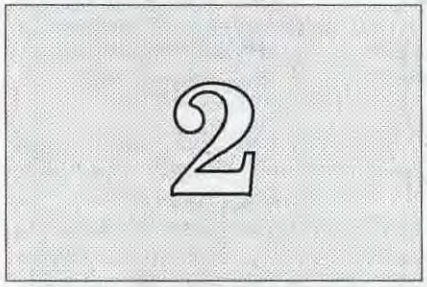
(2) nurse bees have begun to develop new queens (queen cells)

(3) foraging bees (scout bees) have begun to search for new home sites

(4) the queen inside the parent colony has stopped laying or nearly so, in anticipation of the flight to the new home site.

Certainly many more complicated procedures have occured in preparation for swarming, but in general, after the above preparations have been made, the primary swarm leaves the parent colony. Approximately 50% of the worker bees, the old queen and a few drones leave the colony along with a store of honey for the trip. The swarm moves to a temporary bivouac site where decisions are made as to the final nesting site. At this point, you the beekeeper get the call to come get a swarm of bees.

As you make plans to hive the



swarm, consider asking the following questions of the caller:

(1) Precise directions to the swarm site and then confirm the directions.

(2) Be as certain as possible that they are honey bees

(3) Determine if the caller knows who's bees they are

(4) Determine how high off the ground the swarm is

(5) Determine how long the swarm has been there. If the swarm has been there for a few days consider asking an experienced beekeeper for advise. The bees may be a bit aggressive

If all these questions have favorable answers then go for the swarm.

The hive the bees are put in could really have almost any frame configuration, but the best is reputed to be:

(1) Several dark combs in the center, even brood if the beekeeper has other colonies.

(2) Outer frames with comb foundation if new combs are desired.

The swarm box should probably be stapled together to facilitate moving the swarm after it has been hived.

Hiving the swarm is easy once it's accessible. Simply shake the bees into the swarm box. If the box is not on the ground, it would be a good idea to put it there once the bees have accepted the new quarters and are scenting to mark the entrance. If possible, go back for the swarm after dark since all the bees will be in the box then. Frequently, the swarm is hesitant about moving to the new hive. All one can do, Short of finding and caging the queen, is keep putting the swarm back into the box. Make certain that the bees have not already accepted a new home site (eg. the side of a house, a hollow in a tree). If the queen has gone inside such a cavity, the swarm will not stay in the swarm box. I suspect that most beekeepers have figured out that hiving a swarm is a hit or miss situation — at best unpredictable. If one wants a swarm for sure, then consider buying an artificial swarm — a package.

PACKAGE BEES

Simply stated, package bees take some of the "chance" out of bee hive starting in that the beekeeper knows he will be getting bees. One may have to wait several years before chancing onto a swarm, but 2, 3, or 5 pound packages of bees can be purchased from producers in the warmer parts of the U . S. Advertisements are in the bee journals for package producers or assistance may be gained by speaking with an experienced beekeeper about reputable producers. Arrangements for package shipment should

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☆ Classified Corner ☆

Classified rates: 49¢ per word, each insertion payable in cash in advance. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it) counts as one word. Not less than 10 words accepted. Copy or cancellation orders MUST be in by the 1st of the month preceding publication (Example: January 1 for February publication). Tear sheets available on request for an additional 2-word charge. Send classified ads to: The A.I. Root Co., Attn: Cyndi Stephens, Class. Ad. Mgr., P.O. Box 706, Medina, Ohio 44258-0706.

MAGAZINES

THE AMERICAN BEEKEEPING FEDERATION needs your support! Join in supporting efforts to stop adulteration, to improve marketing conditions and to encourage the continued research on African Bees and Varroa and Acarine Mites. Send for information, membership application and sample copy of bi-monthly News Letter! Write To: THE AMERICAN BEEKEEPING FEDERATION, INC., 13637 N. W. 39th Avenue, Gainesville, FL 32606.

THE SCOTTISH BEEKEEPER Magazine of The Scottish Beekeepers' Association, International in appeal. Scottish in character. Membership terms from A. J. Davidson, 19 Drumblair Crescent, Inverness, Scotland. Sample copy sent, price 20 pence or equivalent.

What do you know about the INTERNATIONAL BEE RESEARCH ASSOCIATION? The many books and other publications available from IBRA will deepen your understanding of bees and beekeeping: an IBRA membership subscription — inclusive of *Bee World*, a truly international magazine published quarterly in the English language — will broaden your beekeeping horizons. Details from IBRA voluntary representative H. Kolb, P.O. Box 183, 737 West Main, Edmond, OK 73034 (phone 405-341-90984); or from IBRA, 18 North Road, Cardiff CF1 3DY, UK.

DAIRY GOATS — For milk, pleasure and profit. Excellent for children, women and family! Monthly magazine $11.00 per year ($13.50 outside U.S.A.). DAIRY GOAT JOURNAL, Box 1808 T-3, Scottsdale, Arizona 85252.

SCOTTISH BEE JOURNAL. Packed with practical beekeeping. Sample copy from Robert NH Skilling, FRSA, 34 Rennie St., Kilmarnock, Scotland. Published Monthly, $4.00 per annum.

BEEKEEPING. A West Country Journal — written by beekeepers — for beekeepers. 1.50p inland or 1.80p ($4.00 Overseas). 10 issues yearly. Editor, R. H. Brown, 20 Parkhurst Rd., Torquay, Devon, UK. Advertising Secretary, C. J. T. Willoughby, Henderbarrow House, Halwill, Beaworthy, Devon, UK.

BEE CRAFT — Official (monthly) magazine of the British Beekeepers Association. Contains interesting and informative articles. Annual Subscription $5.10 (Surface mail) and $7.10 (Airmail). The Secretary, 15 West Way, Copthorne Bank, Crawley, Sussex, RH10 3DS.

INDIAN BEE JOURNAL. Official organ of the All India Beekeepers' Association, 817, Sadashiv Peth, Poona 411030. The only bee journal of India Published in English, issued quarterly. Furnishes information on Indian bees and articles of interest to beekeepers and bee scientists. Annual subscription postpaid in foreign countries: For individuals US $7.00; for institutions, companies and corporate bodies US $10.00 or it's equivalent, to be received in advance by IMO or bank draft, payable in Poona (India).

WANTED

ALMOND POLLINATION NEEDS YOUR BEES - If you can provide strong colonies. **Pollination Contracting.** Now arranging contracts. Offering reliable service in central CA for 1987 season. L. Hicken (209) 823-5141 or C. Carroll (209) 823-1386. (2/87)

PROPOLIS WANTED: Propolis USA, Rt. 8, Ogren Rd., Hayward, WI. 54843 is again buying hive scrapings and washed Propolis. Guaranteed $2.00/# plus freight for scrapings, and up to $5.00/# or more for washed. (715) 634-4274. (TF)

DESPERATELY NEEDED
Copy of Frank Pellet's History of Beekeeping in America. Send condition, price and list of other old books to Jim Meyer, P.O. 2292, Santa Cruz, CA 95063. (2/87)

Refractometer, Call day (913) 674-2579 or evenings (913) 674-2530. (2/87)

HELP WANTED

Beekeepers & Helpers wanted for migratory Texas operation. Resume to 17307 Windypoint Dr., Spring, TX 77379. (TF)

EXPERIENCED, Reliable beekeepers to work bees on shares. Send resume and references to Buells Bee Haven Farms, 335 S. Houghton St., Milford, Michigan 48042-1895. (2/87)

Man interested in working bees. Willing to learn our system. Paul A. Ballard, Roxbury, New York 12474. (2/87)

FOR SALE

Have 1 to 2 thousand colonies of bees for sale, warehouse with living quarters, three trucks, wax shop, locations. Owner old, retiring. Have pollination for 1,000 colonies. Call (801) 798-3921. (TF)

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275 Deeps with 9 drawn comb, good condition, no disease, $10.00. Randy Gingrich, Ligonier, Indiana (219) 856-4601 or (219) 856-4688. (3/87)

500 single story colonies all or part $27.50 each. Central Florida. New queens. Good equipment. Tops, bottoms, pallets negotiable. Available April 15. (616) 473-2629 no Friday night or Saturday calls. (3/87)

50 beehives, Clarkston, MI. Call David (313) 625-4696. (4/87)

Complete honey packing set-up for medium size operation: New S.S. heating tank (can use steam or hot water) for 8-60# cans; S.S. dump tank; Jabsco pump; S.S. Sprinkman in-line filter; S.S. double-jacket bottling tank (1000#); twin chromium plated foot pedal operated fillers with in-line screen strainer. Also includes table and S.S. 1" pipe. Ready to start filling those jars. Eugene Killion, 502 East Jasper Street, Paris, IL 61944. (2/87)

Retiring: will sell complete extracting set-up including extractor, pumps, tanks, heaters, hand trucks, scales. Also some inner covers, outer covers, cabana supers, bottom boards and much more. Write for complete list and prices. Richard Speerstra, 13169 Vergennes St., Lowell, MI 49331, (616) 897-7130. (2/87)

16 colonies; Italian and Buckfast Queens. Two deep hives in good condition on stands with supers, excluders included. $1200.00. Call evenings (614) 592-2511. David Papke, Athens, Ohio. (3/87)

75 new deeps w/wired frames, $10. 225 section supers, fixtures, $4.50. 4 frame Root auto-reverse w/motor, stand, $200. Brush, CO (303) 842-2451. (2/87)

Complete beekeeping business includes: locations, new wintering building, honey house, garage, newer modern house, 110 acres land, 950 palletized, 1-1/2 story colonies, supers, 5 frame nuc boxes, queen mating boxes, extracting equipment, truck, 2 bobcats, syrup, reconditioned drums. No Friday night or Saturday calls, please. Dorothy Eisele Johnson (218) 783-4942 or Alice (218) 386-2744. (3/87)

BEES & QUEENS FOR SALE

WE USE ALL POSSIBLE CARE in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for a certificate of inspection as a matter of precaution.

Package Bees delivered to Wisconsin near Green Bay, Eau Claire and my home. Ronald Hazard, Rt. 2, Poynette, Wis. 53955. Phone: (414) 992-3217. (4/87)

THREE FRAME NUCS $28.00. Shipped in disposable containers. Queens $5.75. Packages, details. SWEETWATER APIARIES, P.O. Box 449, Tylertown MS 39667. (601) 876-3400 nights. (2/87)

QUEENS from our productive and gentle Italian stock. Outstanding PACKAGES. We provide Quality and Dependability. Queen cells - March and April pick-up. OTTE APIARIES, Route 2, Box 99-AG, Karnes City, TX 78118. Phone (512) 780-3521. (4/87)

PACKAGE BEES: Vigorous Italians. We quick ship to central Wisconsin in 48 hours = Fresh, mite free bees. Very competitive prices. Lake DuBay Orchards, Mosinee, WI (715) 693-6201. (4/87)

Mississippi 4 frame Nucs for pick-up in North Central Illinois. Late April - Early May. 1-20 $35.00, 20+ $30.00. Tanner Orchard, Speer, IL 61479 (309) 493-5442 or (309) 493-7781. (5/87)

Italian Queens & Package Bees, nuclei or brood and bees, queenless package bees. Bring your cages and save. Walker Apiaries, Rogers, TX 76569. Ph. (817) 983-2891 or CLINT (817) 770-0820. (5/87)

BEE SUPPLIES FOR SALE

FOR TOP QUALITY BEE SUPPLIES and advice on beekeeping problems, visit your nearest Root dealer and send for your FREE 1987 Root catalog. The A. I. Root Co., P.O. Box 706, Medina, OH 44258. (TF)

QUALITY CYPRESS BEEKEEPING SUPPLIES -- dovetailed hives and hive parts, beginner's kits, complete supplies. Write: BEE-JAY FARM, Dacula, GA. 30211. (TF)

RADIAL HONEY EXTRACTORS, stainless, 5 and 10 frames, patented. Also complete line of equipment. Write or call: GAMBLE'S Bee Supply & Candle Co., (919) 299-3973 after 5 PM weekdays, anytime Sat., P.O. Box 7997, Greensboro, NC 27417. (TF)

HUNDREDS of Dadant supers, drawn comb; jumbo deeps; bottoms; excluders; etc., all honey house equipment; locations available. Write Sheila Potter, 225 N. Elm Street, Ithaca, MI 48847. (2/87)

MISCELLANEOUS

MEADMAKERS, WINEMAKERS, BEERMAKERS
Fresh stocks, Fast Service. Free Catalog. O'Brien's, Box 284M, Wayne, IL 60103. (10/87)

Thyme Seeds *T. serpyllum*, hardy low spreading perennial herb, rosy flowers midsummer. Incredible bee plant. SASE only and $1.00 for 1,000 seeds. Diana's Designs, 7011 Spieth, Medina, OH 44256 (3/87)

WISCONSIN — For sale, 500 Hive bodies with comb, 20 frame radial extractor, lots of miscellaneous equipment, reasonable. Kent Pegorsch, Manawa, WI 54949. (715) 258-6177. (3/87)

BACKSAVER. Lift boom loads barrels and hives onto pickups and trucks. Free Details. FESI, Box 2374-GC, Rapid City, SD 57709. (2/87)

7 Mixed Sweet Clover seed, 50% yellow, 50% white, 10 lbs - $9.00. White Dutch Clover $1.82/lb. Bircksfoot Treefood 2.35/lb. Innoculant $2.00. Plus U.P.S. charges. Visa & Mastercard. Higgins Apiary, 3801 U.S. 50, Hillsboro, Ohio 45133, (513) 364-2331. (5/87)

Beekeeping Supplies, Lowest Prices on wooden ware. Call Toll Free. 1 (800) 325-1046. (6/87)

BEEKEEPING TOUR OF ENGLAND! July 9th - 22nd. Approx. $725. plus airfare. Write: Beetour, 2701 Oxford Cir., Upper Marlboro, MD 20772. (6/87)

FREE CATALOG Flower Seeds, Plants for Honey Production, many other related items. Mellinger's, Dept. 370 Range, North Lima, Ohio 44452-9731. (4/87)

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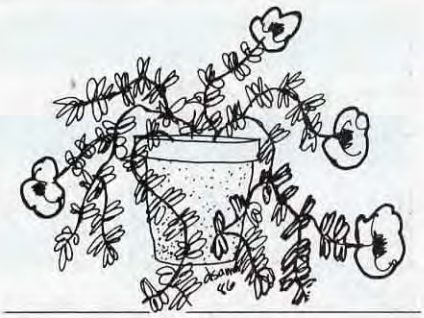

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Starting Right... Cont. from Page 123
be made during February and March for spring shipment. Since conditions vary widely, again, check with an experienced beekeeper concerning best spring installation dates.

Once the package arrives in the spring, it should be treated in ways similar to the swarm installation described in the Swarm Section. As with swarms, it is important that the packages be fed a sugar water solution to help it get started. If assistance is required in hiving the package of bees, consult (before the bees arrive) a beekeeping friend, a beekeeping equipment dealer for pamphlets, Cooperative Extension personnel or a good text book. Buying a package is probably better than hoping for a swarm in most instances; however, both swarms and packages have a common problem — a population decline immediately after installation. There is a short period of time before new bees begin to emerge after the swarm or package has been installed. It is a bee fact-of-life that adults are dying off all the time. Until new bees are available to replace dying bees, there is a population drop. Buying a nucleus hive or an established colony circumvents this occurrence.

ESTABLISHED COLONIES

A prominent way to get bees is simply to buy a functional hive from another beekeeper. I suggest that one know the beekeeper from whom the bees are being purchased or have an experienced beekeeper assist. Prices for established colonies vary from $45.00 - $75.00, depending on strength, condition of equipment and time of the year. A major consideration is the health of the colony. Be certain that the colony is disease free by asking the state inspector for assistance or by having an experienced beekeeper have a look for you.

It's possible to purchase only part of a colony — a nucleus hive. The larger the nucleus — the faster it will reach full strength and the more it will cost. A "nuc" is usually 4 or 5 frames total with, at least, two frames of emerging brood and a queen; preferably young, and enough adult worker bees to cover the frames. There are no standard nuc prices; however, average prices would average $15.00 - $20.00 depending on the equipment involved in the purchase. Again, be certain that the nuc came from a disease free colony.

BUYING/BUILDING EQUIPMENT

One thing all procedures discussed require is equipment to serve as a domicile for the bees. Several major companies manufacture beekeeping supplies of high quality. The same bee journals that were used to locate package producers may be used to find commercial manufacturers of bee equipment. Only rarely can one build small amounts of equipment cheaper than it can be purchased and almost never of greater quality. If, however one enjoys the woodworking tasks involved, building one's equipment can be very satisfying. Plans have been published, or more logically, one could purchase enough equipment to serve as a pattern for equipment construction. Frame construction at best is difficult. Be forewarned.

Purchasing used equipment is a risk that on occasion should be taken. All bees are not diseased, ergo most equipment is not contaminated, but be very careful A requisite question should be why there are no bees in the equipment now. Again, having the state inspector review his files on the seller could be of great benefit to the purchaser.§

GLOSSARY

- BROOD — Any stage of developing bees (Egg, Larvae, Pupae & Adult).
- COMB FOUNDATION — A beeswax embossed sheet used as a template for construction of worker combs by honey bees.
- DARK COMBS — Worker combs that have been used for several brood cycles and has turned dark — ultimately black.
- ESTABLISHED COLONIES — Colonies that have successfully survived at least one winter.
- FORAGING BEES — Bees that are of development stage that searches for nectar, pollen, propolis or water.
- NEST SITE — A location selected by a swarm of bees to become the permanent home site.
- NUCLEUS HIVE — A small hive that has minimal requirements for survival, usually during warm months. Comprised of workers, queen and brood along with small honey stores.
- NURSE BEES — Bees which have the responsibility of caring for developing bees and queens.
- PACKAGE BEES — An artificial swarm purchased and installed in ways similar to that of a natural swarm.
- PARENT COLONY —The founder colony of a swarm or series of swarms.
- PRIMARY SWARM — The first swarm to issue from the parent colony. It usually is the largest and has the old queen.
- QUEEN CELLS — Cells from which new queens emerge to replace queens that swarmed, failing queens or queens that died.
- SCENTING — Worker bees exposing an abdominal gland that alerts other bees to the swarm, queen, homesite or water source
- SWARM BOX — A box, usually a single story hive, used to hive a swarm, sometimes temporarily.
- SWARM CELLS — Queen cells produced by a hive that is preparing to swarm. Queens from such cells will replace the old queen that goes with the swarm.

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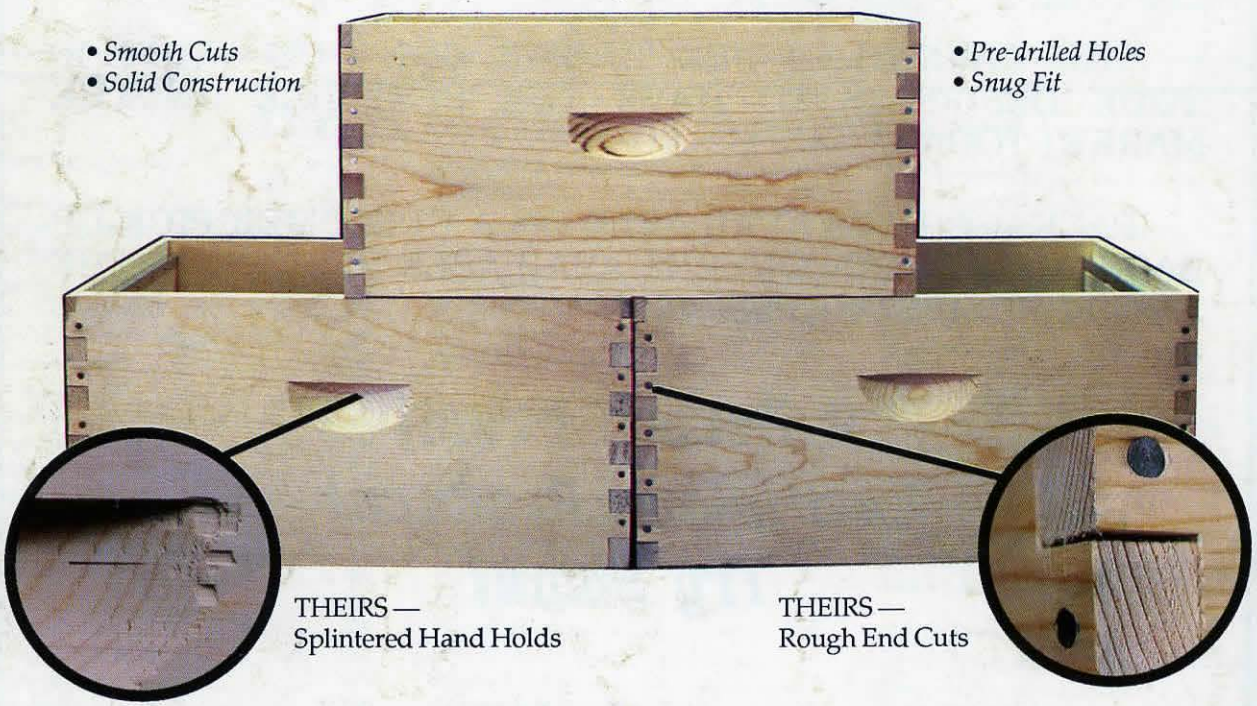

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