GLEANINGS IN MAR. '87

BEE CULTURE

Have You Checked the Quality Of Your Combs Lately?

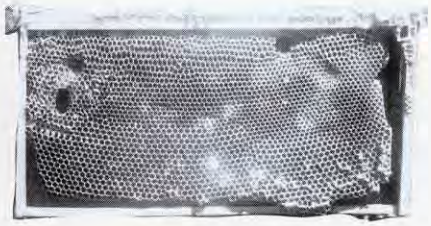
Dark, old brood combs with many drone cells or damaged spots can cost you money in the long run. Europeans have long believed old combs are a reservoir for disease organisms, so they follow a regular program of comb replacement to maintain top-quality combs in their hives. Even recent U.S. research claims that certain bee diseases may be promoted by old combs.

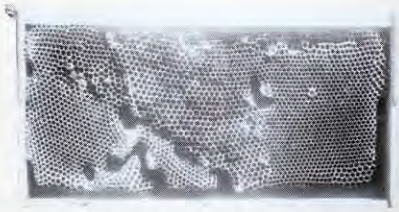
In addition, broken, damaged and misshapen combs reduce worker brood rearing space and fewer worker bees mean less honey. Old brood cells also have become smaller in diameter to the point that new bees emerging from these combs are smaller in size than those emerging from newer combs.

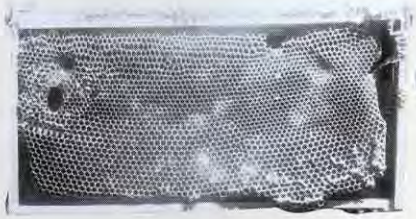
And, while you're at it, don't neglect your honey super combs. Broken or damaged combs not only mean less honey, but they make extracting a real chore. You know how difficult it is to uncap uneven combs and you've probably watched your extractor vibrate badly or dance across the floor because of damaged or unevenly drawn combs. Lastly, research over the years has proven that old, dark honey combs produce darker honey because of the accumulated residue in the cells.

Visit Dadant's for Premium Quality Comb Foundation

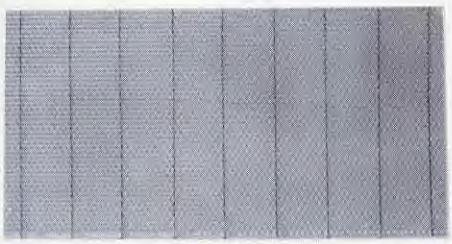
Replace these combs . . .







. . . With this Dadant quality foundation



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GLEANINGS IN MARCH. '87

BEE CULTURE

114 Years Continuous Publication by the Same Organization

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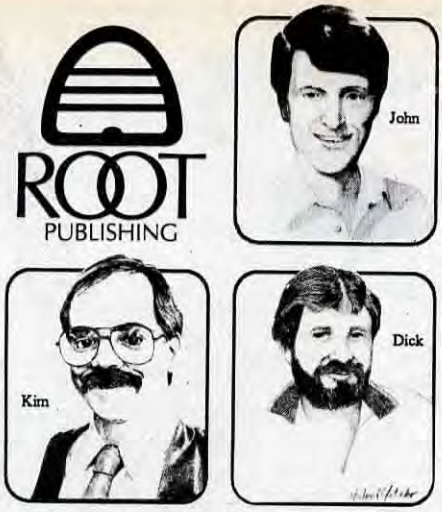

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FEATURES

ARTICLES

COLUMNS

COVER . . . A refreshing pause to reflect on what was . . . and what is . . . to come.

photo by Steve McDanial

Coming in April

No matter where you live, April is where the action is, and *Gleanings* is no exception! We'll be looking at Queen and Package introduction techniques and solutions to some of the problems you may encounter — So read it here, BEFORE you have problems out there!

We have another How-To on making splits — an important aspect in any beekeeping operation. And, for those early swarms — a couple of unique ways to prevent if possible, and catch if not — especially helpful now, and in the next few weeks!

For those interested in "What Kind" of plants — A great pictorial on honey plants in the southwest part of the country; and growing your own forage — Thyme, a great honey producer in the eastern part of the country!

We also have the first half of an in-depth article on how beekeepers in Brazil have managed to do so well — even when surrounded by Africanized bees. It works there and can here!

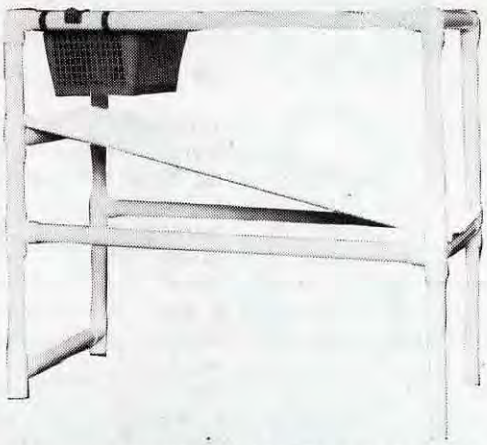
We have the final part of "Making More Honey", and some possible solutions to pesticide problems — that have worked, and can work for you.

Gleanings also takes a look at the best books on beekeeping that came out last year — you'll never know it all, but these can sure be a big help!!

And, for the curious, an excellent story on the worlds *largest* honey bee — truly a GIANT!

All these, plus the excellent, controversial and just plain enjoyable columns and other tid-bits that you'll find every month, but certainly COMING IN APRIL.§

NEW PRODUCT . . .



This CAPSTAND is the invention of a North Carolina beekeeper. He has come up with an uncapping station that will suit the needs of a variety of beekeepers. The CAPSTAND is lightweight, durable, and comfortable for uncapping. It holds 20 plus frames and does the job of a $400 unit. You can also use it in chunk or cut comb honey production to drain the cut section. It measures 40-1/2" H x 23" W x 46" L and is constructed of Thermo-plastic and wood. Some assembly required. Sold by the Brushy Mountain Bee Farm, Inc., Rt. 1, Moravian Falls, NC 28654.

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THE INNER COVER

THE NATIONALS

Each year in January, the American Honey Producers and the American Beekeeping Federation hold their annual conferences. Whatever your opinion of meetings in general, or these two groups in particular, I think it's important to know what goes on with these folks. What follows are my impressions, not as an editor, but as a relative newcomer to the industry, and with the slightly prejudiced eye of a hobbiest — not a professional.

The American Honey Producers met in Corpus Christi, Texas. Nice hotel, lousy weather, good food, good people, pretty good meeting. (Remember, through the eyes of a part-time 10 colony beekeeper.) Two talks are worth mentioning. The first was by Dr. Roger Hoopingarner, Michigan State, on the economics of beekeeping. He looked at the dollars and cents aspect of this trade and made it work, whether you have 1 colony or 5,000. It made sense, he talked *to* me, not *at* me, and I could use what I heard.

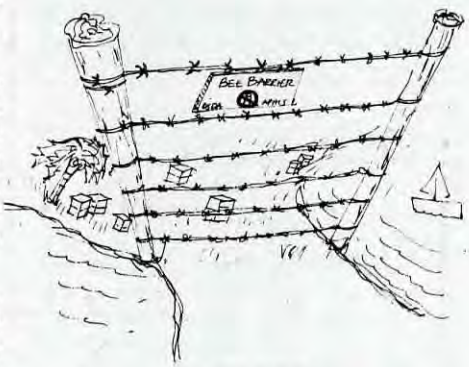
The second, though not for the hobbiest (yet) related to some work a fellow named Horace Bell, from Florida, did with menthol crystals and mites. A good, down to earth solid talk about practical research that may play a big part of *my* beekeeping in the near future.

The rest, for the most part, applied to the big guys, as well it should. That was the audience, and the program was planned with them in mind. You would expect a lot of politics, and there was. You would also expect a lot of Hi-Tech Research, and there was. You would also expect a lot of discussion on the so-called 'bee barrier' or bee regulated zone, and there was — more on that later.

So much for Corpus, on to New Orleans and the ABF. Again, nice hotel (actually, too big for my tastes, but nice nevertheless), again, lousy weather, better food and an average meeting. The people? Well, the area the meeting was in was so big and so spread out, that it was difficult to get to talk to a lot of the folks. Those I met were wonderful for the most part, but I just flat-out had trouble finding them. I'm not a "guided-tour" type, so I probably missed my chance to meet some there, nor do I care to sit in those places of refreshment with low lights and pretty waitresses, so I probably missed a few chances there too.

I listened to a lot of the talks here, but to be honest, I only remember one, given by Tom Sanford, Extension Agent from Florida. Coincidentally, this too was on the business side of beekeeping, again aimed at someone like myself.

The display area was impressive though, and there was enough variety to keep me interested for at least 1 whole day. Looking at new equipment, talking with manufacturers and rubbing elbows with other folks who were also interested was by far the most interesting, and most educational part of the meeting. I learned enough at the booths to justify the expense of attending all the rest. Something to keep in mind.



THE BRZ
(That's Bee Regulated Zone)

Throughout both of these meetings though there was a constant, underlying buzz (pardon the pun) of people asking "What do you think of the Bee Barrier Plan?" Combined, over 700 people attended these two meetings, and I'll bet 2/3 of them asked *somebody* that question. And, since I am in the position I'm in, I'm asked that question regularly — daily, sometimes hourly! The question, "Where does *Gleanings* stand?" is NOT easy to answer.

I've either talked to or listened to most of the folks involved with this program. USDA, APHIS, USDA-ARS, Mexican Government officials and others. After taking in everything they have to say, I'm convinced that: there is a program; that there are people who can design and run it; that if it doesn't work there are few (though some) alternatives available; that Mexico has committed (some) money; that it sounds like a good idea; that if it is implemented it will be costly, that if it isn't started yesterday it will be too late; that if it *isn't* started, there will be a lot of finger pointing regarding blame and "I told you so's"; that if it is started and it *doesn't* work, there will be a lot of finger pointing regarding blame and "I told you so's"; and finally, that the word "Barrier" is a misnomer, and it should be "Bee Regulated Zone".

Money aside, there is one unanswered question here — Should we do it?

For the sake of discussion, there is another side to this question: the fact that this is an unknown. It's sort of like "Will you make 100# of honey per colony this year?" The answer, of course, is "yes, if . . . ". Essentially, there are no answers, there are too many unknowns to give an absolute reply. If somebody asked me how much honey we're going to make this year, my stock answer is "The Good Lord Willing and The Cre k Don't Rise, I'll Make Tons!"

I'm sure the answer to the other question is "Sure it will work, the Good Lord Willing and The Creek Don't Rise!" But if my bees don't produce this year I can always try again next year, learn from my mistakes and plod along. I'm not sure if there will be a next year with this other program.

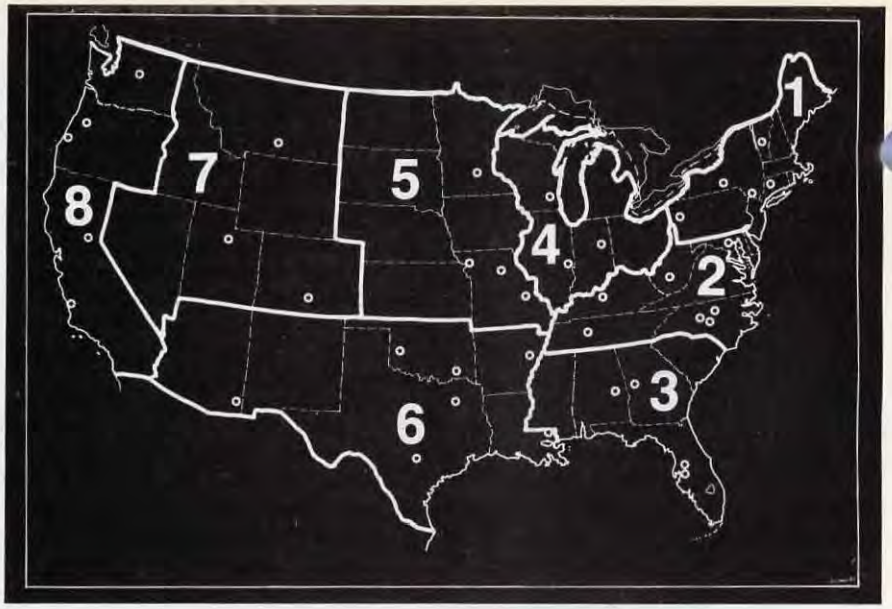
But the experts can't agree on whether or not there will even be a problem "next year", and if we even need to worry about it now. Are you confused yet?

Well, I am. So confused that I can't give an answer. I think a good reply to the question of support is "The Jury is still out!".

Unfortunately, the urgency of this situation requires some sort of direction soon. I don't have the luxury of examining all the data,

Continued on Page 180

Monthly Honey Report



March 1, 1987

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

Wholesale Extracted	Reporting Regions									
Sales of extracted, unprocessed honey to Packers, F.O.B. Producer. Containers Exchanged	1	2	3	4	5	6	7	8	R	A
60 lbs. (per can) White	43.50	39.50	30.00	33.90	--	36.50	38.63	.46	25.80-48.00	39.00
60 lbs. (per can) Amber	41.50	37.91	35.00	27.60	--	32.00	36.00	36.90	30.00-45.00	35.60
55 gal. drum/lb. White	.53	.60	.38	.46	.44	.61	.58	.50	.38-.63	.52
55 gal. drum/lb. Amber	.48	.55	.35	.41	--	.52	.53	.45	.32-.60	.47
Case lots -- Wholesale										
1 lb. jar (case of 24)	28.08	29.33	26.38	23.50	25.92	25.00	25.75	29.48	22.80-38.40	27.12
2 lb. jar (case of 12)	27.33	27.35	26.10	22.75	23.76	24.25	28.13	26.63	21.80-34.80	26.36
5 lb. jar (case of 6)	30.45	33.23	26.25	23.69	23.04	26.95	25.65	27.89	23.04-49.20	28.06
Retail Honey Prices										
1/2 lb.	1.00	.95	.89	.72	.83	.83	.80	.92	.69-1.10	.87
12 oz. Squeeze Bottle	1.27	1.36	1.28	1.32	1.17	1.20	1.21	1.32	.90-1.59	1.29
1 lb.	1.51	1.58	1.48	1.46	1.43	1.55	1.60	1.58	1.39-1.85	1.53
2 lb.	2.30	2.94	2.53	2.82	2.59	2.75	2.77	2.71	1.50-3.55	2.69
2-1/2 lb.	3.28	3.87	3.17	3.97	--	3.38	3.41	3.11	2.75-4.60	3.42
3 lb.	3.95	4.27	3.70	3.32	--	4.00	3.87	3.64	3.15-4.98	3.87
4 lb.	4.97	4.95	4.99	4.95	4.99	4.53	4.65	--	4.00-5.89	4.84
5 lb.	6.50	5.65	5.80	5.75	--	5.13	5.45	5.25	5.25-7.00	5.73
1 lb. Creamed	1.75	1.53	1.36	1.50	1.69	1.26	1.58	1.61	1.09-1.76	1.54
1 lb. Comb	2.25	1.85	2.00	2.59	--	1.75	1.85	2.25	1.49-3.00	2.11
Round Plastic Comb	1.90	1.55	2.25	1.92	--	1.60	1.63	1.75	1.50-2.50	1.83
Beeswax (Light)	1.14	.88	.91	.80	1.00	.92	1.83	1.22	.55-1.60	.97
Beeswax (Dark)	.88	.78	.80	.70	--	.82	.73	.85	.50-1.15	.80
Pollination (Avg/Colony)	25.00	--	18.00	27.50	--	19.00	20.00	25.00	14.00-30.00	21.96

Honey Report Graph Features

On the far right hand side you will see two different columns. The first, labeled "R", is the price range of prices reported from all contributors -- lowest to highest. The second column, labeled "A", is the average price of a particular commodity across all regions. Example: the range in price of a 1 pound jar of honey sold retail is $1.39 - 1.85 and the average price across the country is $1.53.

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

Example: Region 8 has a price index of 1.00 this month and remaining regions are compared to that index.

•Region 1.

Price Index .82. Market steady to down, with demand steady to increasing. Winter to date fairly mild, but close to normal. Colonies light in all areas, and nearly all will need feeding or other attention this spring. Some areas will require emergency measures just to survive due to short crop last season. Check your colonies ASAP to avoid problems.

•Region 2.

Price Index .84. Sales steady to improving, with local honey demand increasing. Early winter fairly mild in most areas, causing mixed blessings. Bees able to venture out in most areas for cleansing flights, but also are consuming stores at a faster rate; feeding in some areas will be required.

•Region 3.

Price Index .65. Sales fair to poor, due to seasonal slump. Some honey from loan program being moved into retail channels — good for the producers & buyers. Low fall stores will mean spring or late winter feeding. Southern areas already have pollen and nectar available, so also must watch for buildup.

•Region 4.

Price Index .57. Sales only fair. Many colonies went into winter light, and will require attention NOW. Mild temperatures and poor crop last year causing problems. Check colonies for food before too long, or you may not have any to check.

•Region 5.

Price Index .62. Sales slow. Colonies in fair shape, but mild winter could cause problems with some crops. Colonies appear healthy and strong, but check those in areas of poor fall crop.

•Region 6.

Price Index .71. Sales and demand steady to lower. Colonies appear healthy, weather mild so far. Some colonies will require feeding.

•Region 7.

Price index .78. Sales steady and normal. Foreign and U. S. mixed honey product in most areas. Colorado has heavy snow cover, while Montana has had unseasonably warm weather, but is still dry. Feeding in some areas where possible will be necessary.

•Region 8.

Price Index 1.00. Sales slowing, demand low. Primarily due to government giveaways. Weather dry, slowing spring flows. Pollination starting in southern areas, colonies scarce, demand high but prices not reflecting demand.

Mailbox

You may request that your name, your address or both NOT be published in a letter to the Editor. If you have something to say, and don't want the attention you feel it may draw, send in the letter anyway, but request that all or some of your name be left out of the magazine.

I won't, however, publish an unsigned letter. And, I retain the right to edit for grammar, space, or other reasons.

Dear Editor:

It was with interest that I read Dr. Morse's article about AFB in the December issue of *Gleanings*. For some time, I have believed that all honey is contaminated with AFB spores. However, I do not have data to back up my thinking.

As I read, AFB only infects the juvenile larvae and that the susceptible period is under 53 hours old.

Have often wondered whether AFB is like some of the human juvenile diseases. Always around but only infect whenever the natural resistance of the immune system is weakened by stress of some sort.

I agree with the suggestion made by Dr. Morse, that it is time for Dr.'s and Phd.'s at the Bee Laboratories, to rethink the control of American Foul Brood. When methods of detection are improved we may very well find that honey that is believed free of spores actually does contain the spores.

There are still many questions to be answered regarding this bee disease which can wipe out a complete apiary causing considerable financial loss to the beekeeper. I have never seen data indicating that when AFB is found in an apiary one year, that it is also found in that apiary year after year. Can these figures be extracted from the records turned into the state by the county inspectors?

Donald Cox
1623 W. Wayne
Lima, OH 45805

Dear Editor:

As of this writing (1/18/87) it is more and more obvious that the Honey Buy Back Program is not moving honey into commercial channels at an adequate rate to be any real success. The redemption price on lighter grades of honey has been and still is set too high to allow our honey to be competitive with foreign products.

For the program to have been more successful, redemption price on white honey should have been initially set at 40¢. To succeed now the price should be immediately set down to 38¢. Considering Argentine honey is currently quoted at 40¢, this is the only way we can compete for the near term.

Ultimately, the domestic honey industry must have protection from foreign honey imports to survive. This is the only way we can survive! Right now if you even get an offer on your honey it is only at buy back price with the very clear understanding that if you don't settle for that the packer will readily buy foreign. Once again the importers are in the drivers seat.

Now, 1987 is as good a time as any to once again seek protection from the flood of imports. Congress no doubt is more inclined to adopt protective measures and the Administration is actually showing more and more inclination in this direction despite stated policies of so called "Free Trade".

The new Honey Promotion Program is a great step forward for our industry. However, initially it will primarily benefit foreign honey only. Despite this situation I feel we should all give the program two years before we can expect to see it start to work. In the long run this can be a tremendous benefit to our industry and the whole scene of American agriculture. The program deserves our support!

For now, I would like to urge all beekeepers to do the following: 1) Write their people in Congress and urge that the Honey Loan Program be left as it now is in any new Farm bill; 2) Request immediate import protection by the imposition of a 30% ad volarem duty on foreign honey; 3) Urge that certain problems with the Honey Buy Back be corrected and 4) Call Jane Phillips, USDA, ASCS Honey Loan/Buy Back coordinator at (202) 447-9221 and express your ideas, complaints, data, etc. on Honey Buy Back Program. She has indeed told me she needs our information so the program can work and to help her do her job.

We cannot simply go about business as usual today. We must be active with all of our various marketing problems if beekeeping is to survive in the United States.

Gary B. Mackrill
Rt. 1, Box 39
Cathay, ND 58422

Dear Editor:

As a backyard beekeeper, I had trouble in keeping my bees from invading my neighbors swimming pools, even though I had a couple of bird baths close by.

It seemed like every time I looked at the bird baths, they were dry. Then in dawned on me that old sol and evaporation was stealing the water from the bees. It was then that I began looking for a better way to keep water on hand for my bees. I found a pet drinking fountain that has worked like a dream.

Every time I started toward my bee hives I'd take a bottle of water to replace any water that was gone. In the trough I added an A frame of 1/8 inch hardware cloth as a landing strip for the bees and they sure make use of it.

This spring I'm going to add another one to my beeyard to keep those water gals close to home.

Soon it will be Ground Hog Day and then you know that spring can't be too far away and then those Hustling Honey Hounds will be taking wing to here and there and I hope that this year will be better than last.

I picked up a "Lot-A-Wata" at the pet department of a K-mart Store, but I feel that most pet supply stores will be stocking them. This works best for me.

Eugene V. Gran
341 Lawnview Ave.
Springfield, OH 45505

Editor's Note: For urban beekeepers, this problem can cause all sorts of bad public relations — and may result in zoning or other ordinances to change, ***against*** beekeeping. Do us ALL a favor, "Keep 'em home this summer!".

Continued on Next Page

Mailbox... Cont. from Page 133

Dear Editor:

I'm a 13 year old beekeeper and I'd like to follow up on a letter sent to you by R. P. Rosenlund in the January '87 issue.

I agree and disagree on several of Mr. Rosenlund's points.

I'm in full agreement that the future of beekeeping is in what my generation accomplishes. And I also agree that getting kids interested is easy. Then you get to the hard part. Once you get kids interested, so they're willing to buy an observation or regular hive, their parents say "no" (because of fear!).

To me, getting on the manufacturers case about making kid-sized equipment is pointless. Basically, a manufacturer is a slave to the demands of the general public. We should start with the generation of the 40's or 50's or whoever has kids. It's the job of *already* beekeepers, like my friends Mr. Davis and his family, to get *would-be* beekeepers like me into beekeeping and to convince parents that bees are harmless if treated properly. All you have to do is educate them.

Then, there would be a *demand* for kid-sized equipment. When that day comes, I think you will find tons of kid-sized equipment. I mean, do you know of a manufacturer that will pass up a new market?

Thierry Petersen
320 Great Rd.
Stow, MA 01775

Editor's Note: This letter has a valid point, but more important, the writer took the time and made the effort to share an IMPORTANT opinion about a short-comming on the part of "our" generation. Us *already* beekeepers apparently aren't doing the job.

Dear Editor:

Bruce Ott, of Karnes City, Texas, has announced a change in the name of his beekeeping and queen rearing business which became effective January 1, of this year. The name of his business has been changed from B. C.'S BEES to OTTE APIARIES. The main location of business activity will continue to be at Karnes City, Texas.

Otte also announced an expansion in his queen rearing operation for this year and stated he was changing emphasis from the production of nucs to the production of package bees for new and former customers.

"The production of top quality Italian queens and providing good service and dependability to customers will continue to be foremost in our queen rearing operation," Otte said.

Otte Apiaries can be reached by telephone by calling (512) 780-3521. The address is still Route 2, Box 99-A, Karnes City, Texas 78118.

Bruce Otte
Route 2, Box 99-A
Karnes City, TX 78118

Dear Editor:

A memorable time was had by those who attended the recent 40th Anniversary Banquet of the Tampa Bay Beekeepers Association, Thursday, December 4, 1986.

Of the 79 attendees, beekeepers associated with its founding came to share experiences of over 35 years. Betty Jo Tompkins, the 1966 Florida State Beekeepers Association's Honey Queen, served as Mistress of the Ceremonies while Phil Packard, organizer of the TBBA in 1945; Charlie Wade, the oldest living charter member at '85'; Mae Akelewicz, organizer of the Ladies Auxiliary in 1948; Anna Mae Akelewicz Diego, the first TBBA Honey Queen in 1949; Crystal Jones, the 1982 TBBA Honey Queen who "buzzed her way to the top' and TBBA's first Honey Queen to make

Continued on Next Page

Mailbox... Cont. from Page 134

American Beekeeping Federations 1985 American Honey Princess; and Hank Will, current president of the Florida State Beekeepers Association were all guest speakers for the occasion.

There were three highlights of the evening. The first was when the smiling Honey Queens were asked to come up front and pose for a group picture, most wearing the banner which they wore when they were reigning queens. The second being that of a presentation given by President John Hodges to Cliff Hitchman as having the longest, active membership, 1956-86. The third highlight was that of a 1950 honey recipe leaflet first printed and distributed by Charlie Wade and reprinted and given away as a momento to all present, along with a copy of the 1946-86 Time-Line, presented during the evening by the M.C.

From L to R; 1985 TBBA Honey Queen Lori Shafer, 1985 TBBA Honey Queen Marnie Gross, 1984 TBBA Honey Queen Beth Cullen, 1982-83 TBBA Honey Queen Crystal Jones, 1979-80 TBBA Honey Queen Carleen Dickkerson Holder, 1978 TBBA Honey Queen Mary Beth Lorton Krueger, 1987 Florida Honey Queen Cynthia Riggs, 1949 TBBA Honey Queen Anna Mae Akelewicz Diego, 1966 Florida Honey Queen Betty Jo Padron Tompkins.

During the program, special mention was made of the Charter members of the Association: Mr. and Mrs. Frank Akelewicz, Mr. and Mrs. Jack Ezzell, Mr. and Mrs. Cliff Greenwood, Mr. and Mrs. Cliff Hitchman, Mr. and Mrs. Lorghig, Mr. and Mrs. Fred Orin, Mr. and Mrs. Harry Shepherd, and Mr. and Mrs. Charlie Wade. Of the Charter members who are still living and were present at the the banquet were Mae Akelewicz, Agnes Ezzell, Cliff and Dorothy Hitchman and Charlie Wade.

The evening culminated with a special presentation of surprise gifts, hand made by Hedi Nixon, to the five ladies who made the evening so special: Marie Blanchet, Dessie Brown, Diane Cornwell, Marguerette Peters and Jeanne Shearman.

Diane Cornwell
P.O. Box 13535
Tampa, FL 33681

Dear Editor:

I have read *Gleanings* since 1944. I came to Texas after 40 years in the Ozarks of Southwest Missouri and have lived here since. Now, pertaining to an answer in the Question & Answer section awhile ago given to a man in Jackson, TN regarding purple martins eating honey bees.

When I was old enough, I built a house and martins usually arrived on St. Patricks Day. We had no bees nor did we have mosquitoes. An old German man had three colonies 1/4 mile away across an open field. After a time we discovered my martins were living solely on the poor man's bees and as much as we enjoyed the martins company, I took the house down vowing to never erect another. Now I wonder of reading few years ago when it stated that 437 mosquitoes were found in one martins crop if it was by the same writer. I have worked and traveled in 39 states plus two provinces of Canada. Minnesota is the only place

Continued on Page 137

Mailbox... Cont. from Page 135

to exceed my area for mosquito population. I can truthfully say that I have never seen a martin walk on the ground much less look for a mosquito. Sparrows here eat them from among grasses and weeds. When first here I saw a manufactured martin house 1/2 mile from our home. When asked if he had martins I was told yes, now and then but none in the box so far. It occurred only 3 years ago and their martins lived on our bees. They came here over an open field again and 4 or more times each and every day to soon be filling up and carrying bees home to their young. We were here gardening closeby the hives and the martins looped back and forth so fast that we never could count them.

At the beginning, I did fire a shotgun up but the loud report bothered them not one bit. They brought 18 offspring and seated them on electric cables in front of the hives. They then caught bees and poised in air about 4 feet from the young, trying to teach them to fly out for a bee. I feel sure you will agree that martins do indeed eat honey bees.

Walter Haile
5433 Erin
Corpus Christi, TX

Dear Editor:

Over and over I've heard and read about that wonder honey plant, *Anise Hyssop, Agastache Foeniculum*. I have been trying unsuccessfully to learn more about the plant, and I thought maybe you could help.

Can you tell me anything about its culture, soil needs, environmental requirements, and so forth? Where is a bulk source for buying the seed? Is it a perennial?

I live in Southern Vermont, where the winters are long & often harsh. My soil is fairly acid. I have about ten acres of open meadow and if Anise Hyssop would do well in this environment, I would certainly think about doing a large planting. Thanks for your help.

Jeffrey Hamelman
R.R.2, Box 233
W. Brattleboro, VT 05301

Dear Editor:

In relation to Questions & Answers (page 14) *Gleanings* January 1987, I would like to pass on some observations of mine.

"**Q.** Can raw maple sap be fed to bees?"

There are several kinds of maple trees among the soft and hard maples. Here, in this part of Tennessee, we have several. Depending on the weather, they bloom anywhere from late January to March (mostly in February). Bees gather pollen and nectar from them. (Right now you can see the blooms on them and the bees have gathered from them in early December of 1986 because of the warm weather). Now, I know some long time beekeepers and other civilians, have observed honey bees taking up the runny sap from cuts and bird pecks from these maples around here. You have to be looking close, as not many maples are "tapped" for syrup around here.

Also, I have observed this too. Last January a beekeeper friend cut down and cut up a huge pecan tree in his backyard. He also has several colonies there, too. Well, there were so many honey bees gathering sap from these cut logs, it was a sight! He had to be careful in sawing to keep from killing the bees. Close observation has a place in beekeeping, too.

"**Q.** Beginners taking hives apart, etc."

I have observed (at least around here) that this is part of the learning

Continued on Next Page

Mailbox... Cont. from Page 137

experience of a beginner. The beginner books and pamphlets that I've read, besides local association schools, teach beginners to do this. How else are they going to learn first hand about what's really going on in the hive and get used to handling bees in all kinds of situations. Who can start at the "top" and be a better "beekeeper"? "Who" really looks for a "beginner" to make a ton of honey the first year?

I know when I started, and I did the above, I got surplus honey my first year. I certainly gained some experience doing this. I got so I could handle combs with the hive tool and my bare hands, so I traded my "comb lift tool" to another beekeeper for a "queen" bee.

So, you can see that I certainly believe in a beginner doing the above.

Voron Baughan
2321 David Lane
Chattanoga, TN 37421

Dear Editor:

The first week in October is evidently the annual convention of the "Drunken Bee Society". I had put the last of the supers in the bee house for the bees to clean up before I sprayed the frames with Certan and stored everything and thought that maybe after vespers I could set and rest and read my Greek history book. No such luck! A frantic call from the Novitiate said thousands of bees were all over the greenhouse roof attached to the Novitiate building. "They are just shopping", I say. "No! They must be swarming!" was the answer.

I can't afford to lose my new Kona queens, so down goes the book and I stamp out to see what is really going on. The bees weren't swarming, of course, but they were all over the roof cleaning it up — probably some residual sweetness from ripe plums dropped there. In one small group a bee was doing a DVAV dance. Elsewhere two were engaged in "fisticuffs". Everywhere were excited, happy bees and anxious novices! I put a wet frame on the edge of the roof and carried off several hundred bees like some kind of pied piper, then posted novices, telling everyone there was no danger, the bees were too happy to sting anyone and were in a general spree. The bee house looked like a scene from Macey's basement sale. The bell rang for supper before I could get back to Thucydides!

Mother Agnes, O.S.B.
Abbey of Regina Laudis
Bethlehem, CT 06751

Dear Editor:

The following is a letter sent to The Honorable Donald J. Pease, U. S. House of Representatives:

Dear Representative Pease:

A letter in a recent issue of *Gleanings in Bee Culture* caught my eye and I thought I would pass on a copy to you. At first blush this looks like the kind of thing someone thinks up after being snowbound for about three months. Since we've had little snow in northeast Ohio this season I must have some other motivation!

I feel there is some merit in this chap's scheme. I also think that it should be the representative from the Medina area who leads the swarm in declaring the honey bee as this nation's ***official insect.***

We are all aware of what the president's budget means to the farmer. I think this seemingly small effort, declaring the honey bee as our national insect, can raise the awareness of people to the importance of this creature and its vital role in agriculture. We will soon enough be facing the very real problem of Africanized bees (please don't call 'em killer bees or we'll all be dead), that much people already know. They should also know there is

Continued on Next Page

BOOK REVIEW

By Richard Taylor

The Beekeeper's Handbook

by Diana Sammataro and Alphonse Avitabile
2nd edition
New York
Macmillan Co., 1986
148 pages
$17.95

This is a revised and enlarged edition of the same title published in 1978. It is a comprehensive manual of beekeeping intended mainly for beginners. Its outstanding feature is its abundance of clear drawings illustrating all the procedures and equipment described in the text. There is even a good illustration of festooning bees, which is useful to know about and rarely described, much less illustrated. Appendices describe and illustrate bee anatomy, how to construct an observation hive, a solar wax melter, an electric wire embedder, and so on. The main text describes all the basic systems of management, including a two-queen system, and suggestions for swarm control. Very little, unfortunately, is said about comb honey.

Aiming at comprehensiveness, this excellent manual describes at length the various diseases and pests of bees, including the tracheal mite, and I am afraid that a beginner might derive from this an impression that beekeeping is frought with problems of this kind. In my opinion, American Foul Brood is the only serious bee disease that cannot be dealt with simply by having good management practices that aim at strong colonies, and good management goes a long way towards minimizing even this. I note these things in order to emphasize that beekeeping is filled with joys and rewards that are not easily described in a manual. Persons contemplating taking up beekeeping are too often needlessly frightened off by too much emphasis on its problems without corresponding emphasis on its unique rewards.§

BOOK REVIEW

By Richard Taylor

A Case of Hives
ed. by Len Heath

This small (73 pp.) book, to which eight authors have contributed, describes all the different hives more or less regularly used in the British Isles — the W. B. C. hive, which is doubtless the most beautiful and perhaps least practical, the Smith hive, the National and Modified National hives, the British Commercial hive, the Langstroth and Jumbo Langstroth hives, Modified Dadant, the Long hive, Burgess Perfection hive, British Deep hive, the Double Seven, the Buckfast Dadant, the Catenary and a few "other hives.". Only one of these, the Langstroth, is widely used elsewhere in the world. The Dadant catalogue no longer even lists the Modified Dadant hive. This book is there-fore of little interest beyond the British Isles, and we can, I think, be thankful that in this country there is but one standard bee hive.§

Bee Lore
by Sheila Dailey
Rumplestiltskin Productions
Box 2020
Mt. Pleasant, MI 48858
31 pages, spiral bound
$5.00 + $1.50 postage

This collection, by a professional storyteller, contains very old stories about bees, plus legends and folklore. There is also a bit of folk medicine, and a chapter on the art of storytelling. It is a book for the collector of bee lore and the aspirant storyteller.§

Mailbox... Cont. from Page 138

important research going on, much of it by the folks at ATI in Wooster and at Ohio State University. And there is solid information being disseminated by publications such as *Gleanings* here in Medina.

Medina is (arguably) the home of the modern beekeeping industry in America. I think efforts to name the honey bee as a national insect should stem from here. Of course, taking on the honey bee as a client would be a PR firm's nightmare. But there is an important story to be told about the goodness of the product, the critical role in agriculture, and you would be hard put to find a better example of cooperative efforts for the common good than the bee hive.

If I was your staff advisor I'd recommend you throw this letter in the waste basket and steer clear of this idea and the kinds of people who send these missives! It is rife with the kinds of things that come back to sting a politician. Too many opportunities for jokes at the expense of a career. But why not take a chance and at least look into the subject? Heck, it's a long time until the next election and we voters have short memories (unless the subject is taxes).

Thanks for listening and good luck with the new congress.

Clyde E. Witt
3541 E. Smith Rd.
Medina, OH 44256

Editors Note:
I pass this along because it so eloquently states what needs to be done, and why it should be accomplished. The author lives in Medina, but I think he speaks for beekeepers everywhere.

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QUESTIONS & ANSWERS

Q. Why hasn't the African bee taken over Europe?

David E. Tetzloff
Gardner, MA

A. I am astonished that this question has not arisen long ago. A glance at a map shows southern Spain to be virtually contiguous with Africa, and other parts of southern Europe are so close that the occasional incursion of bees from Africa via shipping or otherwise, would seem to be almost certain. Moreover, from the end of the last century into the beginning of the present one, it was common practice to ship queens into Europe, the British Isles and the United States from various parts of the world, including Africa. Frank Benton spent more than a decade seeking out new races of queens and sending them to the United States and Canada, until eventually importating live bees became prohibited by law. Bees from Egypt were tried in Germany in 1866, and the same year, Egyptian queens were offered for sale in this country. Mr. Benton also sent queens from Tunis to England and the United States where, known as "Punics", they enjoyed a brief popularity. Henry Alley, in Massachusetts, described them as the best race of bees in the world. Roger Morse and his associates at Cornell have found, in combing through old bee literature, that queens were regularly shipped from Africa into the United States and Europe prior to the import restrictions, (*Bee World*, v. 54, 1973). Frank Pellett has written to the same effect (*History of American Beekeeping*, ch. 8).

Why, then, did these importations not have the same devastating effect in southern Europe that they had in Brazil and South and Central America? Part of the answer is that there are several dissimilar races of honey bees in Africa. Those native to Egypt and Tunisia are quite different from those in southern Africa. The bees introduced into Brazil came from South Africa, and were apparently of the race *A. m. adansonii*. The bees of Tunisia and Egypt are of different races. Nevertheless, during the eighteen-eighties several exporters of queens offered queens from South Africa through bee journals here and abroad, and the race in question, *A. m. adansonii*, is reported to have been introduced into France in 1923 and again in 1949 (Morse, et al., op cit).

Why bees from southern Africa have created such problems since their introduction into Brazil but have not had much effect when introduced elsewhere is an interesting question. They evidently do not thrive in a temperate climate, but the reason for this is not known either, although definite opinions exist. Either they simply do not survive temperate climate, or they lose their aggressiveness under those conditions. What will happen when they become established in the United States is still uncertain. I am almost certain that they are **not** going to be a public health menace, in spite of the alarms from some quarters. Their impact in the south is likely to be great, but no one knows how great nor how long it will last. Dr. Morse is inclined to think that when they have become established here, their aggressiveness will wear off. I'm betting on that. Meanwhile, we shall all be better off if we stop the scare talk, forget about vast bee "barriers" and similar nonsense, and get on with our ancient craft of beekeeping.

Q. I am trying to make a market for my honey with some local bread bakers, and they want a formula for converting the amounts of sugar to honey. Is there one?

Mark Young
Ludington, MI

A. For savory breads, as distinguished from sweet breads, honey can be substituted for sugar measure for measure. Thus, one cup of honey can replace one cup of sugar. In the interest of economy, however, less honey can be used if desired. The result is a decidedly superior bread, which keeps long and is more moist.

Q. Is it okay to find lots of dead bees in the snow in front of a hive?

Frank Davis
Delmar, NY

A. Yes, Bees fly forth on warm days in winter, and it is common for large numbers to fail to make it back to the hive. These are presumably the older and weaker bees, and the colony does not suffer significantly from their loss.

Q. I want to produce comb honey in round plastic sections, but my supers are all 6-5/8 inch depth. What do I do?

Leroy Chadwick
Peterson, MN

A. Round comb honey supers should be 4-1/2 inch depth, no more. If the super is even a quarter inch deeper you will get burr combs that will drizzle when you harvest the supers.

Q. Is it okay to feed bees fermented honey?

Loren Davis
Decatur, AR

A. I am sure it is not very good food for bees, but I have done it without any untoward consequences. Small amounts of fermented honey are harmless to a colony, and the bees will reconstitute it before storing it in the combs.

Q. A friend with eight acres of fruit trees wants to use my bees for pollination. What is the recommended ratio of hives per acre? And should I use single story or double story hives?

Stephen G. Jones
West Brookfield, MA

A. The general rule is one hive per acre, but some use as few as one hive for every three acres. Single story hives are much easier to move in and out of orchards, but they must be strong, with brood in at least six combs.

Editor's Note: I'd like to relate a personal experience here that perhaps goes against the norm. As Dr. Taylor states, 1 hive/acre is the

Continued on Page 144

SIFTINGS

By CHARLES MRAZ
Champlain Valley Apiaries
Middlebury, Vermont 05753

"It seems that most changes are not good for bees and beekeeping."

There seems to be a growing interest in Beekeeping in Central America. I found the article by George H. Meyer especially interesting. We do indeed need more contact with beekeepers in all of Central and South America, because these areas have great potential for producing large crops of honey. The three greatest problems there are lack of: experience, knowledge and roads. However, in these areas are produced some of the finest honeys in the world, many with exotic aromas and flavors. Unfortunately, due to lack of experience and equipment, much of this honey is extracted "green", before it is ripened and stored in iron barrels where it often ferments and is overheated by the tropical sun. This can ruin the finest honey.

I am not sure just what honey plants they have in Honduras and Nicaragua but they must be similar to those in Mexico where I have first hand experience. Generally, there are two main zones, the coastal areas and the mountain areas and each produce a different type of honey.

Beekeeping in Honduras by Walter Krochmal is another interesting article on Central American Beekeeping. It is a big help if you know the people and speak the language as Walter does. In his article, he speaks of wax moths as a major pest, as do other writers. In 25 years of experience, in all parts of Mexico, I have never seen wax moths as a problem. In fact, at times I used to wonder why, even when a hive of bees would die out, wax moths wouldn't show up for weeks, if at all. The only reason I could find for this was that perhaps ants would go into the empty hive and eat any moth eggs or larvae that show up in the combs.

Australia is not the only country that has those toads Roger Morse speaks of. I have seen them in *tremendous* numbers on some islands in Hawaii. The hives were put on top of barrels to keep them out of reach of the vicious appetite of these toads. They cannot jump very high so a low fence would also keep them out of a yard.

Richard Taylor puts his finger on one of the main problems with the American Honey Market. Too much poor quality honey. It is not the fault of the bees or the floral source, but the blame is strictly on the beekeeper. Given a good source, almost all honey bees produce good honey. The problem is what beekeepers and honey packers do to it after the bees produce it. Occasionally, it is green honey with too much moisture or overheating, over filtering, etc. These practices will "murder" even the best honey in the world. I believe "Taste Appeal" is more important than "Eye Appeal".

After 65 years of beekeeping, I cannot see the difference between honey produced in old combs and new combs. Perhaps honey produced in old combs has more vitamins and nutrients. I am amazed by Mr. Koover's comments on honey produced in brood combs. Bee brood can be an "excellent food", even bears go for the brood first before they eat the honey. In Romania a "natural medicine" is made with brood. However, there may be a difference between "good" and "clean".

In Mexico, I have seen many of the "Century Plants" Steve Taber described. It is amazing to see that flower stalk grow, almost Jack's proverbial Bean Stalk. Even where there were a lot of these plants in bloom though, I could never see that it produced a great amount of honey, though bees do seem to work it. Steve asks how these blossoms are pollinated. I didn't know either until the other night while watching a program on this very subject. It appears they are pollinated at night, by nectar and pollen eating bats. The bats go from plant to plant, eating bits of ripe pollen off the blossoms, and sipping the nectar with their long tongues. The plant also furnishes the bats with extra amino acids for the growth of their wing tissue, so they are completely dependent on each other for survival. The bats are having a tough time of it though. The plants are being harvested to make tequila before they bloom, and the bat population, along with the plants, is declining. Which is nothing new. Here in Vermont, farmers cut clover and alfalfa long before it blooms. As a result, honey production is declining. Not only in Vermont, but I am sure in many other areas this is the practice.§

Why Feed Your Bees?

By STEVE TABER
Honey Bee Genetics
P.O. Box 1672
Vacaville, CA 95696

There are a number of reasons to feed bees; the primary one is to prevent the bees from starving to death. A strong secondary reason is to stimulate brood rearing for a coming honey flow. I start a stimulative feeding of pollen and sugar December 1, forcing the bees to produce drones by January 1, and enabling me to begin my queen rearing very early. Remember that all regions and areas of the country are different; so, what may work at one place might not work at another. Also, remember basic nutrition information you should have gotten in High School: carbohydrates (sugar, honey) produce energy and heat. In order to grow, to add muscle, blood and bone (chiten in the case of bees), you need protein, fats, carbohydrates, vitamins and minerals; and, all these come from pollen. Analyses of pollen from different plant genus and family groups show tremendous food value differences. Generally speaking, pollen from wind-pollinated plants is less nutritious than pollen from insect-pollinated plants.

In the early spring you may see the bees bringing in much pollen and assume that the bees have enough. Likewise, upon examination of combs in the brood nest and surrounding the brood nest you see large quantities of fresh-stored pollen, you might again assume that the bees have adequate nutrition for spring growth. Maybe and maybe not.

Look around. Are there lots of cottonwood and alder trees near your bees that are in bloom? These are wind-pollinated plants and pretty poor for the bee nutritionally. But, if you see mostly willows and maples, berries and dandelion, then you can expect that the bees are collecting pollen of very good nutritional value. Examination of the brood nest should show very rapid springtime expansion.

This rapid expansion of egg laying by the queen and brood rearing by the bees rapidly depletes available honey. Colonies on scales weighed daily all during the winter show a very slight daily loss during November, December, January, and February; but, toward the end of February and in March, the daily weight loss increases dramatically even though the adult population level is less at the end of February than at the first of December. The bees are consuming honey for heat and to feed the brood. In December the bees were only consuming honey for heat.

When you examine your colonies, you must look for many things at the same time: disease always, queen quality and performance compared with others, and food currently available. FOOD CURRENTLY AVAILABLE!

Combs of old pollen collected at some prior time that are not adjacent to the brood cannot and will not be used as food for the young; it is there but unavailable. To make it available, move the combs next to the brood. Sealed honey that is away from the bees is cold and unavailable to the bees. Worse, it might even be granulated. If there is lots of honey in the hive, let's say 30 to 40 pounds and it's late spring and your prediction is that some honey will be coming in soon from fruit trees and/or dandelion, it's much better to try to force the bees to eat old, stored honey. Scratch the surface slightly to damage the wax cappings and place the honey immediately below the brood nest, to the side of it or above it. You may have to repeat the procedure in a week to get the bees eating the old honey and to have them move it in and around the brood where it can be consumed.

I have it very easy here with my bees because it is much warmer during late winter than in most parts of the USA. When it's warm enough so that the bees can move about the hive, it's much easier to work them, move combs to needed positions in the hive and do other necessary chores.

On colony examination, consider each unit separately during the late winter and spring insofar as nutritional needs are concerned. You may find the bees in the last stages of starvation, so cold and hungry that they cannot fly and can make only a slow fanning of their wings in an attempt to frighten you. Those bees need to be sprayed with sugar syrup immediately, before you start kicking yourself for being responsible for bee neglect. If you don't have a sprayer, take a half cup of sugar water and pour over the bees; if you don't have that, scrape some honey from the comb of another colony into a small container. Stir in some water and pour that over the combs.

When you inspect combs in the brood nest, you should see honey in every comb, not just in the outside ones. Most beekeepers don't keep their bees in as much equipment as I like to have them; and, therefore, it makes manipulation more difficult. I like the equivalent of 3 standard, full-depth hive bodies or 4 of the Illinois-depth boxes for the bees to have as their brood area and honey storage area for themselves. But, if you have wintered your bees in one full-depth, standard box, you will know or should know that the bees are running out of honey at the end of winter and beginning of spring. Combs of honey can be inserted in the box near the brood as you remove an empty comb. That's a lot of work and its much easier to give the bees a half gallon of sugar syrup. One beekeeper I worked with, who wintered in one box, would take a comb of honey and lay it horizontally over the 10 combs containing the cluster. A burlap sack was tucked about that comb and the hive cover placed on top. It worked fine; in fact, the queen would on occasion lay eggs in that comb, laying in a horizontal position.

If you are wintering in one and a half Langstroth boxes, the top box will contain any remaining honey from the winter and should be placed under the other box at this time. The sealed honey in it will be moved up and around the bees if it's warm enough for the bees to move.

You will hear and read a lot about "stimulative feeding", meaning feeding a half gallon of dilute sugar syrup when it is deemed necessary. The only time that will work to stimulate your bees is if there already exists partial starvation in your hive. Partial starvation is indicated when central brood combs contain no honey but when sealed honey is toward the outside of the bee cluster.

Continued on Next Page

Feeding Bees... Cont. from Page 143

What I have been saying in this article is that when you go to the beeyard, don't be automatic in you behavior to the bees. It's doubtful that all bees will need feed and it's doubtful if none will need feed. Treat each colony individually and think about what you are doing.

About sugar syrup: what strength or what percent sugar to water do you mix? Now, think about that a bit, too, before you start. Bees usually can collect all the water they need; so, plan to feed sugar, not water. Don't make it too thick and heavy; it's too difficult for the bees to move. So, my suggestion is to add sugar to cold water until the water has reached a saturated solution. That is obtained when sugar crystals remain at the bottom of the tank.

What kind of a feeder is best? The best feeder is the cheapest one you can get and use. One beekeeper friend of mine needed to do lots of feeding; he had about 20,000 colonies needing sugar in a hurry. He obtained one-half gallon cardboard milk containers, cut the tops off, stuffed each with straw to prevent the bees from drowning, placed them on tops of the colonies and placed an empty box around each with the hive cover on the top. I have to do a lot of feeding of sugar and pollen because of the great number of bee colonies in my area. I use division board feeders with a few sticks inside to give the bees a chance to stay out of the syrup and they stay in the hive year round. We try to buy the cheapest sugar we can to feed our bees; sometimes that's high fructose corn syrup; sometimes it's broken bag sugar from the wholesale grocer. It's amazing how much sugar is lost at each super market because the bag broke.

When I make up pollen cake to feed the bees, I use mostly pollen, granulated sugar and water. I put a little yeast in it to thicken the mixture. I don't use soy flour, milk or milk by-products because they are known to contain toxic products for bees. Pollen cakes are made about a pound each, squashed to about 1/4 inch thickness and placed in immediate proximity to the brood, either above or below the brood nest or both. When feeding pollen to bees, always assume that it will be contaminated with disease residue being removed from the hive the pollen was trapped from. Add terramycin at the recommended dose to prevent AFB and EFB from contaminating your bee equipment.§

Questions... Cont. from Page 141

recommended rate. However, if the weather is less than ideal during blossom, the grower will experience a reduction in fruit set simply because the bees won't travel far to forage. A minimum of 2 hives/3 acres will reduce this problem, and 2/acre will nearly eliminate foraging problems during adverse weather. Of course, *very* cold or rainy weather will stop all bees from flying. It is during marginal flying conditions that the additional hives will be beneficial. However, convincing an orchardist to spring for the additional cost maybe difficult. He is, however, at risk, not the beekeeper.

Backyard Round-Section Production

By MICHAEL MADDEX
P. O. Box 312
Truchas, NM 87578

You've been with the bees for a couple of years now and once or twice in the late summer or fall you drag out the old extractor, uncapping knife, strainer and a host of other paraphernalia and proceed to turn the kitchen into a disaster area. You may even have a few more colonies than you originally planned on, adding to this confusion. Each year you think, "There must be an easier way?". If this sounds familiar, maybe you should think about round sections. They are fast and tidy, command a good price and are not as hard to produce as you might think.

The initial equipment cost is two to three times higher for a section super than for an extracting one, but once you have the equipment, the sections are real money makers. All of the supply houses sell the supers complete, ready to go, some with and some without the foundation. The supers may be set up in two different ways: Eight or nine frames. I recommend using eight because the bees may be slow to finish up the two end frames in the nine-frame system, effectively leaving you with only seven finished frames. Whichever you order, they all come with complete instructions. Once you've seen one, you may decide to make your own wooden goods, box and follower boards, which will reduce your cost to the plastic frames and super springs. Foundation, rings, covers and labels are an ongoing annual expense. Either way, the equipment should pay for itself, and then some, the first year.

Much has been written about section comb production and if you want to try sections, you should read about it. I tried some of the traditional methods, all of which involve "crowding down" or forcing the bees into the supers. I also tried simply supering over strong colonies. My observation is that any particular hive of bees either will or will not make sections, regardless of how simple or complex the beekeeper's manipulations are. At the end of this article I'll give a list of four readily available books, but the whole point of this article is that you don't have to go in for any fancy systems.

HERE'S HOW I DO IT

I keep the bees in two deeps, and each spring when I make my first inspection, I reverse hive bodies and clean or replace bottom-boards. This is a good, basic beekeeping practice, whether or not you are interested in comb honey production. I note which colonies are the strongest, which are also usually the heaviest. This is at the first good weather that I get, usually just after mid-March and before any bloom in my area. For me, the first pollen and nectar come in with the dandelions in early to mid-May. My main nectar flow begins with the alfalfa, starting early to mid-June. This is the bloom that I count on to produce the sections.

But back to spring: depending on colony strength and the weather, I check the bees once or twice in April for stores. At this time, I feed any that may need it. Then in May, with the incoming pollen and nectar I watch the combs in the second stories for fresh cappings. The first colonies to "whiten" are usually the ones that looked strongest at the first inspection and, in any case, are the ones to receive the round section supers. As the others catch up they will get extracting supers. Either way, all hives are supered prior to the start of the main flow. Rarely, but it can happen, a good, strong hive will just flat refuse to make sections. In this case the only thing to do is move the section super to another hive that is doing well with the sections and give those contrary bees an extracting super or two.

When the first section super is about 75% finished I give the second super. When the first super is complete I harvest it using an escape screen and give the third at the same time and so on. It goes like this:

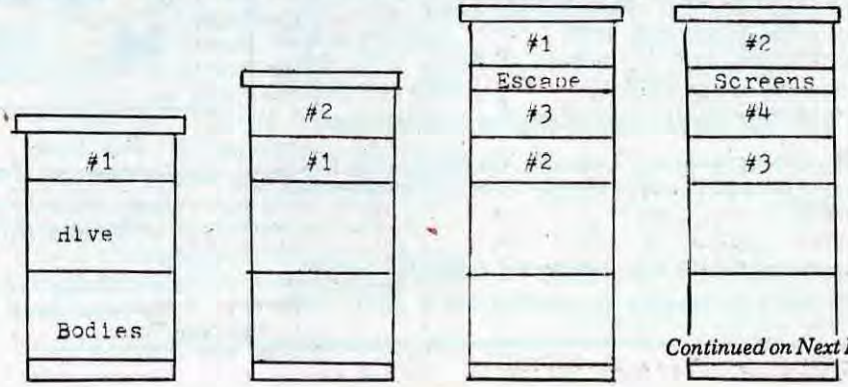
I believe that the fresh, empty super under the escape screen helps to move the bees down faster during warmer weather. Unless you have a very long, intense main flow, don't expect one hive to produce more than three or four section supers, although in a good summer it may fill one or more extracting supers after making the sections. You will also have some "go-backs", incomplete sections. These should be placed together in one super and returned to the bees to be finished up. The most nearly completed sections should be in the outside frames with those least finished sections or foundation, in the center of the super.

Unlike extracting supers, which can be left in the care of the bees until there is enough honey to bring in and extract, sections should come in as soon as they are ready, in order to avoid travel stain. Additionally, the supers can be refilled with new rings and foundation, thus saving on the expense of extra equipment. Also, by prompt harvesting, you gain some earlier income.

An alternate system to selecting the strongest colonies for section production is to simply give every hive one section super. Then when one colony is ready for another super, take it from a hive that's not doing the job and replace it with an extracting super. This method, however, entails extra labor and manipulations in the long run, but you will end up producing about one-half sections and one-half extracted honey.

Now, about the mess in the kitchen: there isn't one. Simply remove the sections from the frames, trim the excess foundation, add the covers and wrap-around labels and you have your product ready for market. And the price is good!!§

For further information, try the following books:



Continued on Next Page

Round Section... Cont. from Page 145

Honey in the Comb, E. Killion, Dadant & Sons, 1981
The Cobana Handbook, S. Kozlowicz, The happy Hive, 1979
Comb Honey Production, R. Morse, Wicwas Press, 1978
The New Comb Honey Book, R. Taylor, Linden Books, 1981

Queen Excluders in the Southeast

By WILLIAM G. LORD
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Louisburg, North Carolina 27549

Steve Taber's recent article on queen excluders really caught my attention and I thought it appropriate to fire off yet another salvo in the never ending commentary on queen excluders. Mr. Taber's comments on the use, or lack thereof, of queen excluders makes perfect sense unless you live in the Southeastern United States. The bottom line in my operation is that I *cannot* survive without excluders, and I consider them to be one of the best all around management tools available to beekeepers in the Southeast.

The major honeyflow in this part of the world comes in April and May. We have winter with us right through March and frequently into April, so spring buildup is short and critical. Before you know it, **BOOM!** comes the honey flow, and just as quickly, **BOOM!** it's gone. We are then faced with June through October with no substantive honey flow. Granted, the odd sourwood, sumac, pepperbush, goldenrod, or aster flow comes along, but the general rule is dearth. This is when the lowly queen excluder comes to the forefront as a management tool.

Queen excluders act as brood restricters and honey preservers in the Southeast. To keep bees *and* remain solvent in this area, you must be conservative in your understanding and interpretation of honey flows and brood cycles. When our honey flow ends, around June first, the brood cycle will roar on if you let it, and in the backwash of the roar, all the colony's honey stores will vaporize into nonproductive worker bees. One of the best uses of a queen excluder is to place it *over* the brood nest just as the honey flow tapers off. In this instance, the queen is kept out of the honey super, and the colony's winter supply of honey is preserved in June. Certainly, this is not a barn bursting,beebuilding,pull-out-all-the-stops management tool, **but it works.** The excluder is left in place all summer, and is removed in the late fall when all chances of brood nest expansion are over. If you dislike excluders and like to see the colony achieve its maximum reproductive potential over the summer months, then leave the excluder off and watch the colony go. You will soon forget this joy as your sugar bill mounts in the fall and then *skyrockets* in the spring, as you pay for the joys of populous summer colonies.

The use of queen excluders is a matter of choice in the spring. Queen excluders may in fact be restrictive in a growing colony, but if they are used above the second super they will keep brood *out of the honey supers.* Excluders fit well with a conservative, low labor management plan.

Many American beekeepers are beginning to use less labor intensive, conservative management schemes. If beekeeping is like most other agricultural enterprises in the United States, we are moving away from small to mid-size commerical beekeepers to either large commercial beekeepers or part time beekeepers. Part time beekeepers are those whose primary occupation is not beekeeping, but who keep bees to supplement their primary income.

There are those of us who will argue that the first job is used to pay for the second, beekeeping, but that is another story. Falling into the part time beekeeper category are hobbiests whose operations have grown to two or three hundred colonies, to commercial beekeepers who have reduced their operations to similar numbers to remain solvent and/or sane and to allow time for a second, more profitable profession. These people probably really enjoy beekeeping, but their forte is "quick and dirty" management that gives maximum benefit for minimum time expended. This could be called "compromise" management. You would like to spend more time and money on your bees, but the time is not justified by the money, so you compromise. ***This is where queen excluders fit in.*** Queen excluders will not replace requeening, thorough brood nest inspections and good equipment maintenance, but they have a distinct, and extremely useful place in a well planned management scheme.§

Testing Your Beekeeping Knowledge

By CLARENCE H. COLLISON
Extension Entomologist
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In its general form, the honey bee resembles any other insect, however, since the bee leads a highly specialized kind of life, it has numerous modified structures that allows it to live this lifestyle. The feeding organs of the bee are very different in form because they are adapted to the ingestion of both pollen and liquids. The wings of the bee are developed for swift flight and for carrying heavy loads. The legs are modified in their structure for various uses besides that of locomotion. Ovipositors in other insects are organs designed for depositing or laying eggs. In the honey bee, the ovipositor is a modified organ designed specifically for defense.

Internally, the alimentary canal has a special adaptation for carrying nectar and honey. The respiratory system is greatly amplified and the honey bee has several highly specialized glands for feeding brood, wax production, and communication. In order to fully understand the biology and activities of the colony, it is necessary to have an understanding of basic bee anatomy and physiology.

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).

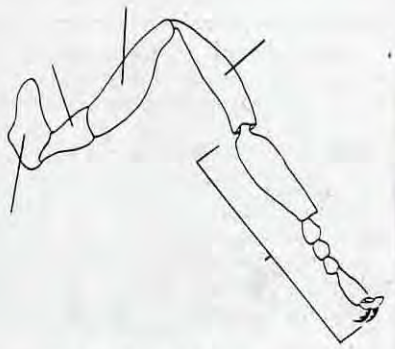
1. ___ When the honey bee uses its mandibles (jaws) to manipulate wax and build comb, etc., the proboscis is folded beneath the head.
2. ___ Expansion and contraction of the parts making up the proboscis provides the suction that the bee needs to suck up fluids.
3. ___ Honey bees have a five-chambered heart that is responsible for pumping blood from the head to the abdomen.
4. ___ The thorax of honey bees is composed of three segments.
5. ___ The proventriculus is capable of moving pollen grains into the true stomach (ventriculus) while retaining nectar and honey in the honey stomach.
6. ___ Food masses within the ventriculus (true stomach) are surrounded by a thin, non-cellular membrane known as the pericardial membrane.
7. ___ Air is drawn in and forced out of the tracheal system by the pulsating movements of the abdomen.
8. ___ The bee's abdominal body cavity is divided internally into three cavities or sinuses by the dorsal and ventral diaphragms which assist in directing the flow of blood.
9. ___ Even though each honey bee caste has different functions in the life of the colony, the mandibles of workers, queens and drones are similar in appearance.

Multiple Choice Questions

10. ___ Removes waste products of metabolism from the blood.
    A) Rectal pads;
    B) Rectum;
    C) Ventriculus;
    D) Malpighian tubules;
    E) Proventriculus
11. ___ Honey bees have approximately ___ malpighian tubules within the abdominal cavity.
    A) 100; B) 20; C) 80; D) 60; E) 40
12. ___ Individual cells and tissues within the honey bee receive oxygen directly from:
    A) The blood; B) Air sacs;
    C) Tracheae; D) Spiracles;
    E) Tracheoles
13. ___ Compound eyes are composed of many individual units called ommatidia, each with its own lens. The number of ommatidia varies with the three honey bee castes. Please match the correct number of ommatidia with caste. (3 points)

___ Queen	A. 5000 ommatidia
___ Worker	B. 8000 ommatidia
___ Drone	C. 4000 ommatidia

14. ___ Listed below are several parts associated with the honey bee leg. Please label the diagram with the correct structures. (Question is worth 5 points.)
    A) Femur; B) Coxa; C) Tibia;
    D) Trochanter; E) Tarsus



(Answers on Page 169)

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Organized Classes: Making Beekeeping Education Pay It's Way

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

"Be prepared to work hard, accomplish much, and even learn something along the way."

In a very real way, all beekeepers are teachers. Be it graduate students, tax payers, neighbors, or public officials, each beekeeper makes a contribution toward better beekeeping when we enter a discussion with an individual that has a problem with bees or beekeeping. We can't ignore the frequent discussions we all have with others concerning bee problems. Certainly, they are an important avenue for transferring information to interested individuals. The problems with such sessions is that their occurrences are unpredictable and possibly inconvenient. If possible, use the occasion to direct the student to a structured class where questions and topics can be addressed in an organized manner.

Organized classes may cover a great range — all the way from a one day workshop to an advanced degree program. Yet, all training programs have areas of similarity. From my experiences and those of others, several tenets seem important to making beekeeping education at least a break-even effort.

1. Be prepared to accomplish great strides with few supplies and a few beehives. It has been said that a program would never have enough funding. Initially, that comment sounds ludicrous, but classically, we spend what we make. Don't use funding (or lack of it) as a reason for not conducting classes. Funds and equipment are almost always in short supply.

2. Maintain the highest standards possible within the program. It's been my experience that one dissatisfied student can cause "bad press" for a long time. It's practically impossible to get a dissatisfied student back to another class — even if corrective changes are made. If one is truly serious about making a program pay, be prepared to work extra time (indefinitely) in the class. Even after one's reputation is positively established, the program must be maintained and up-dated in order to stay current.

If facilities, supplies, or funds are short, comment on the problem once or so, but never apologize for it. Apologies make students wonder why they're paying full price for a program that has admitted inadequacies. But rather, do the best possible under conditions at hand and constantly work to improve the program.

Wherever possible use texts, handouts, demonstrations, or visual aids. Give participants something tangible for their money.

3. Keep the scope of the program comparable to the potential beekeeper population within the area. As a class is planned for a selected area, the room size, amplification equipment, facilities, overnight accommodations along with many other considerations should be evaluated carefully. A class with small enrollment is not necessarily bad — in fact, they're probably more enjoyable to teach. Don't judge the potential of a class by numbers alone.

4. Publicize constantly. Regardless of potential class size, I'm always surprised (and disappointed) when I encounter someone who says, "I had no idea you were offering such a class". Publicizing and advertising is a never ending task. Satisfied students are the best advertising agents. Use them as much as possible.

5. If the scope of the class or program warrants it, develop industry support. Seek constant feedback from peers on techniques and efforts. If one has been successful in developing a positive reputation, beekeepers will be supportive. That is imperative. It would be senseless to think that a bee class could ever succeed without the support of the beekeepers and the industry that serves them.

6. Develop political skills at all levels. At the local level, make special efforts to develop relationships with co-workers. When conducting a class, even the most minor problems can become a hurdle. Locked doors, no chalk, late duplication work, audio/visual equipment — all these can cause class disruption if your co-workers don't care about your success.

If one is working inside a university, legislative support offered by beekeepers can be invaluable if offered in the correct way.

I'm really just saying for one to be pleasant and try to keep from making people angry. Unfortunately, in some few instances that's not possible.

7. Don't get hopelessly attached to a particular technique or procedure. Everything changes. If procedures or equipment change, the demonstration that is currently the best thing going may not be relevant a few years hence. At appropriate times, be prepared to change anything.

8. Expect failures — sometimes. Finally, when bad class dates, poor student response, weather — any number of problems arise that disrupt or destroy an effort, try to keep going. Make changes whenever possible.

I'm sure various points could be added depending on program design, location or whatever. Developing a good program is often tiring and discouraging. I hope that's normal. I've found that a program that I've developed, implemented, and successfully taught is a meaningful reward for me. Nothing reads better than positive evaluations.§

The Versatility of Making Splits

By PHILLIP MARIOLA
ATI Wooster

When talking with other beekeepers, it always interests me to find out what part of beekeeping interests them most. For some it is pulling off a super of fully drawn, white-capped comb honey. For others it is catching a swarm. For still others it is raising queens. There are certainly many facets of beekeeping which are fun and interesting (as well as some which are downright boring and maddening!) One beekeeping task which I personally enjoy year after year is making divides, also called "splits". This consists of dividing up one or more honey bee colonies to create one or more new colonies. There are many uses for these splits, and they can help your beekeeping operation in many ways. I'd like to discuss these various uses, and see why making splits is such a versatile technique. There are also several variations which a beekeeper can use to make a split. I'd also like to list a few precautions to consider when splitting a colony.

Splits can be used in many phases of a beekeeping operation. Here are a few examples:

- obviously, they can be used to make increases for someone that wants more colonies;
- they can be used to create new colonies to replace those which have died during the winter;
- they can be used to prevent colonies from swarming; by removing some of the brood and bees from the crowded colonies prior to the swarming season. In fact, splitting a colony, if done properly, is probably one of the most effective ways of preventing it from swarming;
- a split, when given a queen cell, becomes a queen mating nuc to use in the production of queens;
- splits offer beekeepers another possible way of supplementing their beekeeping income, by selling the splits to other beekeepers who need or desire additional colonies;
- splits provide the beekeeper with a very high percentage method for requeening a colony. The queen can be introduced to a queenless split, which is then placed above the original colony, using a double screen. Once the new queen has been accepted by the split, and her laying pattern is observed to be satisfactory, the original colony's old queen is removed and the split is united to it.

You can see, then, how versatile and useful splits are. There is another interesting side to all of this. Splits are most often made in the spring. After a long winter it is good to be back into the bees. The colonies are relatively small and easy to work, without heavy honey supers or the heat of summer. Perhaps this is why I find making splits to be one of the more enjoyable tasks in the beekeeping year.

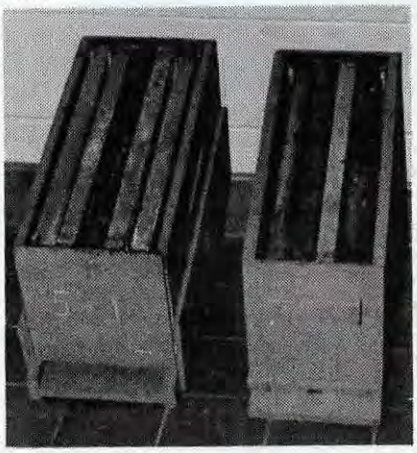
To start . . .

There are many ways to divide a colony of honey bees. A beekeeper who uses two deep supers for the brood chamber can simply remove one of the deeps, set it upon a separate bottom board, give it a lid, and just like that has created two colonies from one. Of course, one of the two colonies would be queenless. The beekeeper can wait four days, after which eggs will be visible in the queenright colony only. The queenless colony can then be given a queen, after all natural queen cells have been destroyed. This whole procedure is fast and easy, but it should only be done with strong colonies, and should be proceeded by a thorough examination of the colony to ensure that it is healthy.

It is not a good idea to allow the queenless colony to raise its own queen, unless it is very strong, with a good supply of pollen. Pollen is needed by young workers to secrete royal jelly, which is fed to developing queen larvae. An inadequate pollen supply, or too few young workers can contribute to the production of mediocre queens. For the simple splitting technique just described there is one trick that might help both colonies. Simply remember to place the weaker of the two colonies on the original stand to pick up field bees and those which flew into the air when you began manipulating the original colony. You should try to create two fairly equal colonies as opposed to one strong and one weak one. Needless to say, once both halves of the original colony are seen to be doing well, the beekeeper needs only add a deep super with empty combs to each half, and he will have two double story colonies.

Splits . . . one of the best methods of swarm prevention, and just plain fun!

Splitting a colony in two as just described can be quite sloppy if not done properly. One of the most appropriate times to use this method is when you have a colony that is preparing to swarm and you don't wish to lose it. It doesn't always prevent a swarm, but many times it will.



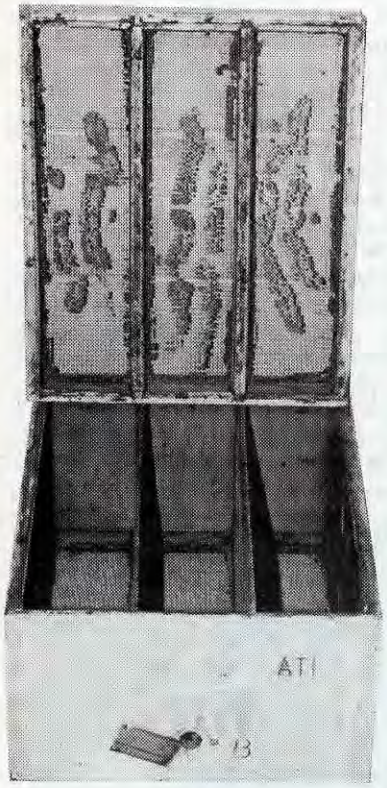
Five frame and four frame nucs, lids removed, showing standard deep frames.

Most beekeepers that make splits prefer to remove a certain number of frames with bees, brood, honey, and pollen from the original colony, and place them into one of several types of *nuc-boxes*. The word *nuc* is short for nucleus colony and is usually used to mean a small colony in a small hive containing three to five frames. Much depends upon what type of equipment you have to begin with, and what your objective for splitting happens to be. The most commonly used sizes of nuc boxes are the four-frame nuc, the five-frame nuc, and a standard deep super

Continued on Next Page

Making Splits... Cont. from Page 151

divided into three compartments using plywood dividers (see photos 1 and 2). In the case of the latter, holes are drilled into each side and into the middle of one end to serve as entrances for the bees; each compartment will hold three frames, thus one deep super is used for three separate nucs. Regardless of the type of nuc used, the splitting techniques are the same.



Deep super modified with plywood dividers to hold three nucs. Note special inner cover which keeps the three sections separated.

The first step, no matter what kind of equipment you are using or what your objective is, would be to examine the original colonies to be sure that they are healthy and strong. If you observe that a colony has any brood or adult disease, or is stressed (i.e., chilled brood, no honey or pollen stores), you should avoid dividing it, at least until the problems have cleared up. It goes without saying that *no* frames from *any* colony found to have American Foulbrood should be transferred out of that colony for ***any*** purpose. Such a colony should be dealt with according to your respective state regulations.

Ideally, the parent colonies will be strong, with 8-12 frames of brood, a few frames of honey and pollen, and plenty of young bees. If this is the case, you can begin making divides. Find the queen and set aside the frame that she is on. If you are using nuc boxes, select three or four frames of sealed brood, and a frame of honey and pollen, being careful not to jar the frames when transferring them from the parent hive to the nuc box, so as to have as many clinging bees on the frames as possible. If, after filling the nuc box, you feel that more bees are needed, they can be brushed off of frames of brood from the parent hive down into the nuc box. When the nuc is full, close it up and load it into your vehicle, to be moved to another location. It is definitely to your advantage to find the queen in the parent colony before you make the divide. Once she is found and the frame that she is on is set aside, you are free to pick and choose among all the remaining frames in the parent hive, to make a "boomer" split.

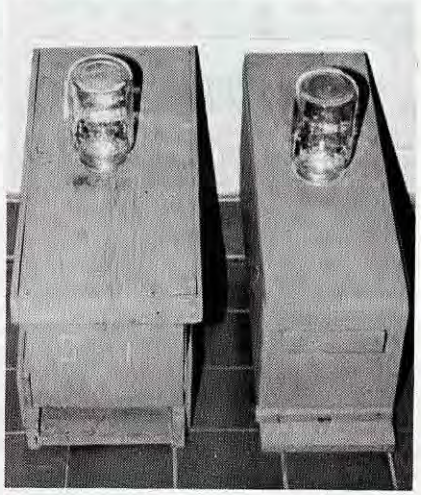
If your parent colonies are only moderately strong, and you still wish to make splits, you will need to combine frames of brood from different colonies. For example, it may require five colonies to make three or four splits. It is a case of judgement. There is no point in splitting colonies too severely, especially in short summer areas. The frames of brood from different colonies, with adhering bees, can almost always be united into one nuc with no fighting. The bees on the brood frames are most likely nurse bees, less inclined to fight than older bees. An exception to this might be a colony that is confined due to bad weather, in which case many of the bees on the brood frames might be older field bees, more inclined to fight with bees from another colony.

A Review...

First, the original colonies are inspected to see if they are strong and healthy. **Second,** the queens should be found and temporarily set aside. The beekeeper is now free to choose the most desirable frames (three or four frames of capped brood and one or two frames of honey or pollen) for the splits, without worrying about accidentally putting a queen into the nuc. **Third,** when full, the nucs are closed up and loaded for moving to a new location. We'll discuss the reason for moving the nucs in a moment. **Fourth,** the frames from the original colonies, with the queens on them, are put back where they came from, and *empty* combs are put into the colonies to replace the frames of brood and honey that were removed to the nuc boxes. **Finally,** all that remains is to move the nucs to a new location, add new queens to them, and feed if necessary.

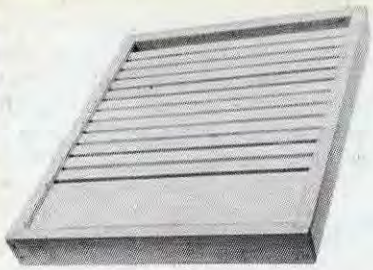
There are some general precautions to observe when making divides, some of which we touched on already, such as the importance of properly inspecting all colonies for disease and proper strength prior to dividing. It is a good idea, if possible, to move the newly made splits to a new location, away from strong, established honey bee colonies. If left in the yard where the splits have been made, they may be robbed, and a lot of good work will be wasted. The entrances of the nuc boxes, or whatever type of equipment the splits are in, should be reduced to discourage robbing. If it is not practical to move the splits to a *totally* different location, at least a couple of miles away, they may be moved to another site on a property, preferably separated form the parent colonies by a wood, a grove of trees, a hedge or some buildings. This isn't as risk-free as moving the splits far away, but it is better than leaving the splits in the yard with the parent colonies.

It is often helpful to feed sugar syrup to the splits for a few weeks, to get them off to a good start. Some years there is plenty of honey and pollen in the parent colonies to use when making the splits, and at these times feeding isn't as important. If the honey supply is meager though, feeding may be the difference between the split developing into a strong colony or a mediocre one. Usually a few weeks of feeding is enough, or until the queen's first brood cycle begins to hatch. The type of feeder used depends upon the type of equipment you split into. I most often use a four-frame nuc box with a hole drilled in the lid for a feeder bottle.



Feeder jars in place, using holes drilled in the lids. Note entrance reducer in place on four frame nuc.

Continued on Page 154



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Making Splits... Cont. from Page 152

A final precaution is to buy a queen for each split. It is *not* a good idea to simply allow the split to raise its own queen. A good queen is the product of proper larval feeding, ample pollen supply (pollen is necessary for the secretion of royal jelly by glands in the head of nurse bees), and large numbers of young nurse bees. You probably won't have all of these conditions present in your splits. Unless you are proficient in the science of queen-rearing, and can raise your own queens, I advise you to buy your queens from a reputable queen producer. It is money well spent.

You will have greater success in introducing queens to the splits after you have moved them to their new location, and they have settled down for a few hours. Once the new queens are accepted, the splits will build up rapidly. You will then know the joy of watching them grow into strong, productive colonies. If you used nuc boxes for your splits, you need only transfer the frames into regular hive bodies, and the cycle is complete.

Dividing honey bee colonies is a technique which can help the beekeeper in many ways. It is not difficult to learn, and is one of the best methods of swarm prevention. The sale of nucs can supplement your income before the honey harvest. And finally, at least for me, it is just plain fun beekeeping, at a time of the year when I am happy to get back into the hives after a long Ohio winter.§

Games Gallery

By CARSTEN AHRENS

BEES, ET AL.

Socially Speaking — A Game

These well-known insects: Ants (a), Bees (b), Hornets (h), Termites, (t) Yellow-Jackets (y) and Wasps (w) are called social insects. Please mark which insect belongs to each statement below by using the first letter of the particular group.

1. ___ Mentioned in the Bible as a model for man to emulate.
2. ___ Are characterized by their hairy bodies.
3. ___ Make large, roundish, paper nests which are often woven into limbs of shrubs and trees.
4. ___ Some species in this group make sturdy nests of clay.
5. ___ Usually live in paper-lined tunnels in the earth.
6. ___ Are incorrectly called the "white ants" although they are more closely related to roaches.
7. ___ Is often characterized by its long, very slender waist.
8. ___ Are unlike the rest in that a king as well as a queen reigns over the colony.
9. ___ Their males are called drones.
10. ___ Some species of this group enslave others, some plant and cultivate gardens and some "herd aphids.
11. ___ Have a blind soldier caste.
12. ___ Are often a nuisance during a picnic in later summer.
13. ___ Usually insist on climbing over an obstacle instead of simply walking around it.
14. ___ Are most destructive to many of man's enterprises.
15. ___ Are amazingly beneficial to man.

(Answers on Page 174)

Comb Foundation — Are We Using Enough?

By ELBERT R. JAYCOX

Comb foundation, a sheet of beeswax embossed with the shape of the cells, serves beekeepers in a number of ways. For example, it will soon be time to install package bees in hives containing frames of foundation. Beginning beekeepers who buy nucs (small colonies) will probably fill out the hive with frames of foundation. Established beekeepers often place foundation in their hives to produce needed new combs and to help reduce the threat of swarming by their colonies. As the colonies grow and the nectar flows begin, beekeepers use frames of foundation in the honey supers when they have no completed or "drawn" combs and when they need additional new ones.

When we use comb foundation, we worry about whether the bees will accept it and make good combs from it: combs without drone cells, holes, and odd comb structures that don't belong. We need to learn more about getting the bees to consistently build the best possible combs from the foundation because we have invested a considerable amount of money and labor in the process and because good combs are the basis of movable-frame beekeeping. However, it may be even more important for us to learn whether foundation is a management tool which, if used in greater quantities, will help us to make more honey and profit from our bees. Let's discuss both aspects: using more foundation and how best to get it made into good combs.

IS MORE BETTER?

The traditions for using comb foundation are not the same in Europe and in the United States. Europeans use far more foundation than Americans because they believe that old, dark brood combs are a detriment to the colony. They maintain that such combs are possible reservoirs for organisms which cause adult and larval diseases. European beekeepers believe this because the cells of combs used continually for brood rearing gradually fill with layers of cocoons and larval feces. Brood comb rapidly darkens in color and becomes black in a few years. At the same time, the cells become smaller in diameter and are then lengthened by the bees. Adult bees reared in old combs are smaller than ones reared in new combs.

To offset these changes, European beekeepers regularly replace their brood combs with foundation as soon as the combs will not transmit light or after 3 or 4 years of use. Paul Fiegl, a master beekeeper in Solden, Austria, gives his colonies as much foundation as they will willingly draw out in the spring, or about 2.2 pounds (1 kg) for every 3 colonies. He says that this practice causes people to comment on how large his bees are. At Miel Carlota, a large Mexican honey company with a European background, half the combs in the brood chambers are replaced each year. An East European beekeeping textbook recommends adding 5 to 8 frames of foundation annually to each colony.

Traditionally in the United States, we generally replace combs only as they become damaged, moldy, or otherwise unusable. Although we have finally realized that dark combs discolor honey stored in them, we have not generally accepted the idea that old, black combs should be replaced routinely with new sheets of foundation.

The value of using more foundation may be hidden by an overemphasis on the "uncleanliness" of old, black combs and the size of the bees that are reared in them. We should give more consideration to the possible benefits of improving our management by using more foundation. For example, at Miel Carlota they compared the incidence of swarming in two groups of 100 colonies each. One group received 5 sheets of foundation in place of old brood combs; the other, none. Only one colony made swarm preparations among the treated hives while 23 did so when no foundation was given.

Dr. John Free of the Rothamsted Experimental Station in England has studied the behavior of queens and worker bees in relation to new and old comb. He expected to find that bees rear more brood in used combs than in new ones. Instead, he discovered that they sometimes reared less brood and that the queens showed no preference between new and old combs for egg-laying.

The worker bees definitely favored used comb when storing honey, in laboratory experiments as well as in outdoor colonies. Free believes that this behavior causes natural, or "wild", colonies to store food (nectar and pollen) in old combs that were formerly in the brood nest. Brood-rearing is then forced onto recently built comb. In Free's experiments, the bees also preferred to store food in combs previously used for storage rather than in new comb.

Free concluded that our beekeeping management tends to frustrate the desires of the bees to store food in the old brood area of their nest and to transfer their brood-rearing to newer combs. But the bees, in turn, frustrate us by filling the old combs in the brood nest with honey, leaving little room for the queen to lay. This behavior, which may help to trigger swarming, is probably accentuated when there is an excluder above the brood nest.

Free's results clearly suggest that we should be renewing our combs in the brood nest regularly. The queen

Continued on Next Page

Foundation... Cont. from Page 156

would lay as willingly in the new combs as in the old. The workers would be less attracted to store honey in the new combs, preferring to put it in the old brood- or honey-combs above the brood nest.

However, there is one snag in using more foundation. The bees do not always produce good combs from the foundation we provide them. In April and early May, 1978, we made strong nucleus colonies, or "divides", and gave each one 6 or 7 drawn combs and 2 or 3 frames of foundation. We also fed them sugar syrup for several weeks. The bees generally did a poor job of making comb from the foundation, building large numbers of drone cells. According to our past experience and to a study by Dr. Free of comb-building, the small, eager colonies should have built all worker combs. I don't know why they failed to do so.

TO GET GOOD COMBS...

The bees generally make the best combs from foundation placed in the second brood chamber or above the brood nest, either during a nectar flow or while the bees are being fed. The foundation should be placed at the edges of the brood, between the outer brood combs and the storage combs. The bees are less liable to misuse the foundation if there are 10 frames in a hive body or if the frames are pushed close together.

You can attract bees into a full super of foundation by exchanging a couple of frames for completed combs from the lower hive body, preferably ones containing some unsealed honey. When adding supers of foundation during a nectar flow, place them beneath the partially filled supers. Honey bees vary in their willingness to draw foundation. If you find a colony that does it well and quickly, you can exploit it to make extra combs for use on other colonies. Strong colonies will usually build good, new combs from foundation during the spring nectar flow from fruit and dandelion bloom.

And finally, the cost of using more foundation for managing bees may be prohibitive, at least until we are certain that it pays off. The wax obtained from the increased number of combs rendered can help offset such costs. Beeswax is currently valued at about $ .70 per pound and can be exchanged for foundation and wooden goods. Without low-priced labor or discounted labor costs, however, we may find that the use of more foundation is not feasible if based ***only*** on the direct returns from the practice.§

Reprinted from March, 1979, Bees and Honey, (published by Univ. of Illinois Cooperative Extension Service.)

How Firm A Foundation

By L. EDWIN RYBAK
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Crystal Drive
Morrisville, VT 05661

Frequently, what seems obvious, isn't. Sometimes good fortune and plain luck illuminates our efforts and scares us half out of our wits with the simplicity and obviousness of the answer that had puzzled and eluded us until that revealing moment.

In the May, 1986 issue of *Gleanings*, Dr. Roger Morse wrote an article on frames and foundation. The problem, Dr. Morse stated, is that the foundation bulges in the wrong places at the wrong time. About the time Dr. Morse's article was being written and published, I was assembling some frames using crimp-wired foundation.

I am inclined to do such repetitive tasks on a production-line basis. That is, I assemble and nail the frames until all are finished, then split out the wedge in the top bar and clean out the remaining ridges (with a utility knife — but, **Careful!** I needed four stitches — as I like smooth, neat surfaces) until all the frames are finished. The same operation is completed on each and every frame before moving on to the next operation. Thus I had sixty frames assembled, their wedge bars split out and ready for inserting crimp-wired foundation.

A few years ago, Mr. John Tardie, a friend and beekeeper in Essex Junction, VT, showed me a quick and simple method of fastening the foundation under the top bar wedge. Instead of using 5/8" nails, use three 1/2" or 9/16" staples. Set the staple gun on heavy pressure and bang, bang, bang, the top bar wedge is in place and the foundation securely fastened. I find it desirable to seat the staple flush with a couple of light taps of a tack hammer. My penchant for smooth, neat surfaces.

Thus I had fastened the sixty sheets of foundation and set each frame right side up in a box, from whence I could retrieve the frames one at a time to embed the two horizontal wires.

I discovered long ago that the spur embedder distorts the cell bases but, like Dr. Morse, I also found bees draw the foundation out into perfect worker cells.

I'll mention that I started hobby beekeeping years ago but gave it up after about three years to pursue a career in broadcast electronics. That was over forty years ago, but I still have and use that same Root embedder. Works fine.

That was also before the advent of electric embedders, which don't turn me on. Their disadvantage is that the frame wire heats up more rapidly at the ends — that space between the inside of the end bar and the outer edge of the foundation. The wax melts at these spots and produces large gaps, before the middle of the wire is hot enough to sink into the wax. When placed in a hive, the bees will further enlarge these holes into a gaping passage way.

Having spent a lifelong career in electronics, I connected a Variac (variable voltage transformer) to set the voltage at lower levels. Same result at a slower pace. I must be doing something wrong.

Incidentally, if you are ecstatic about electric embedders and yours fails, grab a twelve (12) volt battery, or move your operation out near your car and use the car's battery. Twelve volts is twelve volts, although a higher instantaneous current is available from your car battery.

But back to my frames. It was now time for the next mass production stage; embedding the two horizontal wires with my trusty embedder. I'd finished fifteen or twenty frames when my work was interrupted and the rest of the embedding was left for another day and time.

A week passed before I returned to complete the embedding. All this time the frames, finished and unfinished, had been in the house at normal room

Continued on Next Page

Firm... Cont. from Page 157

temperature. I picked up and examined several of the previously finished frames. Horrors! They did indeed have bumps and lumps, just as Dr. Morse was to describe in his forthcoming article. Trying to flatten the irregularities by any and all means is akin to smoothing the ripples in a brook. I was not delighted with what I found, but at this stage what can you do? I proceeded to embed the horizontal wires into the rest of the foundation in the unfinished frames. Those bulges and bumps filled me with consternation.

In the past, I usually managed to finish the frames just in time as I needed them. Perhaps that is why there were no bulges or lumps in the foundation; or perhaps I just hadn't noticed. But 1986 was to be different; I'd get things done ahead of time.

Some weeks later, I was removing the frames from the boxes and setting them into spurs. The first-embedded foundation was still lumpy. But, surprise! The later-embedded foundation was straight, flat and taut. No bulges, bumps, warps or lumps.

It appears that when you use crimp-wired or plain wax foundation, it is advisable to wedge the foundation in position, or secure it in place with wax if you use grooved top bars, then let the frames set for several days, top bar or right side up, in a warm room, before embedding the horizontal wires.

I examined another carton of foundation and found that the edges of the pile are not as thick as the center. The difference appears and seems miniscule, but apparently causes a curving and stretching which distorts the sheets just enough to cause problems.

Subsequent tests have confirmed the original discovery. I've also set frames of wire-embedded foundation, processed as above, into the refrigerator. Several hours in, several hours out, for several cycles. Foundation is still straight, confirming the original discovery.

Additionally, another test was to set some frames near the outlet of a hot air heating system, at a point away from the register but where the heated air, mixing with room air, produces an ambient temperature of 33°C (91°F). Several cycles of this test, from heating to room temperature, resulted in no changes in foundation straightness.

One must also be extremely careful when handling the sheets of foundation, for like crepe paper (remember those paper roses your mother used to make?) or sheet metal, any denting, kinking, bulging or stretching, especially at the edges, can never be ideally reflattened.

A few days, or a week or more, of loose suspension in the frame, the foundation hanging by only the top edge fastened in place, before embedding, lets the wax relax, like water seeking its own level, and relieves, releases, and minimizes the manufacturing, packaging, storage, and shipping stresses and distortion.

Serendipity!§

RESEARCH REVIEW

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

"Pests, Pesticides and a Dance Review"

Two New Braulids from Nepal

Braula coeca is a pinhead-size wingless fly that is commonly found in beehives in parts of Pennsylvania, Maryland and Virginia. It has been found more rarely in about a dozen other states, all east of the Mississippi. The adults live on honey bees and prefer queens. They feed by taking food from the bee's mouthparts. They appear to do no real harm, though it is assumed that when they are present in large numbers they must be some kind of a nuisance.

There are at least five species of braulids in various parts of the world. None has been previously reported from Asia other than in the Near East and the Asian part of Russia.

One of my graduate students, Ben Underwood, has spent several months in Nepal, a country that lies north of India, studying a little known honey bee species, *Apis laboriosa*. This bee is closely related to the "giant honey bee" *Apis dorsata* but is different in that it lives at higher altitudes, is larger and has much more body hair. A colony of these bees builds a single, exposed comb on the side of a cliff. The colonies migrate up and down the steep river valleys in the Himalayas as the seasons change.

One of the curiosities uncovered by Underwood is that this bee can harbor two species of braulids previously unknown. Each of the new braulid species is three to four times as large as any previously known braulid. There are no data on their life cycle, but, as with the other braulids, we presume they do no real harm to the host bee colonies.

One of my pet peeves is that we know so little about honey bees and their relatives. Whereas we brag that there is more written about the honey bee than any other insect, or most other animals, we are always uncovering new information about bees. A question that comes immediately to mind is whether or not these newly discovered braulids could live on our honey bees. There has been talk of introducing European honey bees into Nepal but to the best of my knowledge it has never been done. If it is done we will soon learn how well the braulids there adapt to these bees.

More important is the question of what other pests, predators and diseases of honey bees, now unknown, might exist in little-explored parts of the world. I hope this new information might stimulate those in Asia to look further for potential problems.

Grimaldi, D. and B. A. Underwood. *Megabraula*, a new genus for two new species of Braulidae (Diptera), and a discussion of braulid evolution. Systematic Entomology 11:427-438. 1986.

Sevin XLR Confirmed Less Toxic than Sevin 80S

Tests conducted on flowering rape (the mustard now commonly called canola by many) show that the XLR (extra long residue) formulation of the insecticide Sevin is less toxic to honey bees than Sevin 80S. The 80S formulation was the first one widely marketed and has caused heavy honey bee losses in many instances since the late 1950's. The Sevin XLR formulation has a smaller particle size and contains a sticker that causes the insecticide to adhere more tightly to the plant leaves.

The tests were conducted on small plots covered with "screened picnic tents." Dead bee traps were attached to colonies inside the tents to monitor what was taking place.

The authors conclude, however, that although XLR "may be less hazardous" it should not be sprayed on flowering plants, including canola. At present, no formulation of Sevin is registered for use on flowering canola. The authors are concerned that in an emergency it might be used and that this could cause great difficulty.

Kevan, P. G., G. W. Otis and R. H. Coffin. Is Sevin XLR less hazardous for honey bees than other Sevin formulations? Canadian Beekeeping 12:225-6. 1986.

The Vibration (DVAV) Dance

One of the curiosities one sees in an observation hive is the dance in which a worker grasps or places her front legs on another bee and makes several up-and-down shaking movements with her abdomen. This has been termed the "joy dance" by some and was more accurately called the "dorso-ventral-abdominal-vibration" (DVAV) by the late Professor Milum of Illinois. Milum observed that the vibration dance was done primarily by bees of foraging age and that it might occur at any time.

In the study cited below, it was found that successful foragers "were significantly more likely to perform vibration dances within 10-15 minutes" of entering the hive. The foragers that performed these dances did so repeatedly while moving, about, especially in the brood nest area.

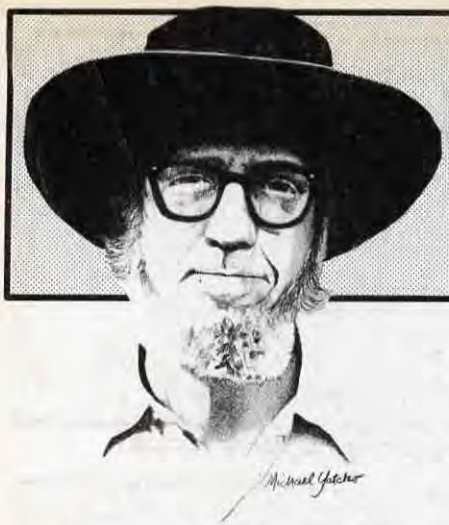
One hypothesis was that bees might be encouraged to perform the vibrating dance merely by their flying or walking. To test this, bees were allowed to fly within large flight cages. It was observed that vibration dances increased when the bees collected food within the cage. However, it was also observed that the vibration dances were performed by some bees that had not foraged. It is thought that such bees were

Continued on Next Page

Research... Cont. from Page 159

encouraged to undertake this activity by the dancing foragers. The author concludes that "successful foragers may therefore aid in maintaining a state of foraging 'readiness' within a colony". The vibration dances, of course, are in addition to the round and wag-tail dances performed by foraging bees that indicate the distance, direction and profitability of food sources in the field.§

Schneider, S. S. The vibration dance activity of successful foragers of the honey bee, *Apis mellifera*. Journal of the Kansas Entomological Society 59:699-705.1986.



BEE TALK

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

". . . acres and acres of snow white buckwheat. This *time it will be different, I thought."*

I am snowbound on this bitter cold day, but with several days of provisions on hand I'm not going to worry. My thoughts go out to my bees, tightly clustered and surviving, but I don't worry about them, either. I haven't lost any to winter for the past three years, and I don't think I'll lose any this winter. There's a lot I don't know about bees, but I do seem to know how to get them through the winter. I was thinking, too, as March approaches with its warmer days, that this begins my 18th year of doing these *Bee Talks*. That means, if my calculator is working today, that I've written 204 of them. And that, somehow, reminds me of what an elderly gentleman, long married to the same woman, said of his wedding day. He said that what had worried him most was that he and his new wife would run out of things to talk about after two or three days. I seem not quite out of things to talk about when it comes to bees, but each month I feel as though I am close to it.

Well, I would like to say something this time about my quest for riches last summer. I was going to make lots of money getting some buckwheat honey. I couldn't miss, I thought. Twice before, in years now long gone by, I had tried to get rich getting buckwheat honey and had not gotten a drop. But I knew what was wrong. I had waited until the buckwheat fields were blooming and then moved my bees into them. It must be that this confused the bees so much that, by the time they got themselves straightened around, the bloom was fading. This time was going to be different. A friend stopped by to say he was about to plant thirty-some acres of buckwheat, and wouldn't I like to put some hives up there. Sure.

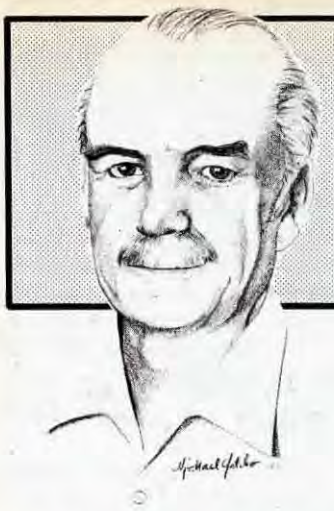
So as soon as I saw the buckwheat was up, but long before it would bloom, I moved five hives to a spot right across the road. And these were strong hives. They were so full of bees that when I went out in the evening to screen up the entrances I couldn't, because bees were plastered two or three inches deep all over the fronts of the hives, from the cover to the bottom board. So I screened over the tops, then waited for a cool morning to screen the entrances, thinking the bees would all be inside.

But no, they were still plastered all over the fronts, even in the morning as the sun was just beginning to come up. So I smoked them a bit, and that worked. I got practically all of them to go in, then single-handedly I moved those heavy hives onto my little truck and drove them up to the buckwheat. Then I watched, as I drove by from time to time, for the bloom to come out. And it did, acres and acres of snow-white buckwheat bloom and the bees were starting to work it. Then I took a few days to go down to Delaware for the meetings of the Eastern Apicultural Society, thinking how my supers were filling with buckwheat honey with every passing hour. I had ten supers on those five hives. That would be three hundred and twenty round sections of pure buckwheat honey right there, and who knows, maybe they would need more supers before the bloom let up. And I would get at least a dollar seventy-five, maybe two dollars each. And that would work out to . . . well, my head was reeling with the sudden wealth as I drove back from Delaware, eager to pry the covers off those hives and have a look. I was even ready with more supers if needed.

I have learned that there is one very sound rule about beekeeping, but it is a rule I am constantly forgetting, and that is, you never know what is going to happen when it comes to getting honey. With great excitement and anticipation I peered into those supers. *Not a drop of honey in them!* The bees had begun to draw the foundation in one super and there was a little honey in the center sections, but that was all. And the field had been blooming for about ten days I thought, and was about to dry up.

What went wrong? I don't think I'll ever know. I finally got about thirty marketable sections from those ten supers, but some of the supers were never worked at all. The hives were still strong. Maybe, I thought, it was the wrong variety of buckwheat. I'm told that some buckwheat varieties don't make much nectar. But then I discovered that there were two other big fields of buckwheat within a half mile, belonging to other farmers, and it didn't seem likely that they would all be the wrong variety. Then a few weeks later I learned that one of my

Continued on Page 169



THE BEE SPECIALIST

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

"... learn to trap and freeze some pollen every year from your own disease-free bees."

Thoughts on Feeding Bees

March is a good "average" month to talk about feeding bees: too late in some areas, too early in others. If you put your bees into winter heavy and healthy, and don't plan to look at them until late spring, then maybe feeding is not for you. For most beekeepers, feeding bees in the late winter/spring is a way of life and a way to avoid serious losses. In many cases, the object of feeding is simply to keep colonies alive with a source of carbohydrates, some form of sugar or honey. In other cases, the object is to increase colony populations so that they are ready for package bee and queen operations, for making new colonies by dividing established ones, and for pollination and honey production. Feeding for these latter purposes may require only sugar syrup if plenty of natural pollen is available from outside or within the colony. In the absence of sufficient pollen, feeding sugar usually will not stimulate the production of brood sufficiently to greatly increase the size of the colonies. Under that condition, the bees need to be given an additional protein material that is attractive to them and a good source of nutrition for rearing brood.

Rather than go into all the details about what and how to feed bees, I'd like to consider some points that might make it easier for you to provide food in a somewhat different or easier way, and to test their effects on your bees.

Substitutes and Supplements

There are many good articles about using pollen substitutes and pollen supplements to put protein into your colonies. *Substitutes,* of course, are mixtures to *take the place of* pollen. *Supplements* are mixtures *containing pollen* and other protein sources that allow you to extend a modest amount of pollen to more colonies than otherwise. For the person with few colonies and a yen to try protein feeding, articles about it are "forbidding" because they present a fixed formula, with weights for everything including the water, that seems to be the only route to success. Usually, few if any details are given on ways to adjust the process and its output. There are also taboos such as *not* using soy flour, milk products, and other materials that apparently have been unsuccessful in past studies. However, *always* take the advice NOT to use purchased honey and pollen or any such foods that may contain the organisms of bee diseases.

You will have the best results with feeding a pollen ***supplement*** to your colonies, so rule out doing without pollen, and learn to trap and freeze some pollen every year from your own disease-free bees. You don't need a lot of pollen to do the job of enticing the bees to eat your concoctions. A quart of pellets will make a good-sized batch of supplement for 10 or more colonies. Dr. Floyd Moeller said that one pound of pollen was sufficient for 15 pounds of pollen "cake". Along with your pollen, you need the extender, and the easiest one to get is soy flour, which is readily available from beekeeping supply companies. For a few colonies, start with 10 pounds if you can get a small amount. Otherwise, buy a bag and share it, or store the excess in a cool, dry place for future use. The only other essential ingredient is a heavy sugar syrup, two parts of sugar to one part water. Make a quart or two for your test run. If you have extra, just give it to one of your colonies.

To prepare the pollen, add enough water to wet it well, stir it thoroughly, and let it stand for a few hours. A pint or quart of pollen is plenty to do a small batch. The object of the wetting is to break up the pellets; they do not disperse well in sugar syrup and mix better with the flour after being wetted. ***The water and pollen mixture will ferment quickly — don't leave it too long before use.***

When you are ready to make the pollen cake, or supplement, pour enough soy flour into a large dishpan to make a layer several inches deep. Dump the pollen into the center of the flour and begin to mix it by hand with the flour, keeping it in one lump. Add small quantities of sugar syrup, keeping it also in the center and mixing it with the pollen-flour ball. With practice, you can build a ball of pollen cake in the center of the pan without involving all of the flour. The excess flour can be used later, and you can control the exact quantity of pollen cake to make. One feeding for a colony weighs about half a pound and makes a ball about three inches in diameter. I usually weigh one on the kitchen scales to get an idea of the size needed. The final product should have the consistency of a soft, damp bread dough.

When the cake is ready, I divide it into 1/2-pound balls and cut two squares of waxed paper for each one. I mash the ball down by hand on one sheet of waxed paper and place a second sheet over it. Then I roll it out flat with a quart jar to a 1/4 to 3/8

Continued on Page 164

Jaycox... Cont. from Page 162
inch thickness. It is ready to feed or to store in the refrigerator until needed. When putting it into a colony, I take off one sheet of paper and put that side of the patty on the frame tops *directly* over the greatest area of brood. One feeding lasts for three days to a week, depending on colony size. For very small colonies and nucs, I cut the patty in half.

We know that soy flour is not the ideal protein supplement for bees, but by using it with some pollen we probably help them rather than hurt them. There are many compounds that are toxic to bees, including lactose (milk sugar), and other complex sugars. Even old honey can cause dysentery, as can heated honey and syrups inverted by acids. There are toxic carbohydrates in pollens as well that are potentially damaging to bees. In all cases, the name of the game is *dilution*. Dr. Roy J. Barker stated it best in discussing the selection of sugars for feeding bees: *"toxic"* simply means too much. *It is the quantity, not the substance, that causes the problem.* When we feed small quantities of a material that is not ideal for bees, no harm is done if it becomes a part of the large mixture of foods within and coming into the colony. There is a difference, however, if the colony is confined by weather or in a cage and forced to rely, to an unnatural degree, on food not completely suitable for its use.

Straight Pollen

There are other ways to feed pollen to colonies that I have used many times. One is to make a pollen slurry with a little water and add the mix to sugar syrup. This gives a strong boost to the colony, and is especially useful for queen-and and drone-rearing colonies. One-fourth to one-half cup of pollen per gallon is enough to gain an effect. The mixture ferments quickly, so it must be taken quickly by the colony or exchanged every day or so for a new batch.

With a source of fresh pollen, you can fill empty combs and the bees will tamp it into place. Pour fresh pellets into just one side of the comb. Vibrate or hit the frame with a hive tool to compact the pollen in the cells. Put the comb into a strong colony overnight. The next day you can fill the other side of the same comb. Such filled combs can be used to provide extra pollen to any colony that needs it. I find them most useful for caged colonies and for those rearing queens.

Dried pollen pellets can be used in a similar manner but they give the best results if you first spray the comb with sugar syrup before adding the pellets. After shaking them down, spray a little more syrup on top. I have fed caged colonies all winter in this way by putting the pollen in a band above the brood. S. E. McGregor reported poor luck with this method and said it was better to offer ground pollen outside the hive. Bees do get stimulated by collecting food for themselves, but they have always accepted the pollen I put into their combs and have given me brood to work with all winter indoors.

Pollen is eaten almost entirely by adult bees. It is not fed directly to the larvae except incidentally in small quantities. Dr. J. Simpson demonstrated this convincingly when he studied the quantity of undigested pollen shells in the guts of worker larvae. Larvae received less than one-tenth of their nitrogen requirement from pollen and many received none at all, yet were perfectly normal. Pollen is consumed by the adult bees from emergence until they are about 8 to 10 days old. They also eat some as foragers when it is included in the nectar they are collecting from the flowers.

Pollen contains compounds that are strong feeding stimulants. Extracts of pollen can induce bees to eat even non-nutritious cellulose. For this reason, you should always include pollen in any protein supplement for bees, whether fed wet or dry. Keep in mind that pollen feeding can produce swarming and other management problems if not timed well in relation to your need or desire for strong colonies.

An odd problem occurred in an Australian study in which supplements were fed all season. Wax moth larvae colonized the containers of pollen cake, especially those placed on the floor of the hive. This is not something you need to worry about. But if you trap pollen for the first time, you may find that wax moth larvae can be a problem in the traps. We have found them living beneath a chewed hole in the muslin trays on our OAC traps. They eat the pollen in a circle around their refuge.

Sugar

Feeding sugar to honey bees is far more widely practiced among amateur beekeepers than feeding pollen. It is somewhat easier to do, and is often essential to keep colonies alive. The usual emphasis, however, is to find the simplest way to give the sugar to the bees without regard for the overall value to the colony other than just keeping it alive. You should consider, instead, whether the food given can be stored readily for later use and how much energy and effort is required to use the food. *On these bases, giving dry, granulated sugar and "sugar boards" or some other form of sugar fondant or candy is an* ***emergency*** *method of feeding only, not one to prepare colonies for productive effort.* Also, it is *not* suitable for small colonies. I have seen nucleus colonies that refused or were unable to use granulated sugar.

With all such dry foods, the bees must liquefy the sugar in order to collect it. This requires water, collected within or outside the hive. Any liquids from the bees' bodies used to dissolve the sugar must be replaced. The bees liquefy the sugar to about a 31 percent solution, and must then reconcentrate it to store it safely in the comb. Since little is stored, the dry food consigns the bees to a hand-to-mouth existence which is not conducive to their development for a nectar flow or any other major effort. Overall, it is best to feed sugar in a solution, preferably of 60 to 65% sugar.

Feeding sugar carries with it the problem of robbing because it stimulates bees to search for other food in the vicinity. When you feed sugar syrup, do so late in the day and restrict the entrances on all hives in the apiary. Sometimes it is safer and easier to feed only the strong colonies and to give them an excess. Then you can use the resulting stores to feed the weaker colonies with good results and with far less chance of having them robbed out. We resorted to this system in the Yemen Arab Republic when we found that feeding within the hive caused robbing even when we fed by flashlight after dark. Fortunately, the Yemeni bees seemed not to fight, and we didn't lose any colonies. We switched to feeding in the open, the traditional way for Yemen, and transferred filled combs to the weaker colonies.

Bees being fed high-fructose corn syrup rob less than those given sucrose syrup or diluted honey.

Continued on Next Page

Jaycox... Cont. from Page 164

Transferring combs of honey is always the simplest way of giving carbohydrate food to needy colonies.

When giving beekeeping advice as in this column, I should probably include a disclaimer that what works for me may not always work for you under different conditions and control. But I try to give you advice on methods that have been successful. One evening in Yemen, I wished I had an Arabic-language disclaimer! Dr. Jan Karpowicz and I were spending the night in a guest house at the British farm near Dhamar. A husky Yemeni beekeeper appeared carrying a Kenya top bar hive on his shoulder. He was visibly upset because the colony had died after Jan had advised him on what to do for it on an earlier visit. We could not explain the problem to him in Arabic and had only a young boy trying to translate for us. When the beekeeper finally left, he was still very angry with us. I don't frighten easily, but that situation made me mighty nervous. Later, after dark, I wished there were drapes on the guest house windows.

To gain the most advantage from beekeeping advice, ***always*** do a modest test of any new ideas offered before making major changes in your management.§

Honey Bee Temper

By STEVE TABER of Honey Bee Genetics
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Vacaville, CA 95688

"Why are bees gentle one day and vicious the next?"

As all of you know, bees are temperamental females; they can be sweet and charming one day and actually quite vicious the next. Why? Well, there are ups or downs in temperature, the presence or absence of a honey flow, cold rain falling or nice warm sunshine. My suggestion is that when you want to work your bees (or when you have to), do it at the time when the bees will object least to your presence. This is usually from about 11 a.m. to 3 p.m., when the bees are flying and the sun is shining.

As of this writing, it's the first part of January, and my bees are here in Northern California where the temperature rarely gets much above 50°F. during December, January and February. It also doesn't get below freezing very often, either. I have been into several of my colonies every four to five days for over a month now, feeding them pollen to force brood rearing so I can begin a very early queen-rearing program. Actually, I now have drones, and I will make my first graft for the first queens of the new year on January 5th.

I feed the bees lots of pollen because they are eating lots of pollen to produce their winter brood. Actually, right now, they are consuming about a half pound of pollen pellets a day, mixed with an equal weight of dry table sugar, moistened with just enough water to make the pollen stick together. On December 1, the bees had negligible brood; today, (January 4) the colonies with the better queens have from eight to ten frames of brood. I have about half of these colonies (total of ten) headed by old queens, because they usually produce the most drones.

What does all this have to do with the temper of bees or their defensive behavior mechanisms? Well, just be patient and see.

I have a number of other colonies in several different locations that are not being fed pollen; and, at this time of the year, I also tend to them, mostly to determine if they have enough food. But, every now and then I will go into the brood nest to see if there is a queen and if she is laying eggs. Now, remember, the temperature is about 45°F and it's cloudy, foggy or rainy, or all three. At this time of year, we are lucky to have two, nice sunny days a month. The bees are definitely *not* very nice when they are disturbed under these conditions. They sting first and ask questions afterward!

So, I go back home where I have the ten colonies being fed pollen and tend to them, which means feeding each from one to three pollen cakes between the brood boxes. These bees are *nice*. Even when it is raining, they are nice. These ten colonies have been intensively rearing brood for over a month now, and have developed populations much larger than those colonies not fed pollen. The temperature was the same, as was the fog, rain or clouds, but the bees were nice. Ten colonies were worked, two I counted frames of brood, all I supplied with fresh pollen cake to replace what had been consumed, and how many stings? One! How many stings had I received from sister colonies not being fed pollen? Too numerous to mention.

Years ago, when I was employed by the USDA to do research on bees in Baton Rouge, I had concocted an hypothesis as to the cause of bees swarming. It was simply an over abundance of food, both sugar and pollen, and a confining area or space (two brood boxes). The bees normally swarmed during late March, April and May; so, I set my experiment during a period of equivalent warmth but during a time when no reproductive swarms ever occurred, during late August and September.

I set up ten colonies for this experiment and proceeded to feed them tremendous quantities of pollen. Several actually built queen cells but none swarmed — but, something else. I noticed that those ten colonies were extremely gentle to work with, while the rest of the bees in the same apiary were *almost* contrary. In fact, from 1950 to 1965, when I was working at the Baton Rouge Bee Lab, bees were usually cross and unpleasant to work during September and October. Now all of a sudden, I had ten very nice, gentle colonies, when all others were not.

At this point, I called two of my colleagues, Drs. O. Mackensen and W. C. Roberts, to please join me in the bee yard to observe jointly this behavior of the bees. These two bee scientists were working bees every day and were well aware of their increased defensive attitude. I opened the colonies without smoke or bee veil and removed brood combs for their inspection. The bees were treated rather roughly by myself, but no one was approached by an alarmed bee. At the conclusion, and after I explained to Roberts that I was running a swarming experiment which hadn't worked, he told me that the change in temper of the bees was much more important than anything else, anyway.

I had pretty much forgotten about all that so many years ago, when all of a sudden the same thing has happened again under very different circumstances. It comes down to that when I feed the bees lots of pollen, (all they can eat), their defensive behavior changes to the better. Why is that? Is it because the bees are well fed; and, like well-fed humans, we don't want to fight? Or is it that when the bees are rearing many other bees, that rearing and nurturing makes

Continued on Next Page

Taber... Cont. from Page 167

them more gentle? How many more questions can be answered?

Now then, think back with your own bees as you work them through the season. Remember working them during nice sunny days when the bees are flying between the hours of 11 a.m. and 3 p.m.. During the late spring and early summer, when the bees are collecting large quantities of pollen, aren't they more gentle than at any other time of the year? You have thought for years that when you removed their surplus honey at the end of the season (stolen or robbed), that the bees were only defending what they had worked so hard to collect. So now I have given you a new thought — perhaps if you had been feeding them pollen *before* you started removing honey, they would not have objected so much. On the other hand, isn't it an interesting thought that some of the differences in temper that bees show during the season might be controlled by the food they eat?§

Answers to Testing Your Beekeeping Knowledge

1. True The honey bee has two types of mouthparts: mandibles or jaws and the proboscis, an organ for feeding on liquids. The worker's mandibles are used to support the proboscis when it is functional. When the mandibles are in use for eating pollen, working wax during comb building and in cleaning the hive, the proboscis is folded beneath the head.

2. False The sucking apparatus of the bee is a large, muscle-walled sac lying in the head known as the *cibarium.* The parts of the proboscis fit together tightly to form a seal and the tongue works like a piston in a pump. The tongue begins a rapid back-and-forth movement and apparently draws liquids into the proboscis. The cibarial pump then draws the liquid from the proboscis into the mouth opening.

3. False Honey bees have a 5-chambered heart that is found in the *dorsal part of the abdomen.* Each chamber of the heart possesses a pair of slits (ostia) which permit blood to enter the chambers. The lips of the ostia project forward into the chamber ahead and act as valves to prevent the blood from flowing backward. The aorta is a tubular continuation of the heart and is found in the thorax. The blood is pumped anteriorly from one chamber to another by the rhythmic contractions of the heart. It passes through the aorta and pours out into the head near the brain.

4. False The thorax of insects is generally composed of three segments, but in the honey bee, the first segment of the abdomen has become part of the thorax and this fourth segment is called the *propodeum.*

5. True The proventriculus is a regulatory organ that controls the entrance of food into the true stomach (ventriculus). Through its action, nectar or honey can be *retained* in the honey stomach while pollen is taken out and delivered to the stomach.

6. False Inside the stomach is a very thin, non-cellular membrane called the *peritrophic membrane.* This membrane forms a delicate cylindrical covering around the food mass and prevents abrasion of the stomach wall. The membrane is continually being produced and cast off. It is completely pervious to water and digestive enzymes.

7. True Air is drawn in and forced out of the tracheal system by dorso-ventral and lengthwise *contractions and expansions* of the abdomen. These movements are produced by opposing sets of abdominal muscles.

8. True The dorsal and ventral diaphragms are responsible for setting up circulation inside the abdomen and for drawing blood from the thorax into the abdomen. These diaphragms are sheets of very thin, transparent membranes which divide the abdomen into *three body cavities or sinuses.*

9. False The mandible of the worker is broad at each end but narrowed in the middle. These spoon shaped organs are concave and ridged on the inner side. The top of the mandible has a pronounced channel on its inner surface: orifice and channel of the mandibular gland. The mandibles of the queen are *larger* than those of the worker, and are toothed. Drone mandibles are *smaller* than those of the worker and are also toothed.

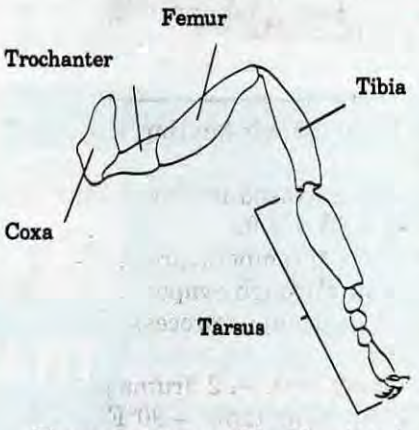
10. D) Malpighian tubules.

11. A) 100 malpighian tubules

12. E) Tracheoles

13. C) Queen; A) Worker; B) Drone

14. See the diagram that follows:



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

Bee Talk... Cont. from Page 161

best friends, a first-rate beekeeper who has an apiary within a quarter of a mile of where my five hives were, had been deluged with buckwheat honey! He had supers and supers of it, all chock full of buckwheat, so much that he didn't know how he was going to sell it all!

I don't think I'll ever figure that one out. The world is filled with mysteries. In the long run, everything adds up and makes sense, but the particulars seem baffling and mysterious. And the mystery this time was compounded by one final discovery. I found, after getting back from Delaware, that a huge field of buckwheat was blooming right next to one of my other apiaries, one that had not been moved but had been there for years. And not a single drop of buckwheat honey appeared in any of those hives either. Must have been the wrong variety of buckwheat in that field. There has got to be some explanation, or at least, that is what I used to think.

Maybe now I'll just have to accommodate my thinking to one more mystery, and console myself that the world is sometimes wonderfully unpredictable.§

Comments and questions are welcomed. Please use Trumansburg address above and enclose stamped envelope for prompt response.

Management of Honey Bee Colonies on Pollen Traps

By S. R. CHAMBERS

"Management of honey bee colonies on pollen traps may be vastly different than colonies worked for honey alone."

It is true that normal working of bees over a pollen trap will result in a fall off surplus honey storage. This appears on first sight to be inevitable as a result of the restrictive movement of the bees into the interior of the hive. Surplus honey storage improves as bees accustom themselves to the restrictive entry routine. However, when one thinks of the numerous nest colonies serviced by limited entry and witnesses the excessive storage of honey within the nest interior there appears reason to speculate that honey bees must adapt to limited entry situations.

Observations have indicated a thousand per cent increase in pollen foragers where bees are on traps as against normal activity of bees on free flight. These figures were indicated on observations made during times of heavy pollen flow but may vary over changing conditions.

Orientation and acceptance of restricted entry has on some occasions appeared to take up to four days. Honey bees do not always adapt immediately to a change in hive entry pathway.

Work with pollen traps has shown that contrary to the usual pattern of storage within a *man-made* hive, the bees tend to deposit pollen throughout all brood combs, and in fact, all combs contained within the brood chamber area. The queen is encouraged to lay over the full brood chamber and rapidly moves from comb to comb. It would appear that a stage is reached where because brood is represented in all combs, the queen slows down in laying. The bees could interpret this hesitation in laying as queen failure, and if incoming pollen is of good quality and quantity and is combined with conditions of trickle nectar intake then there may be an attempt to supersede the queen.

The off-time heard suggestion that a pollen trap deprives the colony of sufficient pollen has been proven to be a myth. Pollen foraging bees adapt to the situation and while good flows of pollen are available will continue to get adequate quantities through the trapping plate. It appears that some bees will collect smaller loads and manipulate these through the trapping aperture. The significance is that pollen storage is made over all brood chamber combs.

To offset the situation of apparent queen failure it has been found necessary to manipulate the brood chamber more frequently.

If outside combs are heavily loaded with pollen stores then these can be replaced with fully drawn *empty* comb. Should the brood combs extend to cover the brood chamber completely, then a sealed brood comb can be replaced with a fully drawn empty comb. Under intensely active conditions it may be necessary to replace two brood combs. The period of frequency with regard to these manipulations may range from every ten days on very heavy pollen flows to three weeks to a month under constant and medium intake of pollen.

The comb manipulation has the effect of stimulating the queen to lay and activating the colony into further pollen foraging. Colonies manipulated in this way have been maintained on traps over the full four seasons. The bees have managed to maintain themselves even over periods of an intervening dearth of pollen and nectar. In all situations, drinking water has been provided ON SITE.

Keep them Clean . . .

Separate to hive manipulations is the need to hygienically service traps at the time of pollen harvest. After removal of the harvest, pollen traps should be brushed clean and waste material removed from below the tray. Excessive build up of spent pollen dust and other wastes could become a source for future contamination of the new collection to follow.

Occasionally there might be a build-up of drones on the waste side of the trapping plate. This build up can be viewed by looking through the baffle beeways at the time of removing a brood comb and should be included as part of the routine when replacing combs in the brood chamber. If the build up behind the paste is thought to be excessive, then it will be necessary to remove the supers and brood chamber to clear the area beneath the baffle. With free flight adjustment fitted, it may only be necessary to raise the outside lever to free flight and let the bees do the cleaning. In some situations it may be desirable to alternate trapping and free flight on a weekly basis. With the bees accustomed to the restricted pathway, immediate adjustment back to trapping will result in quick

Continued on Next Page

Pollen... Cont. from Page 170

collection of pollen.

Even in times of 50% reduction in honey surplus, the quantitative gain of both honey ***and*** pollen is in momentary value ***greater*** than that for the full surplus of honey alone.§

Non-Traditional Advertising: BE CREATIVE!

By RICHARD THOMAS EDWARDS
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What is non-traditional advertising? Essentially, it is the unusual or different techniques you can use to sell more of your honey without spending an arm and a leg to do it.

• ADVERTISING

Let's talk about both traditional and non-traditional advertising, and see some of the possibilities locally, regionally and nationally.

First of all, the primary reason why you want to give these a try is because either you have a surplus of honey, or you aren't happy with your current sales performance.

Okay, with those thoughts in mind, let's talk about *traditional* advertising.

Traditional Advertising is done through local newspapers, magazines and radio spots. Few beekeepers have the kind of money and the type of production that will support the expenditures of television advertisements. A co-op might, but it is doubtful that the type of consumer wanting to buy honey in great amounts is going to be thinking about it when those sweet TV commercials take up so much of the air wave advertising schedule.

Right idea, wrong consumer relationship.

Radio spots aren't the highest response to advertising medium you can choose either. Unless the audience is country-oriented or health conscious, it is doubtful that the Michael Jackson following is going to take up honey consumption.

Again, you have to watch audience appeal.

The magazine ad must also be geared for the health food type consumer. You may have a local or regional magazine worth considering. Again, cost-over-effectiveness should be considered before launching a magazine advertisement.

Your local newspaper is attractive, if the ad is timed for peak demand cycles and placed in the health or cooking section. This ties in the health related consumer audience with your local advertisement.

Now, let's take a look at some of the **non-traditional** methods of advertising.

Taking out a classified advertisement in your local newspaper or magazine is one way to reduce the cost of traditional advertising. Placing it near those garage sale classifieds will gain family moms' attention.

In the case of the magazine, try placing it with health items or products sold. This will help to key in those health consumers and show a productive response.

You may want to see if there are any lifestyle or co-op publications in your area. These small press type publications support consumers with a health related attitude. Further, these people read magazines that warn them about the use of table sugar or other sweeteners. Since they are conscious of the side effects, they will be looking for alternatives. Your honey provides them with that alternative.

Are there any others? You better believe it!

An 8 by 19 size piece of paper turned sideways does nicely as an announcement flier. You can either have them printed or hand craft them yourself. Make it like a yellow pages ad, telling what products you offer and the type of honey you sell. *Include your phone number and hours of operation.*

You want both a high traffic area and a health conscious target. So, take these to your local grocery stores, find the manager and receive approval to place the flier on his window, door or on a bulletin board.

You want to go to all the local health spas, gyms, and health food stores and do the same thing.

Despite many of the health food stores having their own line of honey, chances are that the owner will allow you to advertise *your local* honey.

And, stress the concept that your honey is locally produced and the positive relationship of that natural source is to their image, it will all sink in — at least, hopefully so.

If that health food store owner has any business brains at all they are going to know that, pardon the pun, the relationship between their "national brand" type health foods and a "locally operated" honey producer is a healthy one.

Anything else? Bumper stickers!!! LOCAL HONEY IS A REAL SWEET TREAT type bumper stickers. Placed on your car and on others in the community, the message will get read and will have the phone ringing.

When you combine all of these, you have a non-traditional advertising approach which will sell your honey!§

CAUCASIAN, MIDNITE or STARLINE QUEENS
NORTH AMERICAN PRICES

PACKAGE BEES

QUEEN PRICES	CAUCASIAN QUEENS	MIDNITE QUEENS	STARLINE QUEENS	DOUBLE HYBRID QUEENS
1-10	$7.40	$8.00	$8.00	$8.00
11-39	$6.85	$7.45	$7.45	$7.45
40-99	$6.40	$7.00	$7.00	$7.00
100-up	$6.00	$6.60	$6.60	$6.60

For clipping and/or marking, add 50¢ per queen. All queens are shipped priority mail. We can usually ship queens from about March thru October. Prompt shipment on all summer and fall queen orders. Prices subject to change without notice.

PACKAGE BEES	WITH CAUCASIAN QUEENS		WITH MIDNITE - STARLINE OR DOUBLE HYBRID QUEENS	
	2 lb.	3 lb.	2 lb.	3 lb.
1-10	$23.45	$29.45	$24.00	$30.00
11-39	$22.25	$28.25	$22.85	$28.85
40-99	$21.00	$27.00	$21.60	$27.60
100-up	$19.85	$25.85	$20.45	$26.45

We do not guarantee live arrival of package bees. In case of loss or damage enroute it is the buyer's responsibility to file the claim at his post office and collect the insurance. If you buy as many as a pickup load it will pay you to haul your own. Prices subject to change without notice.

HOWARD WEAVER & SONS

Rt. 1, Box 24 • Navasota, Texas 77868-9701
Telephone (409) 825-7714 • Toll Free outside Texas 1-800-247-5520 or Telex No. 263129

ELECTRONIC EXTRACTOR

30/63 (30 deep, 63 shallow) and 70 frames.

Series 6000
HEAVY DUTY
• All Welded
16 gauge S.S.
• Center Drain
• Fully Automatic Speed Advance and Shut-Off

On Legs
— Off the Floor —
Sanitary
• Two sizes

Write for more details and reasonable prices.

MAXANT INDUSTRIES

P.O. Box 454 • Ayer, Mass. 01432

SWEET CLOVER SEED

65% white and 35% yellow. This is the best honey plant wherever there is enough moisture, producing the finest light colored honey. GROWS FROM FLORIDA INTO CANADA. SEED MUST BE INOCULATED.

Cat. No. 66 — 10# Mixed Sweet Clover Seed, Ship Wt. 12 lbs. — $10.00
Cat. No. 66 — 50# Mixed Sweet Clover Seed, Ship Wt. 52 lbs. — $45.00
Cat. No. 56 — 6oz. Pkg. Inoculate for Clover Seed, Ship Wt. 8 oz. — $1.80

HUBAM SWEET CLOVER SEED

Plant in February or later as above. Blooms in late summer until frost the first year and will not crowd out the white sweet clover. Seed is scarce.

Cat. No. 75 — 5# Hubam Clover, Ship Wt. 7 lbs. — $9.25
10# Hubam Clover, Ship Wt. 12 lbs. — $17.50
(Use same inoculate as listed with sweet clover)
(One pkg. sufficient for 50# seed)

WALTER T. KELLEY CO.

CLARKSON, KY. 42726

Write for 1987 Catalog.

Games Gallery Answers

(Answers from page 154)

1. Ants
2. Bees (both honey and bumble)
3. Hornets
4. Wasps
5. Yellow Jackets
6. Termites
7. Wasp
8. Termites
9. Bees
10. Ants
11. Termites
12. Yellow Jackets
13. Ants
14. Termites
15. Bees

THREE BANDED ITALIAN PACKAGE BEES & QUEENS

BOOKING ORDERS FOR 1987

My queens are large queens that produce large colonies fast, and produce very large amounts of honey.

Queens Only	2# w/Queen	3# w/Queen
1-4 ..... $6.00	$20.50	$25.50
5-24 ..... $5.75	$20.25	$25.00
25-49 ..... $5.50	$19.25	$24.25
50-up $5.25	$18.75	$23.75

This price includes postage and insurance. Prices start April 1, 1987. Mite free and health certificates furnished with all shipments in USA and Canada. Fumidil-B fed to all package colonies and queen nuclei.

Write or call for price on packages picked up at our Apiary and delivered.

GREGG & SONS HONEY BEE FARM

Rt. 2, BOX 92 • MILLRY, AL 36558 • (205) 846-2366

NEW PACKAGING For 1987

Beltsville Bee Diet®

A high protein food for honeybees

- The Beltsville Bee Diet™ is a complete brood rearing diet researched and developed by the USDA in Beltsville, Maryland.
- The Beltsville Bee Diet™ moves the Growth curve of brood Buildup back six (6) to seven (7) weeks prior to pollen flow.
- The new package offers a more economical 12 oz. package for each hive. Its height, 1/2 inch, fits under all hive caps.
- Each case now contains 12 ready to use packs and is priced as follows:

Cases	12 oz. unit price	price/case
1-5	$1.76	$21.15
6-11	1.66	19.89
12-22	1.59	19.05
24-49	1.40	16.80
	BULK (50) lb. PAILS	
1-10	$1.38	$69.00
12-23	1.25	64.00
24-50	1.00	50.00

Freight collect, F.O.B. Frenchtown, NJ. Allow three (3) weeks to process order.
Specify UPS, Parcel Post, Truck, etc. Enclose check or money order.

Send orders directly to:
Bio-Serv inc. • P.O. Box 450 • Frenchtown, NJ 08825
call (201) 996-2155 or your local A. I. Root Dealer

Date _____ **Phone** _____
Name _____
Street _____
City _____ **State** _____ **Zip** _____

UPS____ **PARCEL POST** ____ **OTHER** _____
Enclose Check or Money Order

FAMOUS WEAVER QUEENS

QUALITY • INTEGRITY • SERVICE

This is our 62nd year of producing Queens at Navasota, Texas. Try our gentle, highly productive bees bred for both hobbyist and commercial honey producers.

	QUEENS		PACKAGE BEES			
QUANTITY	ALL-AMERICAN (ITALIAN)	BUCKFAST	WITH ALL-AMERICAN QUEENS (ITALIAN)		WITH BUCKFAST QUEENS	
			2 LB.	3 LB.	2 LB.	3 LB.
1 - 4	$7.60	$8.30	$23.40	$29.40	$24.10	$30.10
5 - 31	7.00	7.70	22.40	28.40	23.10	29.10
32 - 99	6.40	7.10	20.00	26.00	20.70	26.70
100 - 999	6.00	6.70	19.50	25.50	20.20	26.20
1000 & up	5.90	6.60	*Call or Write for Truckload Prices*			

A HEALTH CERTIFICATE IS INCLUDED WITH EACH SHIPMENT. THE HONEY BEE TRACHEAL MITE (ACARINE DISEASE) HAS NOT BEEN FOUND IN OUR AREA.

PACKAGE BEES in quantities of less than 32 are priced and sold only with Clipped & Marked Queens. For larger quantities of Packages and for Queens, specify how you want them and add 50¢ for Clipping, 50¢ for Marking, or $1.00 for both.

QUEENS are postpaid, and PACKAGE BEES are F.O.B. Navasota, Texas. PACKAGE BEES are shipped from the last week in March until mid-May by insured, special handling, parcel post. We will figure the shipping charge and include it on our invoice. If package bees are dead on arrival you must send us a statement from your Post Office and we will make one re-shipment at no cost to you.

WEAVER APIARIES, INC.

Rt. 1 Box. 256 Navasota, Texas 77868 Ph: 409-825-2312

Established 1888

Marketing Products

America's dairy farmers have launched a new promotion program designed to reach more than 12 million consumers eligible us use military commissaries worldwide. In November, the Joint Services Commissary Board responded favorably to a National Dairy Board offer to initiate dairy promotions in military commissaries throughout the U.S. Representatives of the NDB Advisory Committee for Export and Military Sales are discussing the possibilities with commissary officials on a regional basis. Point of sale dairy promotion may appear in Air Force, Army, Navy and Marine Corps commissaries in the contiguous 48 states as early as the spring of 1987. A test program was initiated during the fall by the National Dairy Board, in conjunction with state/regional promotion groups. For this effort, point of sale cheese promotion materials were installed in four Army commissaries: Fort Meade, MD; Fort Belvoir, VA; Fort Lee, VA; and Fort Knox, KY. The U. S. military market is equivalent to the nation's sixth largest retailer, with annual sales of more than $6 billion.

—National Dairy Board News

Why not honey?

Tip of the Month

In recipes calling for oil, such as salad dressings and sauces, measure the oil first, then measure the honey in the same cup. The honey magically slides right out. However, there will be times when you cannot do this and your spoons, measuring cups and honey jars will not yield the measured amount because the honey clings to the surface. The remedy is simple. Have several sizes of those rubber bowl scrapers handy. A small one with the rubber blade an inch wide and about 3 inches long is my most useful size. It is small enough to scrape out measuring spoons, yet works very well in measuring cups and honey jars.§

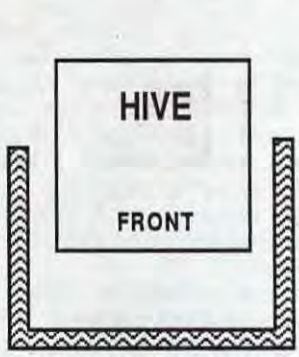
STARTING RIGHT WITH BEES

"Locations"

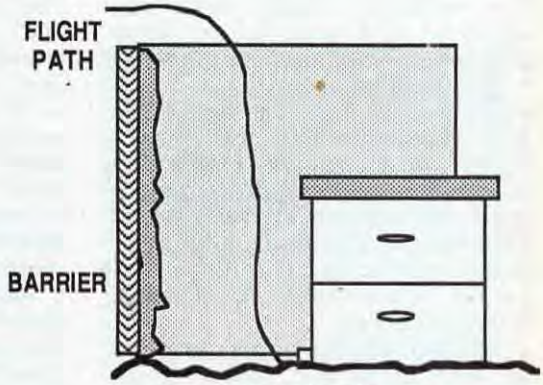
You've decided that beekeeping is something you want to try, to the point of obtaining equipment and locating sources of both bees and queens. The next obvious question is – where are you going to put them?

Many possibilities exist, in fact as many as there are beekeepers.

Let's start with the closest – your backyard. And, since living in a town or city presents potentially more challenges than the country, let's examine these sites first.



TOP VIEW



SIDE VIEW

CITY SITES

Most urban lots are fairly small, as far as having bees is concerned. Bees need some room, other than the 2 or so square feet the hive takes up. Bees develop flight paths when entering and leaving a hive. Just like an airport, there needs to be room to accommodate these flight paths. These paths can start low and rise gradually, or climb abruptly, rising above an obstacle near the hive.

Low, gradual flight paths can definitely be hazardous to the well being of anybody or anything that occasionally blocks them. Examples are your family picnic; your neighbor working in her garden; passersby on the sidewalk in front of your house or the family dog chasing a frisbee in your yard.

The solution to these unintentional encounters rests with the beekeeper, not the victims. To avoid any potential mishaps, place a barrier in front of, and on the sides of your hives. The diagram below shows excellent placement.

The barrier should be fairly high; 6 feet is not too high – 3 feet isn't high enough. This barrier will force the bees to climb immediately when they leave the hive, and come in high, and drop fast, when returning.

This will eliminate unexpected close encounters with neighbors, friends, family and unwary passers-by. The barrier can be made of nearly any material that bees can't fly through. Chain link fences will work, but aren't recommended; board fences are better. Temporary barriers of hay bales, sheets of plywood and the like are O.K., but tend to be unsightly and difficult to maintain. Probably the best type is a 'natural barrier', made of living, growing plants. Honeysuckle, ivy, climbing roses, winter creeper or other perennial vine plants work well as barriers when given a support to cling to. A temporary barrier will be required until these are tall and thick enough to do the job.

Many shrubs will also work here too. Forsythia, Euyonomus, Spirea and many others will provide very effective barriers when they grow large enough. Again, something temporary will be required for 2–4 years.

This barrier solves another problem too, even before it begins. A well camouflaged apiary remains "out of sight, out of mind" for many people. There are lots of folks who fear bees, of any kind, and knowing there are hives just across the street, or even next door, will just plain not make their day – or summer.

Make sure your bees have access to water in your yard. Keeping your bees home is just plain good sense. Having your bees in the neighbor's swimming pool or bird bath is not. Water can be supplied several ways, but it must ALWAYS be available. Leaving for vacation is no excuse. This can be accomplished several ways. A slow dripping outside faucet with a board angled against the house works well. A pet type waterer with some sort of landing area supplied works too. A 5 gal. pail with 2 or 3 boards floating works as does your own bird bath.

Remember though, a continuous source is required. Hot weather dries up buckets and birdbaths, and hot weather is when watering holes get the most visitors. Bees are not very forgiving. If your source dries up, even once, they'll go somewhere else, and probably won't come back home. Remember, too, that it only takes one neighbor to make things difficult.

A good idea is to have that water source available the very day the bees arrive. It should be inviting, accessible, easy to find and be clean and fresh the first day and every day after, until the winter cluster forms.

If you've provided an adequate barrier, the color of your hives is probably unimportant. But, why invite discussion. Natural colors are best; regular wood (there are preservatives available that work

Continued on Page 183

The Shaparew Honey Drying Ventilator

By JIM THOMPSON

I experimented with the latest models of the Shaparew Honey Drying Ventilators last year. Dr. V. Shaparew has developed products such as the conical bee escape board, the ventilated inner cover, an optimized pollen trap, and the Honey Drying Ventilator (HDV).

The principal idea of the HDV is to encourage better air flow through the hive when the temperature is high, thus the bees will be able to dehydrate the honey faster. This curing process could then be done during warm evenings, thus the bees would have more daylight time to collect nectar — the result should be increased honey production.

In Ohio this year, we experienced an early honey flow, then a dearth due to lack of moisture during the time we normally have our major flow. Many beekeepers who removed the early honey found they were in trouble later on with starving bees.

In my experimentation, I had already reversed and supered my hives by the time that the HDV's were received so my hives had obtained some of the spring nectar flow. Most of my hives are 10 frame Langstroth with telescoping covers. I normally overwinter my hives in two deep supers with an extra honey feeding super on top, which is either a shallow (5-11/16") or a half depth (4-3/4"). Doing this, I normally have strong colonies in the spring and I don't have to worry about spring feeding. Some of my hives are equipped with experimental ventilated inner covers, which I have found to be better for wintering. I try to keep my supers in good repair so that there aren't *too* many extra holes and openings.

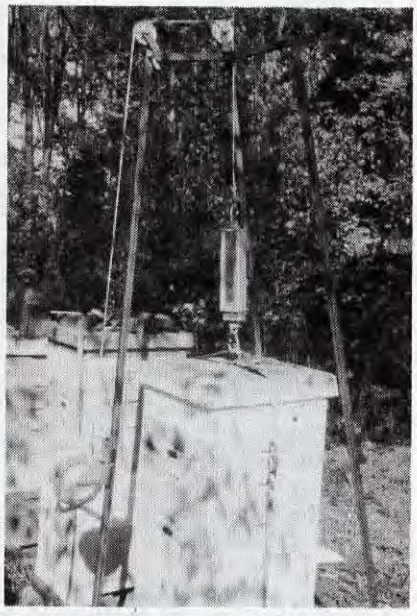
About the middle of May, I received the 20 HDV's I used. With the aid of another beekeeper, we installed eighteen of them on the hives. We removed the honey supers and weighed the basic hive (2 deep supers) and then we weighed the honey supers for a total weight. At my home yard, I did not have the help of an assistant so I weighed only the honey supers. In the fall I had designed a better system of weighing the hives so I was able to weigh the hives and supers by myself.

CONTROL HIVES

Hive Identification	Basic Hive Wt.	Total Wt.	Basic Hive Wt.	Total Wt.	Difference
J.C. (reg.)	120	158		170	+12
C-2 (reg.)	62	62	92	92	+30
C-3	94	110	135	225	+21
C-6 (reg.)	88	200	115	215	+15
L-1 (reg.)	85	150	153	200	+50
L-3	98	185	136	245	+60
L-5 (reg.)	76	256	150	235	-21
H-3S (reg.)		(90)	117	219	+12
H-5S (reg.)		(110)	125	250	+15
H-7S (reg.)		(115)	130	250	+5
H-9S (reg.)		(68)	120	177	-11
H-13S (reg.)		(75)	120	223	+28
H-17S (reg.)		(70)	Died	0	
H-2N (reg.)		(40)	124	199	+35
H-6N		(28)	140	175	+7
H-8N		(105)	133	278	+40
H-10N (reg.)		(78)	136	226	+12

(reg.) indicates a regular type of inner cover with a Porter bee escape hole.

As an aside, the portable scale that I devised to weigh the hives works very well. It consists of three legs, eight feet long connected at the top by a "Y" yoke, which is 2' in diameter. There are two pulleys, or wheels, on top to transfer the power from the winch to an upward pulling force. I

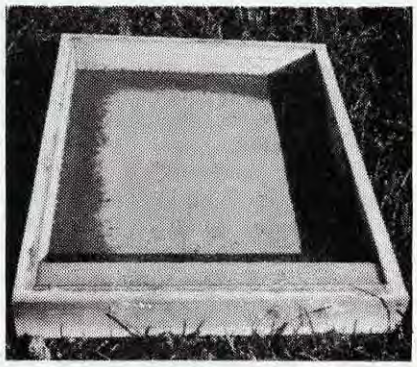


Photograph of the portable lift and scale for weighing hives.

was able to locate a 300 pound scale which was adequate (this year). The winch has a capacity of 1,800 pounds but the handle had to be modified to provide clearance when lifting the hive. The front legs are bolted in a stationary position while the rear leg, with the winch, is adjustable fore and aft.

The following two charts (left and on page 179) were constructed from the data collected.

The HDV's tested were two different styles. One had a valve enclosed in the front portion of the ventilator giving the bees a large



This shows the open style HDV. Notice the 2" ring of propolis around the perimeter. One of the screens over the valve was filled with propolis.

HIVES with HDV's

Hive Identification	Basic Hive Wt.	Total Wt.	Basic Hive Wt.	Total Wt.	Difference
J.C. - S	120	161		170	+9
C-1	97	205	95	210	+5
C-5 (screen)	145	265	115	240	-25
C-7 (screen)	95	200	150	235	+35
L-2 (screen)	120	210	157	260	+50
L-4	85	160	131	190	+30
L-6 (screen)	100	190	150	225	+35
H-4S (screen)		(60)	135	220	+25
H-6S (screen)		(110)	113	243	+20
H-8S		(87)	145	257	+25
H-11S (screen)		(120)	130	270	+20
H-15S		(115)	138	283	+30
H-16S		(116)	135	282	+31
* H-3N (screen)		(35)	125	165	+5
H-7N		(70)	135	222	+17
H-9N (screen)		(108)	140	290	+42
H-11N		(105)	130	225	-10
N-12N (screen)		(110)	150	280	+20

* Hive had sacbrood at time of installation of HDV.

open area to cluster and the other was screened off so bees did not have extra room in the HDV.

The HDV's were placed on top of the hive in place of the inner cover so either the open space or the screen was directly *over* the honey super frames. The valve of the HDV is placed to the front of the hive and is preset to open at 67-68°F.

I observed that the bees in hives with HDV's did not cluster on the front of the hives as much as bees in the control hives when the weather was hot and muggy. When comparing the clustering behavior between the open type and the screen type HDV, the bees were seldom outside of the hive with the open type ventilator probably due to the internal space provided.

A few years ago, I tested an open type of ventilator and the bees built burr comb in the open area. That ventilator was open on the top so there was more space for air leakage and less air control through the valve. Since we did not have a large honey flow, (or possibly due to the new design) there was no problem with burr comb with either unit this time.

The bees did, however, propolize both units.

With the open style HDV, the bees propolized around the upper 2" and then started to plug the screened area near the valve. One HDV valve was practically sealed off.

The HDV screened variety was generally propolized around the two major screened portions but had enough open area to allow the air to flow through the valve.

Bees have the habit of sealing everything with propolis in the summer, and then needing ventilation in the winter. If a beekeeper has old equipment with cracks and holes, the ventilators might not be as effective due to the lack of air flow control.

One hive that I used in the experiment had sacbrood when the HDV was installed. It is interesting to note that the hive recovered and gained a small amount of weight.

The four hives that lost weight evidently swarmed. I either saw and captured the swarms or I was informed of the correct number of swarms at these locations.

The hives were tested at three locations. My home yard, indicated with an "H", contains approximately 40 hives, thus the amount of increase per hive will normally be less than the other locations due to the concentration of the bees competing for the netar sources.

It is interesting to note how honey is transferred around the hive from spring to fall. The weights of gain or loss indicate the total change within the hive and not what was lost or gained in the honey supers, with the exception of the home yard hives where the initial weighing was of the honey supers. The weight differences for the home yard are found by subtracting the total spring weight, which is the honey supers, and the fall basic hive weight from the fall total weight. This difference then gives the change that took place in the honey supers. The honey supers were actually weighed in the fall.

Factors that could influence the outcome of the experiment are the con-dition of the equipment, the age of the queen, the characteristics of the strain of bee, the population of the hive, the timing or manipulation techniques of the beekeeper (adding supers, reversing, etc.) and the weather.

Some bees are not as aggressive as others in their honey gathering and hording characteristics. I used to have a few hives that were content

This is the screened version HDV. Notice the propolis around the screened area. There is still plenty of ventilation area.

just to have a place to live. The bees didn't last long as they were soon robbed. Thus the bees in this experiment were the "common Ohio Italian" mixture. The queens were of various ages. I do not requeen my hives regularly as I go on the premise that if a queen is satisfactory don't disturb her. If a queen is failing or has failed, then I consider requeening, but I feel that through proper reversal and supering techniques you can keep down the swarming tendencies and generally have strong hives with natural supersedure.

Since the HDV's were installed after the first honey flow, and we did not have the main flow we normally have, the test results look rather poor. In a year when there was a good honey flow there would probably be a more pronounced distinction between the "regular" equipment and the HDV's.

The following conclusions (left) can be drawn from the HDV test:

All Ventilators	+20.222	pounds per hive	364/18
- Screened HDV	+22.7	pounds per hive	227/10
- Open HDV	+17.125	pounds per hive	137/8
All Inner Covers	+19.375	pounds per hive	310/16
- "Regular" I.C.	+15.166	pounds per hive	182/12
- Ventilated I.C.	+32.	pounds per hive	128/4

Continued on Page 183

Inner Cover . . . Cont. from Page 131

running a few more tests and "letting it set" for awhile. I'm a good one for "letting it set" when some sort of decision needs to be made, especially a financial decision. In fact, I can get downright nasty when somebody tries to rush me — ask my wife!

I'm not faulting anybody when I say we probably need more time to think this through. Certainly the research people can't be blamed, they get orders from their superiors too. But the question continues to nag — why not sooner, at Panama or even further south? Who's to blame for the delay? Maybe we are — we being the industry as a whole. Maybe we should have been making a lot more noise 10 years ago, when there was the luxury of time and a lot more property between them and us. But this is water over the dam — hind sight is always 20:20.

So maybe we deserve to spend all that money now in an attempt to stem the tide; or, maybe we will just take our lumps and let them come — and deal with the problem as it evolves — through Mexico and across the border. Maybe we'd be better off putting that money into at-home research or public relations efforts.

So where do I stand? Actually, I sit, squarely on the middle of the fence. Atypical for me, and perhaps a cop-out. You've read the reports — you tell me.

•

Well, I'm getting anxious. This is the worst month of the year for me. I really envy those of you who have been outside already — working bees or the soil. I swear, there's nothing more frustrating than 60° or 70° weather during the day with frost still in the ground, and 30° or 40° nights. I'm like a kid at Christmas in a toy store — with no money!

We'll have to feed about half our colonies this spring; those that were marginal last fall. There were a few good days in January and February, so they got to fly a little. Not much snow cover to speak of, but the spruce tree and snow fence wind break seem to have done the job for protection. Overall, I'm satisfied.

We bought some expensive queens last spring that didn't do real well last summer, but it was a lousy summer. They better do better this year though, regardless of the weather. I'm a hard task master. Earn your keep gals!

We're going to increase our production of comb honey this year, and have already ordered some round plastic and wooden section supers. Our experience last year convinced us that with just a little effort, there's a lot of money to be made with this type of honey. Both Diana and I like the no-mess-in-the-basement results too, so we'll see, come July.

We're also going to try trapping pollen this year. Certainly enough to feed back later, and maybe enough to sell. Of course, this depends on the season, but I think it should work pretty well.

The Ohio Estate is slowly taking shape for summer. Some seeds have already been started, under lights in the basement, while the rest wait patiently for the ground to warm. The new rototiller is waiting patiently, too. It's big, and red and still shiny — sort of like a fire engine, waiting for another fire and raring to go. The hoes have been sharpened, the row marker stakes sharpened, painted and restrung — all clean and eager in their box.

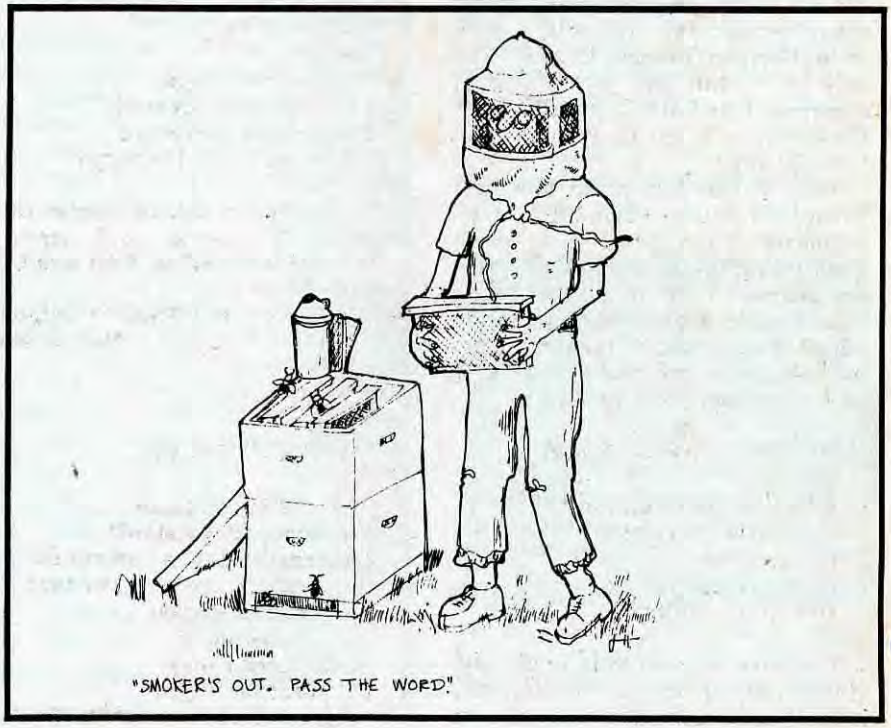
With all these plans and hopes, I guess we're no different than most beekeepers, gardeners or regular outside types. I think this is a good group of people to identify with and I enjoy the company.§

IF YOU ARE interested in contacting Austin Knox regarding the equipment he mentioned in his article last month, his address is 295 Pumpkin Hill Rd., New Milford, CT 06776.

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.

The Monthly Honey Report is available this month. We regret its omission last month, but it just wasn't to be. The new map details the locations of our reporters. If you live in an area NOT represented, have access to the required information, are willing to spend the time EACH MONTH to return our form and would like to receive *Gleanings* free, please contact the editor. We will be in touch with you directly.



HOME HARMONY

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

Mustard is an exciting ingredient to use. If you are used to only one kind of mustard, one of America's standard hotdog toppings, then you are about to discover a whole new world of mustard. It may take a bit of exploration in your town and supermarkets to find all the different kinds available to you, but the search is quite worthwhile. I will give you some clues to help you.

First, check the spice racks. Two types of dry mustard can be found: one labeled "Hot" and the other "Mild" or "Mayonnaise". Every kitchen should have one bottle of each. The dry mustards are very useful when you do not wish to add extra liquid to the recipe, such as in making deviled eggs. Next, find the section of the supermarket that has the Chinese foods. The Chinese mustards are quite hot and nippy, with a flavor of their own. You may find two different basic kinds here: dry and prepared. Then wheel your shopping cart to the aisle having "gourmet" or "imported" foods. Here is where the selection of prepared mustards can be almost overwhelming. Dark, light, with coarsely ground seeds, "grey", with horseradish (superb!), with wine, German, French, English. The only help I can give you here is to experiment, as I did. I am still having fun discovering mustards I have not tasted before.

Why all this fuss about mustard? Honey and mustard blend flavors extremely well and give a spicey-sweet quality that many enjoy. Here are a few recipes to put your newly-found ingredient to work. You may wish to adjust the amount of prepared mustard you use in the recipe, depending on the spiciness of the mustard.

HOT MUSTARD SAUCE

1/4 cup prepared mustard
1 teaspoon dry mustard
1/4 cup honey
2 tablespoons vinegar
1/3 cup vegetable oil

Combine two mustards, honey and vinegar. Stir to form a smooth paste. Add oil and beat with a wire wisk or electric beater until smooth and thick. Serve with ham or cold meats.

HONEY YOU'RE A NATURAL
Alberta Beekeepers' Association

As a follow-up to that, here is a non-recipe for you. What is a non-recipe? It has no measured amounts for the ingredients. You just mix what suits your taste. Admittedly, some cooks love non-recipes and use them as a starting point for their own creations. Others prefer at least some guidelines. This non-recipe has both.

BASTING SAUCE

Meat: chicken parts, pork chops, ribs, mild ham.

Mix: honey, prepared mustard, melted butter.

Baste meat with mixture, saving some to use as baste while cooking.

Cook: oven or microwave.

A Guideline: you can try 2 parts honey with 1 part mustard.

My thanks to mustard-lover George Imirie for this non-recipe.

POPPY-SEED DRESSING

1 cup oil
1/3 cup honey
1/3 cup cider vinegar
1 tablespoon poppy seed
1 teaspoon dry mustard
1/4 teaspoon dried tarragon

Mix all ingredients in blender until smooth. Refrigerate until serving. Serve over green salad, fruit salad, or cottage cheese.

RODALE'S SOUPS AND SALADS
Rodale Press

MUSTARD SAUCE

6 ounces tomato paste
1 teaspoon dry mustard*
1 tablespoon drained horseradish
*or 1 T. prepared mustard with or without horseradish
1 tablespoon honey
1 tablespoon vinegar
1 T. finely ch. onion or chives (opt.)

Combine all ingredients. Use on raw or cooked vegetables.

JOY OF COOKING
Irma S. Rombauer

Enough! Now for something completely different.

CHOCOLATE CHIP HONEY COOKIES

1-1/4 cups flour
1/2 teaspoon baking soda
1/2 teaspoon salt
1/2 cup butter
1/2 teaspoon vanilla
1/2 cup honey
1 egg
1 cup coarsely ch. pecans/walnuts
1 cup semisweet chocolate morsels

Combine dry ingredients and set aside. With an electric mixer, cream the butter. Add the honey while beating. Add vanilla. Add egg and beat. Add dry ingredients and beat until just blended. Stir in nuts and chocolate morsels. Drop by teaspoon onto greased cookie sheet, placing them about 2 inches apart. Bake at 375° for 13 to 15 minutes. Remove from sheet while warm. Makes about 3 dozen.

Maida Heatter's
BOOK OF GREAT CHOCOLATE DESSERTS

With today's specialized fruit and vegetable storage warehouses, we can find a large assortment the year round in supermarkets. Therefore, this recipe can be used any time.

SCALLOPED SWEET POTATOES

Place alternate layers of sliced, cooked (or sliced canned) sweet potatoes and sliced raw apples in a greased baking dish. Drizzle a flavorful honey over the apple layers and dot with butter. Add just enough water to cover bottom of dish. Bake covered at 375°, 30 to 40 minutes or until apples are tender. If desired, uncover the dish for the last 15 to 20 minutes of cooking, and top with crushed dry breakfast cereal. Sliced raw sweetpotatoes may be used in this recipe, but will need to bake a little longer.

Adapted from
SWEET POTATO RECIPES
USDA Leaflet

York's...Quality Bred

1987

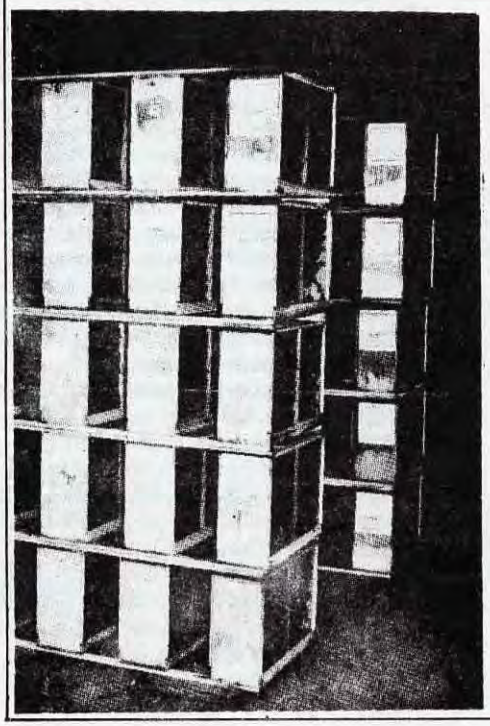
STARLINE MIDNITES ITALIANS

The Strains Preferred by Leading Honey Producers
All Bees and Queens from Georgia. Certified MITE-FREE colonies

Help Us To Help You

ORDER TODAY!

Have you tried York's bees and service? Make 1987 your season to purchase your bees from a firm featuring both types of hybrid stock. New Starlines and Midnites continue to be the only privately developed strains of hybrids that consistently return more honey per colony. Be modern and use hybrid queens that produce vigorous workers which will extend your season and add to your total crop. Shipment made by parcel post or your truck or station wagon. Now booking for choice dates.



Bees & Queens

For Hobbyist — Honey Producer — Pollinator

ITALIAN & CAUCASIAN

	1-3	4-24	25-99	100 up
2 lb. pkg. w/q	$20.75	$20.00	$19.25	$18.75
3 lb. pkg. w/q	$26.25	$25.25	$24.50	$24.00
5 lb. pkg. w/q	$39.50	$38.50	$37.50	$36.50
Queens	$ 6.75	$ 6.40	$ 6.20	$ 6.00

STARLINE, MIDNITE OR DOUBLE HYBRID

	1-3	4-24	25-99	100 up
2 lb. pkg. w/q	$21.35	$20.60	$19.85	$19.35
3 lb. pkg. w/q	$26.85	$25.85	$25.10	$24.60
5 lb. pkg. w/q	$40.10	$39.10	$38.10	$37.10
Queens	$ 7.35	$ 7.00	$ 6.80	$ 6.60

Prices F.O.B. Jesup
Queenless pkgs. — deduct $3.00 per pkg.
Tested Queens — add $1.50 per pkg. for queen
Clipped and Marked queen — $ .75 each

Terms: Small orders cash; larger orders $2.00 deposit per package and balance due three weeks prior to ship date. Allow three weeks for personal checks to clear.

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Shipments start first of April depending upon spring weather conditions.

PLAN NOW on your shipping dates for the coming spring. Present indications are that shipments will have to be planned now for more difficult delivery schedules by parcel post. Now booking orders.

Plan to use hybrids this season. Our rate of production of hybrids continues to rise as modern commercial beekeepers learn of increased benefits to them. BEE WISE — HYBRIDIZE!

FREE INFORMATION on Starline and Midnite Hybrids and on picking up your own bees and others for savings. WRITE TODAY!

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POST OFFICE BOX 307
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JESUP, GEORGIA 31545

Starting... Cont. from Page 177

better than paint, and leave your wood a natural gray color) or any type of camouflage color is recommended. Blending in is always better than sticking out — and white sticks out!

Working your bees, learning what's really going on inside and just plain watching is probably the most rewarding activity a hobby beekeeper has. But again, care should be taken to not let the whole world know your activities. Choose a sunny, warm part of the day, when many of the foragers are out doing something more productive than chasing your neighbors. Between 11 a.m. and 2 p.m. is probably best, but local conditions may vary. Obviously, don't go poking around inside when your neighbors wife is sunning herself in her backyard, only 30 feet away. Also, be aware of the neighbor's dog or cat. Curiosity may not kill them, but when "Spot" goes yelping home, your neighbor may not understand.

Stay away on cool, cloudy days and when there is not much activity at the entrance, whatever the reason. If the foragers aren't or can't fly, they're at home — looking for something to do.

Finally, public relations is a necessity. For those in your neighborhood who are wary of a beekeeper and bees close by, there are several things you can do to ease their concern. First, NEVER deny that you have bees. Sure trouble. However, you might want to invite them over some evening, after the bees have settled, and show the precautions you have taken (i.e., barrier (and why), water, etc.). If possible, offer to have them come over when you're working the bees. Of course, offer as much armor as they want — suit, gloves, veil, their own smoker, etc. This probably won't work for many, so do the next best thing. Give, or lend them some literature on bees, beekeeping, pollination, etc. In fact, make it a gift. And, as far as gifts are concerned, don't forget to share some of your harvest with all those in your area. This, coupled with the fact that your bees aren't creating any problems, will go a long way in convincing them that bees, and beekeepers, are an asset rather than a liability.

COUNTRY SITES

There are as many things to consider when choosing an apiary site in the country as there are in the city. If you're fortunate enough to live on enough land that neighbors aren't within shouting distance, you've already eliminated many potential headaches.

However, if you're putting your bees on somebody else's property there are many details you should con-sider. First, access. Can you get to your bees at ANY time of the year? Locked gates, plowed fields, drainage ditches and the like can be an unsettling surprise. So too can 3 feet of mud in the spring or a foot of standing water after a rain. Road access? Will you be able to drive as close to your hives as necessary? Remember, moving a one story colony into an area will be much easier than moving out 4 colonies, with 3 supers each. If you have to carry them far you could be in trouble. Remember too, summer and fall access may be different than spring conditions.

Next, locate the colonies so that cool air will not drain down a hill and collect around them. Swamps and the bottom of hills are especially critical. If possible, give them a southwest exposure, to capture as much sun as possible, both during each day and during the cooler parts of the year.

Consider the crops in the area also. Pesticides are a reality and you should have an idea of what's growing around your site. And, there should be good forage around. Four hundred acres of field corn won't produce much honey. Pastures, fence rows, fallow fields and the like are ideal, but are difficult to locate.

Public relations is necessary in this situation also. Good communication with the land owner will save you grief in the long run. What are the future plans for the land? Will the nearby woods be cut next summer? Will that empty field be plowed next spring? Are there plans for high pesticide use crops to be planted soon? Will a new gate be going up, with a lock? These all will present obstacles and knowing in advance will solve problems before they begin. And, sharing your harvest will go a long way in keeping relations open and friendly. Even if you know your bees are pollinating the landowner's crops, or improving wildlife food availability — the landowner is doing you a favor, not the other way around.

Whether you keep your bees in town or in the country, precautions for both bees and neighbors should be considered. A little planning at the outset will make beekeeping easy and keep the fun in your hobby.§

Shaparew... Cont. from Page 179

You should keep in mind that these increases are measurements of weight from mid-May to September and consist of the combined weight of honey, wax, propolis, bees, etc. and are not measurements of the extracted honey crop. However, the HDV's seem to have an advantage over regular inner covers. You can see that ventilation of the hive is an important factor as shown by the HDV and the ventilated inner covers. These test results do seem to compare favorably with those done by others using HDV's.§

Reference:

Bee Hive Ventilation, V. Shaparew, *Canadian Beekeeping*, Vol. 13, No. 1, Summer 1986, pages 10-14.

News & Events

☆ 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.

California State Beekeepers Association, Inc.

Robert L. Van Gunden of Warner Springs was selected the Honorary Beekeeper for 1986 at the 97th. Annual Convention of the California State Beekeepers held in Palm Springs. Robert has been a beekeeper in S. CA for fifty years. He has been active as the Chairman of the CA Honey Apiary Board, C.S.B.A. Director, Sioux Honey Co. Director, and was the CA Beekeeper of the year in 1974.

(L to R) Frank Robinson,Susan Cobey and Robert Van Gunden.

At the same meeting, Frank K. Johnson was honored as the "Beekeeper of the Year". The award is given to a beekeeper who has shown leadership and excellence in beekeeping. Frank has been very active in the C.S.B.A., serving as the Sec./Treas.. for several years. He began his beekeeping career on his grandfather's farm in PA where he spent the summers. Frank and wife, Betty, have beekeeping operations in SD with headquarters in Riverside.

Susan Cobey of Vacaville was honored as the 1986 Young Beekeeper of the Year. This award is given to an outstanding beekeeper who has less than 10 years in the industry. Susan earned a B.S. degree in entomology from the University of DE. She has worked in several bee genetics programs at the U.C. Davis Bee Biology Facility, Genetics Systems in LaBelle, FL and the USDA Bee Breeding and Stock Center in Baton Rouge. She is a partner in Vaca Valley Apiaries in Vacaville, CA, which is a commerical organization devoted to honey bee stock improvement.

☆ CANADA ☆

The Office of Extension, Brandon University, Manitoba Ag., and the Manitoba Beekeepers Assoc. will be co-sponsoring a Honey Bee Disease Identification Workshop on Sat., March 14, 1987. This one day course is designed to offer both instruction and hands-on practice in the microscopic detection of honey bee diseases. Topics to be discussed will include the proper care and use of microscopes, preparing samples for examination and identification procedures for AFB, EFB, Nosema and Acarine diseases.

For more information, contact The Office Of Extension, Brandon University, Brandon, Manitoba, R7A 6A9., or call 1-800-852-2704.

☆ 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.

☆ KANSAS ☆

Kansas Honey Producers to Meet In Abilene April 3-4, 1987

The spring meeting of the Kansas Honey Producers Association will be held at the Best Western Priem's Pride Motel, 1709 North Buckeye, Abilene, KA 67410 (1-800-528-1234 or 1-913-263-2800) on April 3-4, 1987. Speakers will include Dr. Orley Taylor on the Africanized Bee, State Apiarist Gary Ross on judging honey shows, and LaVerne Esau of the Barkman Honey Co. plus filmstrips and information on beekeeping practices and the traditional auction of bee and honey related items for the Kansas Honey Queen Fund. A banquet is also being planned as a part of the gathering.

Anyone desiring further information is invited to contact Mr. Robert Brown, 1st V.P., RFD 1, Box 96, Haddam, KA 66944. Phone 913-778-2954.

☆ MAINE ☆

Great American Woodlots Airs Beginning in January. Nearly 8 million woodlot owners in the U.S. can learn first-hand through a new televised series how to manage their land to increase their income and improve wildlife habitat. The Cooperative Extension Service of the U of Maine and the Maine PBS Network, assisted by two USDA agencies — the Forest Service and the Extension Service — and several other organizations developed and produced the series "Great American Woodlots". Designed to create public awareness of good forest practices, the series emphasizes that active woodlot management benefits both woodland owners and an increasingly aware and concerned public. The magazine format program includes segments on wildlife, improved tree growth,

Continued on Next Page

News... Cont. from Page 184
mapping of timber stands, diseases common to woodlot trees, urban forestry and forest ecology programs for children. For additional information, including local schedules, contact your local public broadcasting station, county Extension agent or state specialist, or Forest Service office.

The Maine State Beekeepers Association will hold their annual meeting March 21 at Verillo's Restaurant in Portland. Featured is a talk by the eminent Dr. Charles Mraz, a widely renown bee venom researcher and therapist, who will speak on the effective treatment of arthritis with bee stings.

The public is encouraged to attend. Dr. Mraz will speak at 1 PM and there is no admission charge for his talk. An $8.50 registration fee covers the full day's activities including talks by Dr. Mraz and Matt Scott, a hearty Verillo's lunch, appearances by the American and Maine Honey Queens and a raffle.

For further information, please contact Helen Brown at 207-829-5994, or Bob Egan at 207-474-2945.

☆ MASSACHUSETTS ☆

The Massachusetts Federation of Beekeepers Associations will hold its annual meeting on Sat. April 4th, 1987, beginning at 10:00AM at the Norfolk County Agricultural High School, 460 Main Street, (Route 1A), Walpole, MA. This is an open meeting, free of charge to all beekeepers. Registration and refreshments, between 9-10 AM.

The guest speakers are, Dr. Dewey Carron, Chairman of the Dept. of Entomology and Applied Ecology at the U of DE. Dewey will be speaking about his recent research in Panama with the Africanized Bee and later on swarm management.

Ms. Marjorie Cooper, President of MA Agriculture in the Classroom, Inc., will be speaking about the program, MA agriculture in the classroom.

Mr. Bob Stevens, owner, operator of Betterbee, Inc., will be speaking on Marketing Honey.

Invited exhibitors are Maxant Industries, Betterbee, Inc., Beekeeping Education Service, Magee's Bee Supplies and Beekeepers Warehouse.

The 1987 MA Honey Queen will be crowned and the 1987 MA Beekeeper of the Year award will be presented. For additional information contact John Johnson, 92 Morse Street, Sharon, MA 02067, ph. 617-784-5327.

The Hampden County Mass. Beekeepers Association will hold its monthly meeting on March 14, 1987 at 7:20 p.m., Feeding Hills, Grange Hall, Northwest St., Feeding Hills, MA. Speaker will be William Denhard, past president of the Essex County Beekeepers Association. His work in China enabled him to take film, and share with us his experience with a rare insight on beekeeping in China. Refreshments will be served.

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.

☆ NEBRASKA ☆

LaCinda Madison was crowned the 1987 Nebraska Honey Queen at the annual Nebraska Beekeepers Convention in November. LaCinda is the 18-year-old daughter of Jack and Helen Madison of Valentine, NE. LaCinda has worked in the family bee business her whole life and is excited about her involvement in the promotion of honey. She has been interviewed on radio and has plans for school speaking engagements in the future. People are *greatly* encouraged to call her to speak or participate in honey promotion programs. She can be reached at: 110 W. 6th St., Valentine, NE 69201.

☆ NEW YORK ☆

Northern New York Beekeeping Seminar. The William H. Miner Agricultural Research Institute will be holding its annual Beekeeping Seminar on Saturday, April 25th, 1987 from 8:30 a.m. until 3:00 p.m. at Miner Institute in Chazy, New York. Dr. Dewey Caron from the University of Delaware will be guest speaker. Dr. Caron has spent the last 7 month in Panama studying the Africanized Bee. Needless to say, he will have an interesting program. One you won't want to miss!

You may register at the door, but preregistration would be appreciated. Registration will begin at 8:30 a.m. The cost of the program will be $10 and will include coffee, donuts, handouts, lunch and membership

Continued on Next Page

ews . . . From Page 185
into the Champlain Valley Beekeepers Association.

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

Western New York Honey Producers Association announces a Beekeeping Seminar on "Various Aspects of American Foul brood" on March 13th at 7:00 at the Erie County Coop. Ext. Center, 21 South Grove St., East Aurora, NY 14052 and on March 14th at 10:00 a.m. at the Niagara County Coop. Ext. Center, 4-H Training Center, 4487 Lake Ave., Lockport, NY 14094. The speaker will be Francis Ratnieks who will present a program on the Life cycle and spread of AFB, Diagnosis of AFB (including scale specimens), how to Burn AFB Infected Colonies, and the Use of Drugs to Control AFB. There will also be a movie on bees or beekeeping after the Saturday AFB program.

The cost is $2.00. For more information call (716) 599-3491.

☆ NORTH CAROLINA ☆

Forsyth County Beekeeping Association recently elected Janet Young as their 1987 Honey Queen and Christine Everhart as Honey Princess. They will be busy visiting surrounding areas as well as Forsyth County Schools, fairs, festivals and clubs to help familiarize the public of the importance of the beekeeping industry for the survival of mankind.

☆ 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, Ohio State University, Columbus, Ohio.

Live television broadcast of Panel Discussion

Dr. James E. Tew, Cooperative Extension Specialist in Agriculture has organized the broadcast of a live panel discussion of the conference topics. The event will be videotaped for subsequent distribution. The panel discussion is to be broadcast via satellite from Kottman Hall, 2021 Coffey Road, on The Ohio State University campus, Tuesday evening March 31, and will be available to those with satellite receiving dishes on Westar 4, Channel 10D. Conference participants will be able to interact with the panel via a remote facility in the Hotel. Beekeepers and other interested persons are encouraged to attend or participate at regional extension facilities in Ohio or phone their questions to the panel. Contact Dr. James E. Tew at the OSU Agricultural Technical Institute, Wooster, Ohio 44691 or call (216) 264-3911.

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 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.

The fourth bee school of the **North Central Ohio Three County Beekeepers Association** will be held at Kingwood Center, 900 Park Avenue West, Mansfield, Ohio, Saturday, April 11th.

The guest speaker is Steven D. Maurer, director of the Ohio Department of Agriculture. Other authorities on beekeeping and marketing will be on the program. Workshops concerning materials and honey food preparation will be conducted. Registration is $6.00 for single, or $10.00 for two in the same family. $3.00 for students. Lunch is included. Registration begins at 8:30 a.m. For registration and information contact Mrs. C. A. Divelbiss, 596 Harter Avenue, Mansfield, Ohio 44907 by April 4th.

We urge all who are interested in beekeeping to attend.

Medina Co. Beekeepers will hold a beekeeping school for beginners and intermediates starting March 19. They will meet 1 night a week for four weeks. For more information or to register contact Harold Thoburn at 144 North Broadway Street, Medina, Ohio 44256, (216) 725-4911.

Continued on NExt Page

News... Cont. form Page 186

Governor Richard F. Celeste was the recent recipient of a genuine beeswax seal of the State of Ohio presented by Ohio Honey

Queen, Amy Flannagan, and members of the Ohio State Beekeepers Association. The beeswax seal was admired by the governor while on display in the Agricultural building at the Ohio State Fair this past summer. On hand for the presentation were, left to right, Teresa Temple Crone of Cincinnati, Ohio, who is chairperson for the Ohio Honey Queen Program; Queen Amy who hails from Lebanon, Ohio; Governor Celeste; Linda Flannagan, mother of the Queen; and Charles Fisher of Vandalia, Ohio, the 1986 recipient of the Beekeeper of the Year award.

☆ OKLAHOMA ☆

The annual spring meeting of the Oklahoma State Beekeepers Association will be held Saturday, April 11, 1987 from 8:30 a.m. till 4:00 p.m., at the Stephens County Fairgrounds at Duncan, Oklahoma. A covered dish luncheon will be served at noon.

The Southwest Beekeepers Association will host the meeting and will have their local meeting on Friday night, April 10, at 7:30 p.m. in the same location. President is Frank Walker, P.O. Box 422, Velma, Oklahoma 73091.

State President of the Oklahoma Association, Chuddie Smith, P.O. Box 34, Guthrie, Ok 73044, (405) 282-4002, invites and encourages all interested persons to attend.

☆ PENNSYLVANIA ☆

The Annual Joint Meeting of the **Bucks County and Montgomery County Beekeepers Associations** has been set for Thursday, March 26, 1987 at 8 p.m. in Mandell Hall Auditorium on the campus of Delaware Valley College. The College is located one mile south of Doylestown, PA on Route 202.

The program is sponsored by the College in conjunction with the Bucks County Beekeepers Association and the College Apiary Society. Featured speaker for the evening will be Dr. James Sidie, Associate Professor Biology at Ursinus College, Collegeville, PA, who will speak on "The Biology of the Honey Bee".

The meeting is open to the public, and there is no admission fee. It should prove interesting not only to those interested in the honey bee, but also to those with an interest in biology and its various physical and chemical aspects.

Delaware Valley College will again be offering its popular three-day beekeeping short course on the following three Saturdays, March 28, April 4 and April 11. The course is under the direction of Dr. Robert Berthold, the College's beekeeping specialist. He will be assisted by Jack Matthenius, New Jersey State Supervisor of Bee Culture.

The course is designed to benefit anyone who might be interested in beekeeping, from those who are just interested in learning more about these insects, to long-time experienced beekeepers.

The class runs from 8:30 a.m. - 4:00 p.m. The fee for the course is $35.00. Additional information about the course can be obtained by writing: Bee Course, Delaware Valley College, Doylestown, PA 18901 or by calling the College at (215) 345-1500.

Beaver County; Dr. James Tew, Apiculture Coordinator for the Ohio State University and Dr. Clarence Collison, Extension Entomologist with the Pennsylvania State University, will be the featured speakers at an intermediate Beekeepers Seminar to be held March 21, at the Thrift-Inn, Warrendale, PA. The registration is $10.00.

The program feature: Timely Management Decisions, The Africanized Bee, Marketing, Disease Identification, Queen Rearing and the Many Uses of Wax.

For more information, contact the Beaver County Extension Office, P.O. Box 99, Courthouse, Beaver, PA 15009, or phone (412) 728-5700, ext. 351.

☆ RHODE ISLAND ☆

The Rhode Island Beekeepers Association will hold their annual "Bee School for Beginners" in March. For more information contact Charles W. McKellar, 107 Chatworth Rd., N. Kingstown, RI 02852.

☆ SOUTH DAKOTA ☆
The 1987 Resolutions or Policies of the American Honey Producers Association, Inc.
A Report of the Committee on Resolutions
Richard Adee, So. Dakota, Chmn.

Resolutions/Recommendations

1. We recommend that the AHPA continue to work with Congress and the Administration for a good and workable price support program for honey.

2. We recommend that the office of the United States Trade Representative work to correct the inequities and violations that exist in international trading of honey among our most-favored-nation trading partners.

3. We recommend that a program be implemented to distribute the take-over honey in the Commodity Credit Corporations warehouses to the needy countries of Africa and Asia.

4. We recommend that the Treasury Department enforce the Country of Origin labeling law. Also, we urge all beekeepers to monitor the honey in local grocery stores to determine if packers are complying and if necessary bring a civil suit against non-complying packers for damage to the industry.

5. We recommend import duties and quotas for honey that would allow domestic honey to be competitive in the open market.

6. We recommend that the Agricultural Research Service, USDA, give mite research (both Tracheal and Varroa) a high priority designation and that these programs be fully funded.

7. We recommend that heavy stress be placed on the need of a chemical that would control the Tracheal and Varroa mites.

8. We recommend that the U.S. Department of Agriculture and/or the State Governments indemnify beekeepers for losses when colonies are depopulated in any eradication or quarantine program for the control of Africanized bees and Tracheal and Varroa mites. We urge the officers of AHPA to consider this a high priority item.

9. In lieu of compensation for losses incurred during a quarantine and/or an eradication program of bees infested with Tracheal mites, we recommend that the Apiary Inspectors of America (AIA) commence an aggressive campaign in their respective states to rescind all laws, rules and regulations that would restrict

Continued on Next Page

News... Cont. from Page 187
the free movement of bees and bee equipment because of a mite infestation.

10. We recommend that the position of a full time Extension Apiarist be created at the Washington level.

11. We recommend that the Agricultural Stabilization and Conservation Service, USDA, work closely with the industry to correct any regulations that cause a hardship on beekeepers who deliver honey to the ASCS, USDA.

12. We recommend that the research for wax moth control be accelerated.

13. We recommend that the Department of Agriculture continue to de-emphasize the use of the term "killer bee".

14. We commend the bee news media for their coverage of the price support and related developments in Washington.

15. We recommend that the officers of AHPA immediately commence a campaign to:

•Motivate beekeepers to establish a meaningful rapport with their congressional delegations.

• Clarify the honey bee pollination story.

• Open up meaningful lines of communication with the Administration.

• Provide the necessary funds for the AHPA to implement the 1987 program.

• Work with other organized groups.

16. We recommend that the Food and Drug Administration use the same rules on imported honey that are currently being applied to domestic honey.

17. Whereas large volumes of Commodity Credit Corporation honey is being packed and distributed with poorly blended honey resulting in honey of an unsatisfactory flavor being distributed to our future markets, and Whereas many recipients of CCC honey refuse to accept any more of that poorly flavored honey, therefore be it resolved that the AHPA request the proper authorities to attempt to rectify the problem of poorly flavored honey reaching the marketplace.

18. We support legislation that would name the honey bee as the national insect.

19. Research now indicates that the tracheal mite can be controlled with the use of menthol crystals. We recommend that all state regulatory agencies work to get special use permits for menthol crystals to be used for the control of tracheal mites.

☆ TENNESSEE ☆

The 22nd Annual Short Course will be held at the Shelby County Agricultural Extension Service, March 10, 11 and 12.

For more information contact Fred C. Walpole, 5356 Knollwood Cove, Memphis, TN 38119.

☆ FOREIGN ☆
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 in order to qualify. Any supporting evidence to tie applicant to the field of Apiculture would be welcome.

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

☆ 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. Please 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

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)

HELP WANTED

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Large collection of beekeeping magazines. Gleanings in Bee Culture, American Bee Journal, begin with volume 1, number 1. Many others. Write Joe Mills, 688 Gary, Ripon, Wisconsin 54971. (3/87)

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A Bakers Dozen of Mistakes Often Made By Beginning Beekeepers

By DON COX
1623 West Wayne • Lima, OH 45805

Grandpa and I were sitting in the lawn swing enjoying a beautiful summer evening. I asked him what a beginning beekeeper should know to prevent making too many mistakes.

He said that there were a bakers dozen of mistakes often made by beginning beekeepers. Some experienced beekeepers still make some of them.

The list, as I remember it, follows:

1. IMPROPER CHOICE OF APIARY SITE. Low spot with poor air and water drainage; no wind break between hives and prevailing winds; too much shade in the winter; no hive ventilation in the summer time; hives located where they will be a nuisance to animals and people in their flight pattern or at their water source.

2. BUYING USED EQUIPMENT. Danger of brood diseases.

3. TOOLS, EQUIPMENT AND CLOTHING. Entering a colony without proper tools and equipment, such as hive tool, smoker, bee brush, bee gloves and veil. Or wearing dark or wool clothing.

4. SMOKER PROBLEMS. Smoker has gone out when you need it the most to control the bees. Learn to properly light and fuel the smoker. Smoking the bees too strongly. Gently puff the smoker and let the smoke drift across the top of the open hive. Before opening the hive, give a puff or two into the entrance and wait about one or two minutes before opening the hive.

5. INSPECTING TOO OFTEN. Inspect the colonies twice a year. Once in the spring during fruit bloom and dandelion time. Inspect during the late fall nectar flow. These inspections are for checking the brood for any disease. Inspecting between nectar flows can create robbing, also looking at every frame in the hive disrupts the bees for the rest of that day. Learn to judge the condition of the colony by the spread of the bees across the tops of the frame when you lift the cover or inner cover. Even better, judge the condition by observing the number and activity at the entrance of the hive.

6. SELECTION OF UNSUITABLE RACES OF BEES. There are three basic races of bees. Read about each race. Find out from other beekeepers in your area what race they are using.

7. LACK OF KEEPING RECORDS. Keep a record of each colony's production. Keep date of the start and end of spring, summer and fall nectar flows. Keeping records lets you plan ahead for next year.

8. POOR TIMING OF NECESSARY CHORES. Spring and fall inspections, supering and harvesting. Keeping records of the previous year allows you to better time these chores.

9. WASTING WORK TIME. Looking for the queen each time you open a hive is a waste of time and disrupts the bees in their work. If you want to see and watch the queen, set up an observation hive.

10. INABILITY TO RECOGNIZE EARLY STAGE OF BROOD DISEASE. Colonies often lost because the beginner does not know what to look for at the spring or fall inspections. Join a local beekeepers association and ask the local bee inspector to give a program on bee diseases.

11. INADEQUATE STORES FOR WINTER. Harvest the summer honey and reduce the colony to one deep and one medium super or two deeps. Whichever you prefer. Let the bees gather the fall nectar flow as their winter stores. Both boxes should be packed with honey and pollen and very little useable brood space when the winter winds start to blow.

12. FAILURE TO USE AVAILABLE RESOURCES. Advice from your equipment supplier, County Extension Service, County Inspector, and most of all, help to be had from membership in the local and state beekeepers associations.

13. WORKING ROUGH SHOD. Bumping and jarring the hive when working a colony only does one thing. It annoys the bees.§

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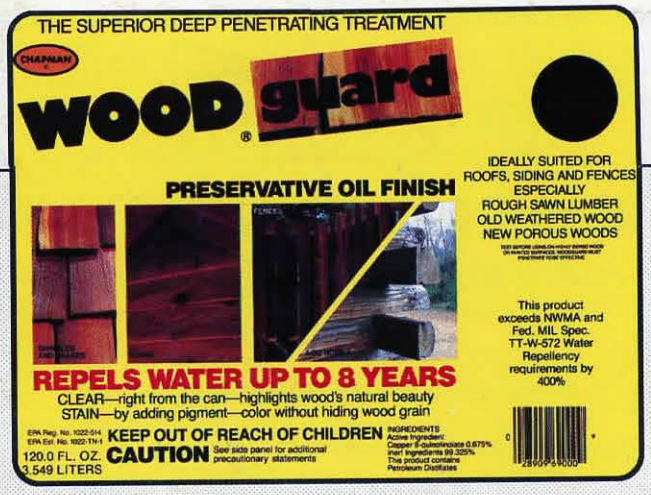

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