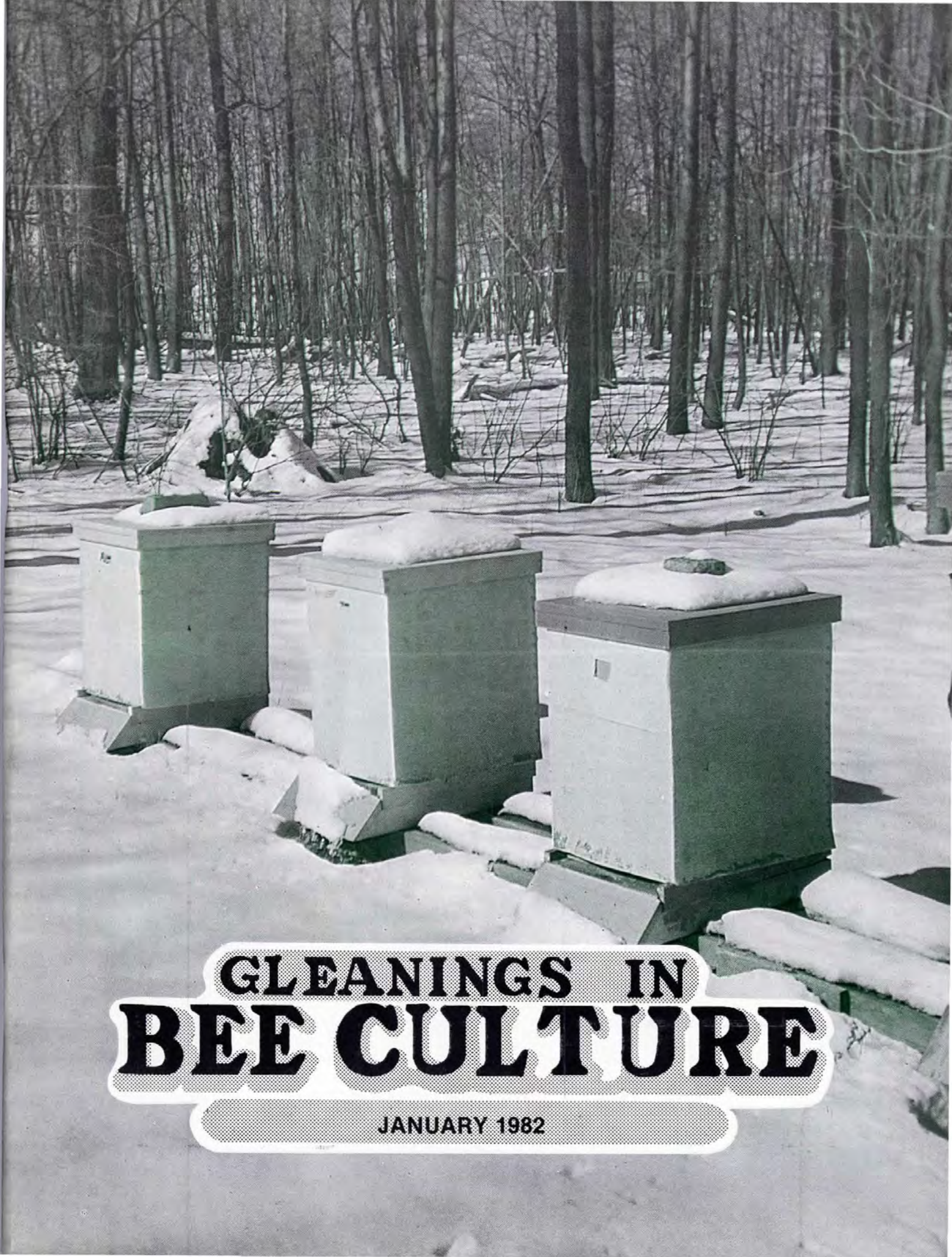

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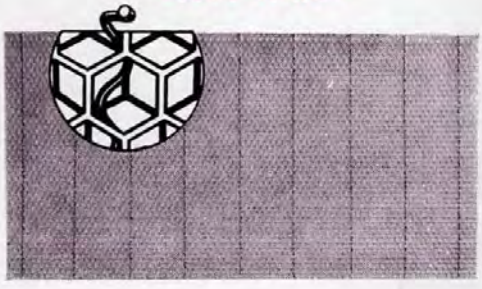

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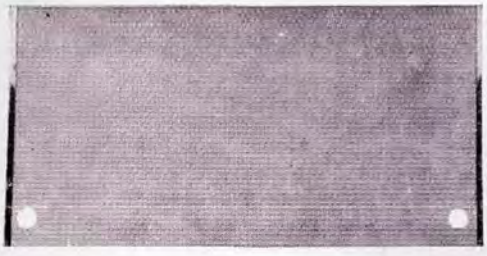

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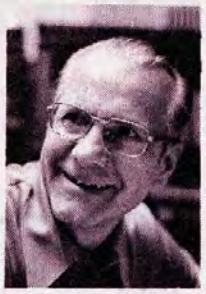

Lawrence Goltz

JANUARY

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COVER STORY

While bees are inactive in the northern latitudes others in less harsh climates may begin to gather pollen in January and of course are in the mid-harvest season in the Southern Hemisphere. Beekeepers are hard at work preparing for another season by getting equipment ready and anticipating bee and queen requirements for next season.

In Praise Of The

"I started experimenting with double screens when setting up two-queen

By SANFORD A. MOSS
Westport. MA

IF ONE calculated a "utility factor" for bee equipment by dividing the uses to which a piece of equipment can be put by its cost, some surprises would result. My candidate for the winner would be the double screen — an exceedingly simple device that, unfortunately, is relatively poorly known. Indeed, only a few beekeeping supply companies list the double screen in their catalogs. That fact plus the puzzled looks of most beekeepers when I mention double screens make me believe that praises of this piece of equipment need to be sung.

Double screens are most often encountered and recommended when setting up two-queen colonies for intensive honey production. That is how I started to use them several years ago. My uses of double screens quickly grew, however, to include a battery of manipulations that now include making increases, introducing queens, combining swarms, ventilating colonies under special stress, sure swarm control, equalizing colony strength and over-wintering nuclei. I am sure this list can be added to in the future, but there are already enough advantages to using double screens to justify talking at some length about them. Before going into the details of these manipulations, a description of the double screen is in order.

The double screen is simplicity itself. It is a frame of 1″ stock, 2″ to 3″ wide, built to the standard Langstroth dimensions (16¼″ x 20″ (Figure 1). The joints may be butted, rabbeted or dovetailed, according to the expertise of the woodworker. Wire screen is then stretched across both the upper and lower faces of the frame and is stapled in place. A ¾″ "dead space" is thus left between the two screens. Ordinary aluminum window screen may be used, but I prefer galvanized hardware cloth, 8 meshes to the inch. This is stiffer, more rugged and it allows better ventilation. If window screen is used, a dividing 1″ x 1″ wood strip should run across the middle of the frame to support the screens and keep the two sufficiently separated. On the upper side of the double screen, pine window stop, ⅜″ thick, is tacked to provide a rim that allows a bee space under the frames of the supers or hive bodies placed on top of the double screen. A gap of about ¾″ in this rim in the front allows an entrance for the bees. I like to only lightly tack the remaining rim in the front, so that I can easily remove it to provide a larger entrance. If the edges of the screen on the underside seem rough, aluminum duct tape can be used to cover them. The finished product is light, durable and inexpensive. The going price from those suppliers that do carry them is just a few dollars each, and they can easily be built at home for a fraction of that.

The effect of a double screen is basically to separate the bees (most importantly the queens) of two colonies while allowing free circulation of air through both. The colonies thereby come to share a common odor which subsequently allows the workers of both to mingle without fighting or disruption when they are united. The following manipulations make basic use of this principle.

Two-Queens Colonies

In the inititiation of a two-queen

Figure 1. Double screen made with 1/8″ hardware cloth.

Double Screen

colonies several years ago and have since found many uses for them . . ."

colony the beekeeper first divides the brood and bees of a strong colony, placing about half the brood above a double screen, leaving the old queen below (Figure 2). A new queen is then introduced to the queenless (upper) half of the original colony. After acceptance of the new queen, the double screen is left in place for a period of two or three weeks while the colony odors mingle. Usually a second brood chamber will have to be given the lower colony for it will be stronger, having inherited all the flying bees (Figure 3). The double screen is then replaced with a queen excluder (leaving an upper entrance for drone flight from the top colony) so that all the workers have access to the honey supers placed above the top colony. In nearly all cases the queens ignore one another (they could fight — and rarely do — through the queen excluder) and continue to lay, producing enormous populations of bees (Figure 4) which, if conditions are right, can store enormous crops of honey. If the management is bad, and the beekeeper doesn't provide enough room in the brood nest or honey storage areas, two-queen colonies can also produce enormous swarms.

Making Increase

The basic and original use of the double screen in setting up two-queen colonies immediately suggests other uses to which it may be put. First of all, consider making an increase. A divide housed over a double screen will build up more rapidly than one set off on its own bottom board. This is because the divided part, weakened by the loss of its field bees, is not stressed by having to spend extra energy for temperature control. The warm air rising through the double screen from the parent colony will result in almost no chilled brood, leaving the divide better able to forage, defend against robbers, and nurse brood. After queen acceptance and a build-up period of three weeks or so, the divide can be placed on its own bottom board and moved to its permanent location.

Equalizing Colony Strength

When making divides with a double screen, a neat trick can be used to equalize colony strength. A divide is made from a strong colony. The parent colony under the double screen will recover rapidly (it has inherited all the flying bees). After three weeks or so of build-up, but before the divide is removed, the two colonies can be reversed around the double screen. Thus the top colony is placed below the double screen and the parent colony above it. The strong field force of the parent colony returns to the divide wich is now below the double screen, strengthening it and weakening the parent colony. The result is two colonies of about equal strength — and because they both have the same colony odor, there is virtually no risk of the field bees balling the new queen in the divide. This manipulation is particularly useful to beekeepers managing for increase of colonies to be used in pollination since it allows production of uniform pollinating units.

•

Swarm Control

A variation of this same idea can be used with strong colonies that are building queen cells in preparation to swarm. If the queen cells have not been sealed, swarming can be headed off almost certainly by this easy manipulation. Simply take the colony off the bottom board, place one or two supers of drawn comb on the bottom board, top with a double screen

(Continued on page 4)

Figure 2. Double screen over parent colony in a divide, entrance up and to the front.

In Praise Of The Double Screen

(Continued from page 3)

and place the intact colony above it. If an upper entrance had been available, turn the colony around above the double screen so that this entrance faces the rear. Now the field force will come back to the empty supers under the double screen and finds itself queenless with no brood. The weakened parent colony above the double screen will usually tear down its queen cells and not swarm. After ten days or two weeks (but before laying workers appear in the queenless part) the double screen is removed and the bottom supers are placed on top of the stack. If any kind of a honey flow was on, the queenless bees may have stored some honey, even in their demoralized state. At any rate the colony strength is restored and usually the swarming impulse will have gone by. This technique will stop swarming from colonies with sealed queen cells if they are cut out when the double screen is installed — but only after making sure that the queen is still present.

An important variation of this method of swarm control is to provide the queenless field force with all empty combs but one, which has brood and at least one queen cell (from its own colony or any other queen rearing colony). In a couple of weeks a new queen will be laying below the double screen and can be evaluated. If she looks good, the old queen can then be removed and the colony reunited. Thus swarm control and requeening are carried out in one operation more easily than by the conventional Demaree method. Whatever variation is used, I find this the easiest and most foolproof way to head off swarming that I know.

Queen Introduction

A double screen also allows probably the best situation for routine queen introduction. Replacement queens are most often introduced from mailing cages into hives first made queenless. With the old queen removed, the colony suffers a loss of egg laying for several days before the new queen is released and begins to lay. Moreover, the acceptance of the new queen is by no means assured with this method. With the double screen these disadvantages are eliminated. First the old queen is found and confined in one brood chamber below a double screen where she will continue to lay during the period of queen acceptance. The mailing cage with the new queen is then placed in the other half of the colony above the double screen. The old, field bees will have left this part of the colony so that the queen will be released among young nurse bees and emerging brood — bees most likely to accept her. After the new queen begins to lay an acceptable pattern, the old queen is eliminated and the double screen removed to effect almost certain queen acceptance with no pause in production. This is as close to foolproof queen introduction as possible. The savings here alone will pay for a double screen and then some.

Hiving Swarms

Double screens can also be useful in hiving swarms. When swarms are plentiful I like to hive one in a brood chamber on a bottom board, and then throw a second swarm in another brood chamber above a double screen over the first. This can be done at one time, or the second swarm can

(Continued on page 6)

Firgure 3. Divided colony with parent colony provided with two brood chambers under the double screen.

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In Praise Of The Double Screen

(Continued from page 4)

be hived at any subsequent time that it becomes available. This has several advantages. First, the build-up period is greatly shortened and a stronger colony results — usually one quite capable of harvesting a respectable crop of honey in the current year. A second and most important advantage is that both queens can be evaluated after a week or two on either side of the double screen. If swarms are simply thrown together the beekeeper has no control over which queen will reign. With the double screen, a selection of the better queen can be made — or the decision can be made to place a queen excluder between the swarms and manage them as a two-queen colony.

Stress Ventilation

Another use to which I put my double screens is as replacement outer covers during periods of potenial heat stress when making moves in hot weather, or during periods of confinement when pesticides are being sprayed. I find the double screens are easy to nail through the wooden frame to the top super of the colony. this perfectly ventilating cover will be firmly held in place during rough handling in moves, or can be covered loosely with wet burlap during daytime confinement.

Over-wintering Nuclei

For my money one of the best uses of double screens comes during the winter. I find they are perfect for successfully over-wintering nuclei. In early October here, in New England, I gather my extra nucs in which I have been rearing and holding replacement queens and place them in four frames in divided brood bodies — two nucs to a brood box. These are then placed over double screens on strong colonies set up for winter with restricted entrances and plenty of top ventilation. I usually check them in February and may have to add a comb of honey to some, but rarely do losses occur. Once again, the heat generated by the colony below rises and reduces the stress on the relatively weak nuclei above. This ability to over-winter nucs reliably in the North is a tremendous advantage. It reduces dependence on the vagaries of spring queen rearing in the South, and allows the early generation of strong two-queen colonies, early spring requeening, or the profitable sale of early spring nucs to fellow beekeepers.

These then are some of the uses to which double screens can be put. They have a place in rational bee culture year-round and certainly deserve to be more widely apprectiated than presently seems to be the case.

Try 'em; you'll like 'em!

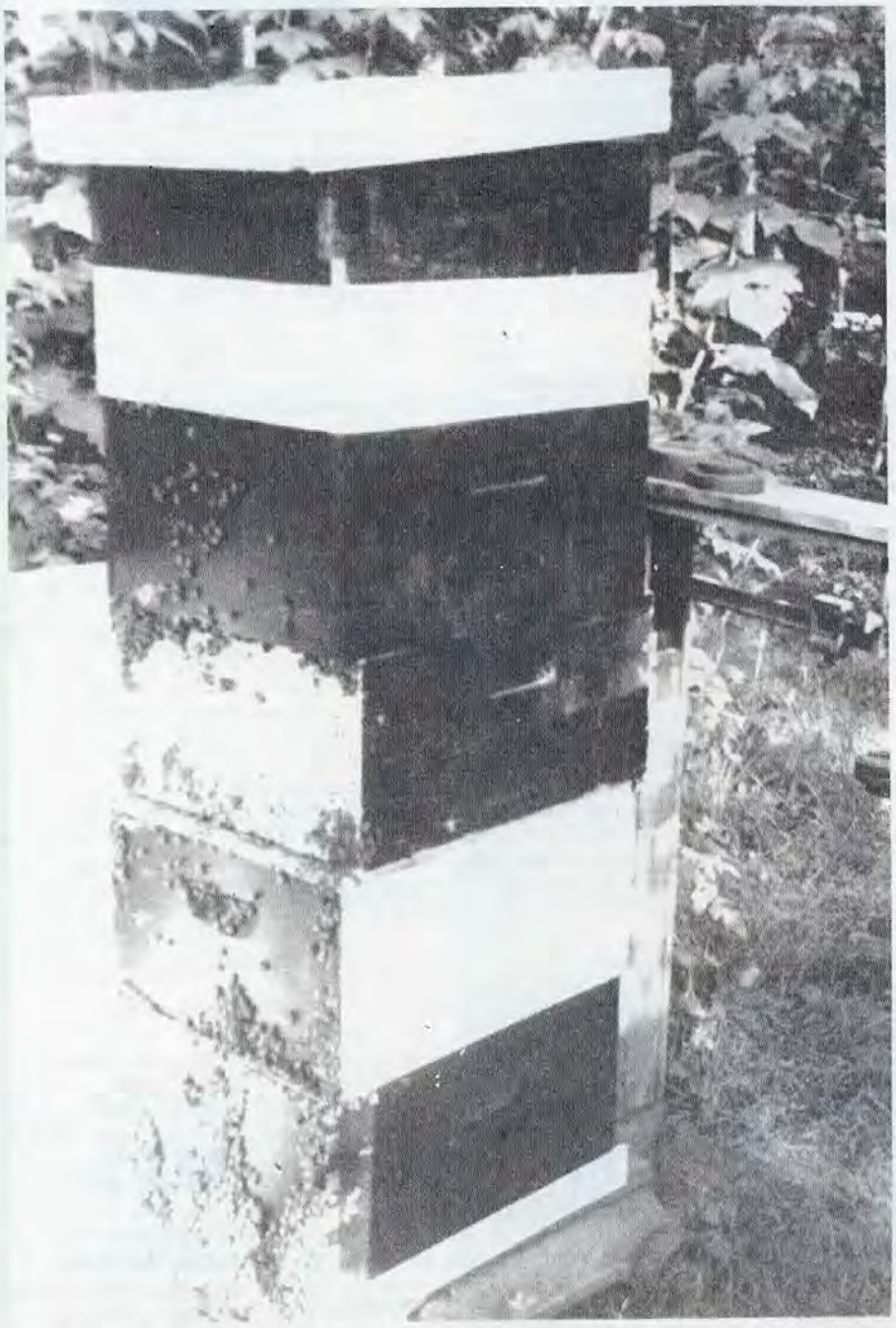
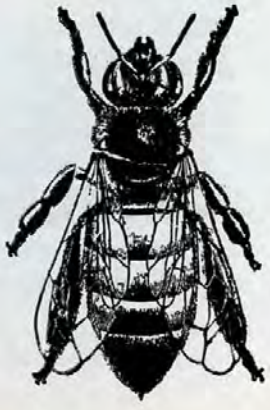


Figure 4. Two-queen colony with the double screen removed and replaced by a queen excluder. Both upper and lower colonies have two brood chambers. Supering has begun.



Monthly HONEY Report

LAWRENCE GOLTZ

December 10, 1981

The following figures represent the current prices reported by beekeepers and packers over the country. 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

Sales of extracted, unprocessed honey to Packers, F.O.B. Producer. Containers Exchanged	Reporting Regions 1	2	3	4	5	6	7	8	9
60 lbs. (per can) White	42.00	33.00	35.50	34.80		39.00		33.60	33.00
60 lbs. (per can) Amber	42.00	28.00	33.50			35.00			32.40
55 gal. drum (per lb.) White	.56	.53	.56	.56		.58		.56	
55 gal. drum (per lb.) Amber			.52			.54			
Caselots — Wholesale									
1 lb. jar (case of 24)	27.50		25.15	24.50	34.80	23.50		20.70	23.15
2 lb. jar (case of 12)	26.50		23.50	23.00	33.60	22.50		19.10	22.40
5 lb. jar (case of 6)	30.00		25.35			26.50		25.00	25.00
Retail Honey Prices									
½ lb.	.90			.82	.87	.85		.85	.97
12 oz. Squeeze Bottle	1.50		1.40	1.25	1.75	1.35		1.25	1.40
1 lb.	1.50	1.40	1.45	1.40	1.75	1.45		1.35	1.65
2 lb.	2.90	2.50	2.65	2.49	3.45	2.35	3.00	2.45	2.85
2½ lb.	3.35			3.45	4.50	3.15		3.49	
3 lb.	4.20	4.25	3.65		4.88	3.75	4.00	3.80	3.99
4 lb.	5.30			4.90	6.80	4.80	5.80	5.15	
5 lb.	6.25		5.95		8.50	5.45	7.00	5.79	5.99
1 lb. Creamed			1.55	1.53		1.49		1.65	1.69
1 lb. Comb	1.75		2.25		1.87	1.70		1.75	
Round Plastic Comb	1.50			1.70		2.00	2.00		
Beeswax (Light)	2.10		2.10	2.15	1.85	1.95		1.90	1.85
Beeswax (Dark)	2.00		2.00	2.00	1.75	1.90		1.85	1.80
Pollination Fee (Ave. Per Colony)	30.00		22.50				22.50		

Misc. Comments

Region 1

Considerable rain and snow. All vegetation looks good. Honey prices are up, stocks are down. Sales of honey seem to be somewhat slower in Vermont than normal and it may be due to some unfavorable publicity honey has received. Publicity needed to get honey back to its proper place as a healthful sweet and food. About forty pounds per colony average in Connecticut. Little or no profit for two seasons. Many trying to sell out.

Region 2

Not much change in market conditions in New York State. Most beekeepers turning honey over to Commodity Credit, USDA. Bees in normal condition for this time of year.

Region 3

Some slowing of honey sales in Indiana. Demand for short supply of beeswax is very good. Softening of honey prices at the producer level which reporter feels is due to an abundant quantity of cheaper honey available for import. He feels this has and will continue to place an extreme burden on U.S. producers who are already faced with lower income due to a short crop and increasing costs. Very little fall crop in Illinois. Beekeepers fed for winter food. Bees in good condition in Wisconsin for winter. Good soil water conditions in Wisconsin. Honey sales very good on honey Christmas packs. Retail sales OK. Bees in generally good condition in Ohio where fall honey flow was good or bees were fed to make up shortages.

Region 4

Honey sales are only fair in Minnesota. Price increase caused some resistance. Not certain all colonies are heavy enough to carry through winter. Extensive feeding was needed last fall in Minnesota, but bees seem to be in good shape so far. Late summer honey flow in Nebraska, which

(Continued on page 14)

Strictly Backlot

By CARL CALLENBACH
135 College Avenue
Elizabethtown, PA 17022

Three years ago we harvested about a half ton of honey from my sixteen hives; last year, approximately three hundred pounds, and this year, from thirteen hives, exactly forty-seven pounds, unheated and unstrained! This dearth of surplus honey didn't come as a surprise. I am a serious gardener and I was well aware of the semi-drought conditions and the cool weather, June till frost. What's most depressing about the year is that it began with a strong spring honey flow. I had brought at least seven hives in very strong condition through the swarming season of April and May. And by the end of June, I was wondering whether I should build more supers!

I am glad we waited until late October to take off our surplus. Had we extracted in late June, and then again in September, as we did three years ago, I'm sure my bees would be perishing by now, early in this winter season. My laziness (i.e., sound management) gave us the opportunity to distribute five surplus supers of honey from hives that had somehow, despite the lack of any strong honey flow from late June onward, managed to store a slim surplus, to five hives that were bordering on starvation — in late October.

We stay in touch with a commercial beekeeper nearby and in June he too had marvelled at the honey flow. In October he spoke of his bees being near starvation at several apiaries. He had spent the previous day combining hives and moving about the little surplus; he was dreading the prospect of feeding hundreds of hives.

Miscellaneous: In the column where I described the hassles of removing bees from old houses, I wrote that I had ordered a couple of Carniolan queens to place in the nucs I used to hive the trapped bees. Some backlot readers have written asking me where I bought them (Georgia — See advertisement in **Gleanings**) and why?

Beekeeping tests describe the positive and negative attributes of the various races of honeybees. Carniolans, I've found, **are** gentle. Carniolans, I read, are prone to rob. My backlots are a mixture of Italians, mostly, and Carniolans and Caucausians. (The commercial beekeepers around here feature Italian queens almost exclusively.) Sometimes I suspect I get an aggressive hive from a Caucasian and Italian cross, but this doesn't seem to be the case with Carniolan-Italian crosses.

But I'm evading the question! Why Carniolan bees in my observation hive and in the nuc on the upstairs backporch? In the spring when I take a walk in the neighborhood, or through the backyard where I've planted numerous shrubs and flowers for my bees, I like to be able to point to a dark bee on the pussy willow blossom and say, "That one's from my hive." The worker bees of this particular strain appear to be very dark, becoming almost black with age. Carniolans contrast very nicely with Italians. Most important, they go well with yellow crocuses.

More Miscellaneous: In another column I wrote about the longevity of queens in my three-tier observation hive. I described how the controlled brood space could extend the productive life of a proven queen, that such an observation hive might be a logical source of egg and larva for backlot replacement queens.

A week after I'd written the article, the queen was gone! I found several supersedure cells. These, too, were gone a week later. What to do? I needed a marked queen for the observation hive and the options were two: send for a marked queen or try to mark a queen I had in a three-framed nuc on the porch, a daughter of the queen that had so mysteriously disappeared. I chose the latter and headed for the hardware store to buy a little bottle of yellow enamel. Later I caught the queen in a small container, released her against a window in the bathroom, and with cotton swab in hand, tried to dab her thorax. Which I did, not to mention her wings. The end result was a queen which was extremely easy to identify.

I was upset and afraid my clumsiness would result in the bees balling and killing her. If they did accept her, I hoped the messy paint job would not damage her. She survived my fumblings, but I'll never try to mark a queen again without handling her properly. Next year I plan to practice on drones. This sounds sexist, I know, but for those of you out there who doth protest, there are the worker bees!

REMINDER: Entries for **The Third Annual How I Heroically Caught a Swarm Contest** must be in by January 31st. The paucity of contestants makes me wonder if I should bother waking up the panel of judges who are contentedly hibernating at the Colebrook Tavern.

HAPPY NEW YEAR!

Young Beekeeper

By GINGER L. SHOUN
Stuart, FL

MOST OF US have had many happy hours discussing our thoughts and ideas about beekeeping. I have often heard conversations starting with, "Beekeepers back in my Grandfather's day..." or "I was talking to the oldest beekeeper around last week...", but I don't often hear or read stories about YOUNG beekeepers.

Being Secretary of the Martin County Beekeepers Association in Florida I have gotten to know many hardworking beekeepers; some hobbyists, some profesionals. In October we added to our membership one Michael Jordan. He is an active beekeeper, working and caring for his own hives, bottling and selling his own honey. By donating a hive with two supers, all frames with wax, and bees to fill this hive, he became a Life Member of our association. What makes him unique is that is his only ELEVEN years old! We feel that he may be the youngest active beekeeper around today.

It's wonderful to know that our community has such a broad spectrum of ages and types of people to keep the bee culture of our area alive. With Michael we already have one foot in the door of the next generation of beekeepers. In turn, he has all our other members to turn to when he comes up against a problem that only years of experience can solve.

Keep your ears open. You might hear a story that starts out, "I saw a boy kneehigh to a grasshopper woring bees the other day." Many of today's youths could have an interest in beekeeping. Some day there might even be a nation-wide contest to find "The Youngest Beekeeper in the United States". But as of this moment I'm convinces that our Michael Jordan could lay claim to that title and win hands down.□

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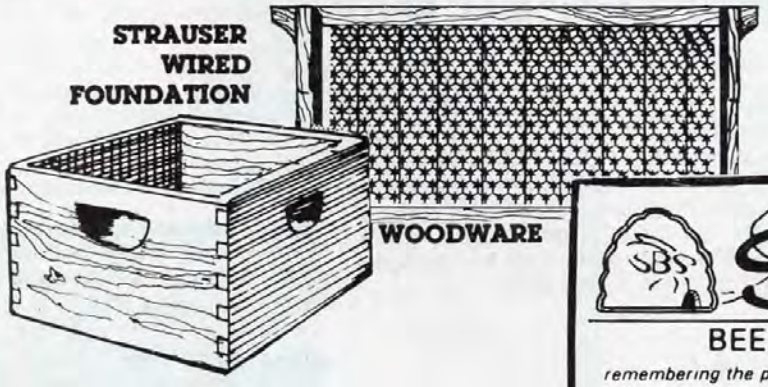

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Beekeeping Technology

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

The Honeybees Biological Clock

THE DANCE COMMUNICATION theory has been extensively studied and is widely accepted. Inside a hive, directional data supplied during the tail wagging portion of dances is dependent on the sun for a source of orientation. Obviously, the sun is constantly moving, subsequently requiring a constant revision of the directional data supplied by the dancer. Herein lies one of several uses of the honeybee's biologial clock. Meder (1958) showed that bees change the position of the sun in their calculations after as little as 7-11 minutes. In other research (V. Frish, 1953) results were obtained that indicated this time may be as short as five minutes, but no less than four.

Not only are bees able to constantly revise their data, but they are able to make the revision without having recently seen the sun. This observation was derived from marathon dancers. These dancers are actually scout bees that have been searching for a homesite before a swarm has been cast. These bees are capable of dancing for hours (to include night hours) without having seen the sun, all the while maintaining accurate sun location.

Since different plants open and close their blossoms each day at times that are characteristic for them, another practical use of honey bee time sense would be to forage on specific plants when they are most productive (in nectar, pollen, or both). If a forager is going to collect from these sources, she has to be there at the correct time (Ingeborg Beling, 1929). In actuality, bees may begin arriving about one hour early, hypothetically, to be at the "head of the line". Even if flowers don't open or close at given times, nectar sugar concentration or quanity and pollen production are greater at specific times during the day. Honeybees are able to determine these times and forage accordingly (Parker, 1925).

Questions arose as to whether or not this sense of honeybees was exogeneous or endogeneous. Difficulty has arisen in training bees to anything but a circadian rhythm, which would appear to indicate some environmental effect. Wenner (1959) trained bees to forage at a specific time in New York. The bees were trained on a flat plain without conspicious landmarks. After training, the bees were flown to Davis, California, during the night to a similiar site. The bees were not fed in California. The next day the bees continued to forage on New York time regardless of the sun's location. These data indicated an endogeneous nature of the time sense. However, after 24 hours, the bees gradually began to approach California time. Apparently, the endogeneous clock may be reset by exogeneous factors.

In practically all of their diverse behavior, honeybees utilize a time sense. The effort here was to discuss the major uses of time orientation with respect to forageing. □

Monthly Honey Report

(Continued from page 10)

continued through the fall, was very good.

Region 5

Very dry during fall honey flow in North Carolina and some feeding was necessary. Below normal production in Florida has caused most honey to be sold from producer's stock. The Brazillian pepper honey crop was small, but of good grade. Other late crops have been reported light but most colonies are heavy with stores in Florida. Most brood rearing stopped but young queens will begin to build for citrus blossom flow in early spring.

Region 6

Weather in Kentucky has been mild and dry through Novermber. Condition of bees is generally good. Honey sales are fair but not as good as in previous years. Bees in fair condition in Tennessee. Weather has been dry and warm during fall. Honey sales at retail very good. Demand for bakery grade honey has increased and the supply is limited. Prices are up from last month in Tennessee.

Region 7

Retail honey sales good. not too many complaints about higher prices. Bees in very good condition. in East Central Oklahoma with plenty of winter stores. Attendance at beekeeper's meetings good.

November was a warm month and broomweed and queen's crown bloomed profusely. Bees have a good food supply for winter. Honey sales steady. Cotton honey crop in West Texas fair to average. Too much rain in August & September.

Region 8

Winter has been relatively mild in Montana through Nobember, but snow supply is short in Mountains. Bees have been active.

Region 9

Honey sales off slightly in Oregon. Considerable bulk honey under CCC Loan program and trading between producers and packers is down from last month in California. Market prices are steady. Most colonies in California are in good condition. Most northern California beekeepers quoting $20.00 per colony rate for almond pollination. Almond growers are very cautious about price agreements; some are becoming beekeepers. □

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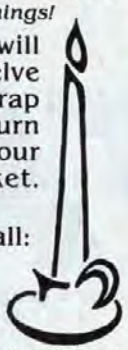

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Beekeeping in the Desert

By RICK COLE
Tulsa, OK

Beekeeping in the desert is as variable as its climate, can be rugged like its terrain and as interesting as its wildlife. It is not the easiest, most ideal place to produce a honey crop, but many beekeepers keep bees there anyway.

One such beekeeper is Jerry Cole, owner and operator of Bosque Honey Farm, Bosque Farms, New Mexico. His apiary operates about 1,650 hives in Central and Northeast New Mexico.

The narrow Rio Grande Valley contains 75 per cent of Cole's hives with the remaining bees situated on the high plains and in the mountains of Northeast New Mexico.

Beekeeping in the northeast part of the state is not considered desert beekeeping and really resembles beekeeping in the Dakotas or Montana, with its abundant wild clover and large tracts of alfalfa. Like the Northern Plains, it is a land of cold, cold winters and variable precipitation. However, unlike the Dakotas, Northeast New Mexico is not plagued with 100 degree summers, and in fact, most summer days are below 90.

Many bees along the Rio Grande gather nectar from two types of vegetation - desert flora and domestic plants such as alfalfa and fruit trees.

This unique combination can make for a longer honey season. In fact, if the rains come at the right time, the season may last from April to late October. Normally, seasons extend from late May through September.

Contrary to what most people believe about summer months in New Mexico, high temperatures are relatively mild. Most summers never see a 100 degree reading and even the average temperature for the area are milder than much of the nation. The average high temperature in the central part of the state in June is 82 degrees. In July it is 92 and in August, the average high is 87.

Along with the mild summers come mild winters.

"Mild winters make it where I have fairly low loss," said Cole. "It's easier to winter bees here than in many other places."

Winter temperatures seldom go below zero with the normal low in January being around 20 degrees. Cole rarely loses hives from freezing. Most winter losses are queenless or starvation related.

Mild temperatures in combination

with usually low humidity levels contribute to generally good outside working conditions. New Mexico beekeepers work in 90 to 95 degree days with relative ease.

"Because of low humidity, it's easier to get out and do strenuous work," said Cole.

Another advantage to the low humidity is the longer life of wooden equipment. Hive bodies, tops, bottoms and frames last significantly longer in this low-rot environment.

"If you can keep things painted," commented Cole, "they will last 50 years. And if you can keep bottom boards off the ground, termites will not bother them."

Low humidity also means low moisture content in the honey. Cole said that at times moisture content in the honey may be as low as 12 per cent. This virtually eliminates any prospect of using a radial extractor, which is in common use east of the Mississippi.

The summer months in New Mexico are the rainiest and flash flooding is a common occurrence. Thunderstorms build quickly over the mountain ranges and then move over the desert. Vegetation is sparse and thus runoff is heavy. Normally dry riverbeds become raging torrents in a matter of minutes.

As a precaution, Cole and other beekeepers must place hives on high ground or well away from gullies and dry river beds.

Another problem which results from the erratic rains is the inconsistent rising and falling of lake levels. Cole has had to move bees out of the Rio Grande Valley a number of times because normally low-level lakes suddenly fill up. Vegetation is drowned and Cole has had to endure the unpleasant task of moving bees during the summer months.

The winter of 1979-80 was an especially wet one with hundreds of inches of snow in the mountains of Northern New Mexico and Southern Colorado. The Rio Grande flowed 300 per cent above normal during April, May and June as the snows melted. Elephant Butte Reservoir, 120 miles south of Albuquerque on the Rio Grande, increased its volume from 400,000 cubic acre feet to nearly

(Continued on page 20)

Siftings

By CHARLES MRAZ
Box 127
Middlebury, VT 05753

Recently, the editors of the bee magazines have made reference to the recent news release of research carried out by the FDA Carbohydrate Nutrition Laboratory in which experiments on rats indicated sucrose, or common sugar, a disaccharide, is a probable cause of diabetes and heart disease. Dr. Yudkin of England has also indicated this in his research some years ago, that a high sucrose intake in the diet is a primary cause of diabetes and heart diseases. Yet, in the news media, hardly a word has come out on this research. With the botulism scare with honey, every paper in the country made it into headlines, to the detriment of all beekeepers. Monosaccharides, according to this research, such as levulose and dextrose in honey, do not cause this problem to the degree found in sucrose. As those of us interested in natural foods for so many years have maintained, honey with its monosaccharides and various enzymes was much better for health than sucrose.

It now appears that the pediatricians have the wrong sign hanging up in their waiting rooms. Instead of warning mothers not to feed honey to infants under six months of age, the sign should read; "DO NOT FEED SUGAR TO INFANTS OR CHILDREN AT ANY AGE, IT IS A POSSIBLE CAUSE OF DIABETES AND HEART DISEASE!" Such a sign would be much more appropriate. Tests have shown, early signs of diabetes and heart disease do often show up in children at a young age. No doubt those children eat a high volume of sucrose in baby foods, baby formulas and lollipops from doting grandparents. How else does one find men in their 30's dropping dead from a heart attack? At the age of 70, some years ago I had extensive angiogram and catheterization tests of my arteries. After these tests, the cardiologist in the hospital introduced me to his string of interns with the remark, "and this man has arteries like a teenager." My advice was to use honey instead of sugar. I believe one doctor took it seriously. A year later when I saw him, there was a dramatic change in his whole appearance, much healthier looking. When I complimented him on how well he looked, he said he thought it was time he did something. What, he didn't say, but he gladly accepts my gift of a case of honey each year. It would be interesting to know how others that use only honey instead of sugar, for many years, would check out in these tests. Since these tests are expensive and not too easy to take, it would be prohibitive to do it except when done for other reasons. Blood pressure tests are a pretty good indication, though not as positive.

Another Apimondia Meeting, 1981 Acapulco, Mexico, has gone down in history. There were about 2,500 in attendance from over 50 different countries. It was quite a meeting, and it was hot. There was lots of rain in almost all of Mexico this year and vegetation looks excellent. On the trip to Miel Acapulco, (16,000 colonies of bees) we saw much campanilla just starting to come into bloom. It produces a delicious, light amber honey, that looks green as grass in the combs, and does not crystalize. When produced and extracted after it is well ripened with a low moisture (15.5% or less) it is a finer honey even than the tupelo of Western Florida. Unfortunately, it is often mixed with other darker honey and extracted when still "green", before it is ripened. It is then often of inferior quality. This is true of much honey in Yucatan. Properly produced with low moisture, Yucatan blossoms can produce some of the finest honey in the world, but with the present methods of production, at best, it is thin, dark, poor quality bakery grade honey.

In the central or high country (Tierra Fria) of Mexico, the acahual honey flow was at its peak, with an excellent crop in the making. Acahual honey is often called "golden honey." It crystalizes quickly into a smooth crystal with a beautiful, golden color, a premium grade honey. It was indeed wonderful to again meet all the beekeepers that I have met through the years from almost every country in the world. Friends from Korea, Australia, Argentina, Colombia, Russia, Germany, France, Spain, etc.

The apitherapy meeting was a disappointment. There were about 40 papers presented on this subject and only three hours to deliver them. Rather tough to travel 5,000 or more miles and to have just five minutes to deliver your paper to the meeting. In Moscow, the apitherapy meeting was held for three full days. Some difference. Next meeting, I believe, will be Hungary in 1983. The 1985 meeting, Korea or Japan. So get ready to travel; a wonderful way to see the world through the world of the beekeepers.

Here in Vermont, we also had sufficient rain and plant growth, for the winter is excellent. Who knows, we might even have enough clover for a honey crop. The corn crop took a beating this year. With all the rain, the blue clay is like soup and much corn has yet to be cut. Also, with weed killer used on the corn, it is just all clear mud, no weeds in the soil to give the tractors any footing. The wheels just pack with mud and bury themselves. Let us hope a lot of these corn fields will be nice clover and alfalfa fields in the years to come. After all, the clovers do make a lot better feed than corn and it is much cheaper to produce the needed protein on your own land rather than to have to buy it.

There is no question that sales of

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Siftings

(Continued from page 18)

honey, I believe, have dropped due a great deal to the "assassination" of honey by the botulism scare and recent publicity, even in natural health magazines that say "honey is no better than sugar." This is where we must publicize the experiments of the FDA Carbohydrate Laboratory,-namely, that honey IS NOT THE SAME AS SUGAR OR SUCROSE. Even beekeepers, that should know better, are their own worst enemies. Perhaps through lack of knowledge or lack of courage, we let those that make false accusations of honey, get away with it without a battle. Recently, in the Burlington, Vermont newspaper, it mentions that Dr. Jarvis's book, *Folk Medicine,* is making a comeback. That is what we need today, more Dr. Jarvis's and more books like *Folk Medicine.* And more publicity by beekeepers who are not afraid to say honey is better for our health than sugar. It is time more of us read Dr. Bodog F. Beck's book, *Honey and Your Health,* in the original version.

By the way, those that are interested, Dr. Bodog F. Beck's book, *Bee Venom Therapy* (1935) has been reprinted by: L.A. Doyle, D.O., 119 S. 7th Street, Osage, Iowa 50461. Anyone interested in getting a copy of this excellent book can contact Dr. Doyle directly about getting a copy. This past weekend the annual meeting of the North American Apiotherapy Society was held with an excellent program. It is encouraging indeed to see more and more people becoming involved in this program as the safety, effectivness, low cost of bee venom therapy becomes known to more and more people. If you want to know more write to: Information Officer, Ann Harmon, 6511 Griffith Road, Laytonsville, Maryland, 20879.

Stay Healthy Eat Honey

Beekeeping in the Desert

(Continued from page 17)

1,000,000 in the same period. The lake level rose more than 50 feet and backed up the valley 30 miles farther than normal, the fullest it had been since 1941.

Some beekeepers lost their hives to drowning before they could be moved. The rising lake covered the bee pasture in the locale of one of Cole's yards and forced him to move another of 120 hives as the water crept within 200 meters of the location.

Although safe that time, Cole has lost whole yards to flooding on other occasions and it is an ever present danger in this land of unpredictability.

The weather can be both beneficial and detrimental to beekeeping in the nation's fifth largest state. Beekeepers are literally at the mercy of the weather.

Beekeeping in the desert occurs on a great variety of terrain. The land may be flat as in the river valleys, or hilly, or even ruggedly mountainous. Cole has bees in each type of terrain.

Soil conditions vary from sandy to rocky, to hard, sunbaked clay. Road conditions change dramatically after rains, prompting beekeepers to always travel with shovels on hand. One never knows when he will have to dig himself out of a dusty sand trap of a road or the mud-swept remains of what was a road. The unpredictable and mostly ungraded roads to the bee yards sometimes require upkeep by the beekeepers themselves. Some beekeepers use four-wheel drive pickups to get them in and out of their yards.

Occasionally, if a beekeeper wants a good location, he has to build his own road. Cole has built roads to many of his locations. Some were relatively easy to construct as only small bushes needed to be cleared and minimal leveling necessary. Others involved making crossings through gullies, chain sawing trees and pulling roots.

The salt cedar is the most reliable honey source for Cole and other New Mexico commercial beekeepers. With deep tap roots, the plant does not necessarily have to have good rains to yield. It yields best in hot dry weather and may even temporarily stop yielding if it gets too much rain.

Salt cedar, or "tamarack" honey consistently has a strong flavor generally considered unsuitable as table honey. Thus, the bulk of this honey is sold as bakery honey or exported to nations whose tastes are not quite so finnicky as those in the United States.

The mesquite bush is another desert source for nectar. Blooming in May, only under warm conditions after abundant spring rains, the plant is not as dependable as salt cedar. However, when it does yield nectar, some hives may produce as much as a ten-frame deep super per week.

Mesquite honey is light colored, very delicious and very much in demand when it is produced. It is also produced in Texas and Arizona.

". . .desert beekeeping is an action packed vocation with perhaps more challenges than beekeeping in any other environment."

A particular species of sagebrush, unique to New Mexico, can also be a good desert source of nectar if the summer rains are sufficient and temperatures not too warm (70s and 80s).

This unique honey has a chemical structure which causes wax to be secreted with a cream color. Just by looking at the combs, beekeepers can immediately deduce the source of honey without first tasting. Sage honey is light colored, delicious and is especially suitable for making creamed honey as it granulates in very fine crystals.

Other desert plants which yield nectar are the desert willow, facilia, wild buckwheat and a host of unidentified wild flowers which blossom after good rains. These plants may not be seen for years until the right rain comes at the right time. Production from these plants will usually insure a bumper crop for the beekeeper.

Regardless of the year or the level of production, bees must have water. Water is quite precious in the desert and not easy to locate. For that reason bees are always located near a constant source of water such as the Rio Grande, or some ever flowing stream, or a pond or a stocktank. This limits the range bees can cover, but then again, the best honey sources are always near water.

Contrasting the difference water can make in the desert, the watered places (usually river valleys) are lush green with swamps and mosquitoes, while the waterless places (hills and mesas) are sparsely vegetated with cool shade hard to find.

Occasionally, in drought years, Cole has had to dig holes in dry, dusty riverbeds til he hit water, so the bees would have something to drink. At one location, during a drought in which the desert did not receive any substantial rainfall for nearly a year, he transported barrels of water for the thirsty bees.

"Lots of places where we put bees aren't very green, but at least our vehicles don't rust out like other places," smiled Cole.

A lack of water, or even an over abundance of it, does not stop wax moths from being an ever constant threat. Nor does it have any impact on American or European foulbrood. Mice strike at any time also. The pests will take advantage of any hive they can sneak into, regardless of location or weather conditions.

Rattlesnakes are plentiful, but not as numerous as in Texas or Oklahoma. However, precautions need to be taken as these quiet moving creatures can enter a bee yard unnoticed. Cole kills three to six rattlers each year in his yards.

Desert beekeeping is not a boring business. Unlike the desolation around it, desert beekeeping is an action-packed vocation with perhaps more challenges than beekeeping in any other enviorment. But it is also rewarding.

"The advantages of my beekeeping business are independence, being out-of-doors, travel opportunities, daily challenges and the quest to produce a good product. There are also opportunities to meet people," Cole reflected.

These virtues of beekeeping are enhanced by the soul-refreshing tranquility and self identity found in the desert. For in the desert a man can find himself in a way that only the desert can reveal. □

Honey Queen Kim Mentzer

The daughter of Roger & Myrna Mentzer of Gann Valley, South Dakota. She is 21 years old. Kim is a senior at South Dakota State University, Brookings, SD, Majoring in Home Economics Education. Her favorite hobbies include horseback riding, sports, sewing and cake decorating. She was a 4-H rodeo queen.

Bees on the Rocks

By S. L. HUMPHREYS, SR.
Del Rio, TX

HOW DO BEES fare on their own, exposed to the elements?

It is our plan, to take more pictures to see how the nest makes out. It is our hope that the bears in the Big Bend wilds do not find the nest. The bees are located on the Harold Webb ranch, 26 miles south of Marfa, Texas, in the Big Bend area of Texas.

The pictures were taken on a clear day, temperature 60 degrees F. The bees nest is on a rock bluff facing north, with no protection. The size of the nest is about three feet by two and a half feet. The altitude is about 5800 feet. The temperature drops very low at night; sometimes down to zero. Fifty yards from the nest, water is furnished by a spring.

The bees were working that day and as can be seen were fairly strong.

The photos are by my son, Gary, who used a Minolta 35MM camera with 100ASA Kodak film.

Two Wisconsin Beekeepers Honored

By GERALD MACK
Reedsville, WI

IN OBSERVANCE OF National Honey Week and Wisconsin Honey Week, October 11-18, the Manitowoc County Beekeepers' Association, Inc. has honored two county beekeepers for 75 years or more of active beekeeping. Honored were Albert Trapp 92 and Otto Mack 86.

Trapp, formerly of Route 1, Maribel and presently residing with Mr. and Mr. Marvin Pantzlaff of Route 2, Greenleaf, grew up in a beekeeping family where his father kept a 200 colony apiary.

At the age of 17 Trapp purchased six colonies for $12 and began beekeeping on his own. He later married, and his wife Edna helped him uncap, extract, and market the honey.

Trapp was superintendent of the beekeepers booth at the Manitowoc County Fair in the late 1950's. He said the things he enjoyed most about beekeeping were meeting people at auctions and markets where he sold his honey. At present the Barricklow Family of Route 2, Greenleaf, have been helping with his bees. He noted that he is concerned about the beekeeper's future because farmers are often cutting clovers before the bloom, leaving the bee without the flowers they need for honey production.

Mack, of Route 2, Reedsville, has been working with bees for 77 years. He got started in beekeeping from an older brother, Fred W. Mack. He began with 25 hives. During the years 1914-1916 he and a former Reedsville storekeeper, F.F. Stelling, worked together as state bee inspectors.

He recalls the first meeting of the Northeast Wisconsin Beekeepers at Link's Hall, Reedsville, in 1917.

In 1918 Mack was sent to Europe in the Armed Forces during World War I. When he returned to the U.S., he discovered that all of his swarms of bees had left his hives.

Mack has been aided in his beekeeping by his wife Ida who came to Wisconsin from Texas, somewhat familiar with beekeeping as her father owned several hives of bees.

Throughout the years, while Otto was out in the bee yard, his wife would be extracting the honey and getting it ready for market.

Mr. Mack has been a member of the Manitowoc County Beekeepers' Association from its beginning in 1938.

Mr. Mack is still active in beekeeping with some help from his son Gerald, his daughter-in-law Henrietta and grandson Steven.

Mack commented that beekeeping has been a very good industry to get involved in but he added that people will find beekeeping easier if they have the experience of working with bees while they are youngsters. □

Left to Right
Otto Mack and
Albert Trapp

The Black Bear — Part I

By GRANT D. MORSE, PH. D.
Saugerties, N.Y.

I thought my honey bees were safe from bears. The hives were within sight of the road, and within 200 yards of two different houses, both occupied by people throughout the year. The folks in each of these houses own and maintain one or more dogs.

I discovered the vandalism on the morning of June third. I judged that the bear had been present the night before. Since I no longer operate on a large scale, there were only a few colonies in the yard. The bear concentrated his efforts on the two hives that were at each end of the row.

Each colony consisted of three hive bodies, the upper one in each case being a super of frames with new foundation. These supers the bear evidently cuffed to one side and gave no more attention. Then he went down into the hive bodies containing the brood and devoured the larvae in every frame of three supers. Some he broke; others he left flat on the ground with all of the brood area consumed.

I went to the nearest phone and called the district office of the New York State Conservation Department. I asked the officer who answered my call if his department compensates beekeepers for damage done by bears. He told me they do not. I asked next if he could bring a bear trap and attempt to capture the animal. He replied that his office had only one trap for three counties — a very large area.

"Is there anything you can do for me?" I asked him then. He said; "As soon as this bear establishes a behavior pattern, we will try to help you."

I told him that there were only a few hives left, and if he waited to do something until the bear had "established a behavior pattern," there would be nothing left to do so far as I was concerned.

I sat down then and wrote the New York State Commissioner of Conservation telling him of what had transpired. In the letter I asked him if he thought it fair and ethical for his department to protect bears so that sportsmen might have the experience of shooting them, without at the same time protecting property owners from the depredation of these same animals. I mentioned the fact that if I harbor an animal and that animal does damage to the property of others, I am liable before the law. On what basis can public animals (bears) be exempted?

When I had phoned the district representative of the Conservation Department, he told me that they were experiencing an epidemic of vandalism by bears on honeybee colonies throughout the state. I then asked him if he did not recognize that this epidemic stems from the fact that the Conservation Department has been over-protective of bears and that as a consequence they have been become so numerous that in order for them to secure adequate food, they have had to extend their foraging territory right up to the edges of our human population? His reply was non-commital.

In order to reassure myself on the question of over-protection of the bear population by the Conservation Department, I secured a copy of the New York State 1-80-81 law governing the hunting of this animal.

The literature on the subject put out by the commission says that in the entire Catskill Mountain area, only 17 bears were taken in the year 1979. The 1980 season in the Catskill Mountain area was limited to the Archery Season, October 15-November 16 and a firearm season beginning on November 22 and continuing through December 9. The literature further states: "The long term goal is to maintain an optimum size bear population for recreational use, human co-existence and balance, with available habitat."

The archery season is not truly significant to any appreciable degree in reducing the bear population, since, as anyone who has ever hunted the Catskill region knows, the average hunter, even those armed with a gun, seldom see a bear. This does not mean that the bears are not in the vicinity, but a bear has senses far superior to those of a deer — and a deer is usually no mean adversary in a fair hunt. There are plenty of hunters who have gone afield each fall throughout their lives without ever sighting a bear.

I can understand that it is a bit difficult for a State authority to set hunting limits that will exactly determine what the bear kill in a given year will be, but statistics maintained over a long period of years should yield a rather reliable forecast. That the Conservation Department has erred on the risky side is rather evident, judging from the present intrusion of these animals into non-hunting territory.

"Which should take precedence, sport or business?"

Here again, there should be a wisely determined decision as to what properly determines bear hunting territory. It would seem to me that when these animals are allowed to become so numerous that they leave the mountainous regions far behind, and attack property in and near villages, they have been permitted to expand their numbers improperly. This is more true if a state is to give no consideration to the money damage which they cause.

Sport versus Business

Which should take precedence, sport or business? Is it possible that the Conservation Department of my state makes its decision on the basis of numbers? I mean the numbers of hunters involved versus the number of property owners whose possessions are threatened?

I do not know how many licensed hunters there are in this state, but they undoubtedly outnumber the beekeepers, whose total is approximately 7000. But the two should not be in conflict. They need not be if the

Deadly Foe Of The Beekeeper

ones who are seeking to indulge themselves in a sport recognize their responsibility to those whose property is threatened by the game they are pursuing. He who dances should be willing to pay the fiddler. But no one can expect each individual hunter to volunteer to undertake this responsibility. It is the agent of the hunters, the officers of the Conservation Department, who should be ready to listen to the justified plea of the beekeeper for renumeration when his property is wantonly destroyed by the bears. It is they that have a duty to support the requests of the injured parties. Has this been the position of the Conservation Department?

Safeguarding the Bee Yard

During my conversation with the district representative of the N. Y. State Conservation Department, he said to me that I should consider building an electric fence around my colonies. I replied that the expense entailed would hardly be justified by the number of colonies I own. Then he said to me that I have a right to shoot the bear. The answer to that suggestion is that one might spend hours and hours for many days and never see the bear. As I stated earlier in this article, a bear is an animal with extremely well developed senses. I know many hunters who have hunted for a long period of years in bear country and have not seen a bear. Added to the difficulty is the fact that the bear performs his attack on beehives, as a rule, late in the evening when it is difficult for a human to see the bear; or else at daybreak when visibility is similiar to that of late evening.

I have heard beekeepers tell of being succesful in eliminating predatory bears by poisoning them. But I want no part of that attempt. Moving the colonies out of a yard that has been attacked is probably the most effective method of control. But that has complications. To what location can a beekeeper in the vicinity of the Catskills move a yard and hope to have it safe in a year when the bears have been allowed to expand their numbers unreasonably? A bear has been known within my lifetime to come into the outskirts of our village and repeatedly attack beehives. Only last week one with cubs was seen in the hamlet of Malden, a suburb of Saugerties. In order to reach these locations, including my bee yard, a bear must cross the New York Sate Thruway, a four lane toll highway maintained by the State. Traffic there is heavy, as a rule, even at night.

Biologists who have studied bear populations tell us that when a mother bear has reared her young to adulthood, she drives them from her hunting territory. I do not know the exact dimensions of territory that are needed to provide a single bear with adequate forage. I suspect that the area is of considerable dimensions, however. Such information is available, I am sure, to the Conservation Department.

The yard where a bear attacked my colonies on June three this year is one in which I have maintained colonies nearly every year since 1945. In the year 1948 a bear destroyed a considerable number of my colonies in a yard located within a few hundred yards of my present one. It was a bit deeper into the countryside than my present one but still within approximately 300-400 yards of two occupied dwellings. Evidently that was another year in which the bear population had been allowed to become excessive.

The typical citizen assumes that bears like honey, and that they attack bee colonies in order to get a taste of sweet. You and I know that it is the larvae and pupae that they are seeking when they attack a hive. If it were primarily honey that they seek, a frame or two would probably satisfy them. But it requires the total of as many as twenty to thirty frames of brood — or even more in some cases — to satisfy one bear. It would seem that they must get stung severely around the mouth and eyes, and they doubtless do, but their appetite is such that they appear willing to endure this discomfort.

Attempts at Compensations Legislation in New York State

I have before me a copy of a bill prepared in 1975 by the Committee on Conservation and Recreation of the New York State Legislature, intended to compensate beekeepers for loss of colonies of honeybees due to destruction by by bears.

I am informed that this bill was prepared every year by the Committee from 1970 through 1976, but that it never was reported out of Committee. The bill, sponsored by Senator Mason and Assemblyman Hawley — multi sponsored by Mr. Kidder, was read once and referred to the Committee on Environmental Conservation.

The proposed bill reads in part as follows: "The State shall be liable to the owners of colonies of bees for damages resulting thereto by bears. Indemnification therefor shall be made as herein provided. Such indemnification shall not exceed actual damage and shall in no event exceed the sum of twenty dollars a colony, nor the sum of five thousand dollars for indemnity payable to owners of colonies of bees, determined as hereinafter provided, shall exceed the sum of five thousand dollars during any fiscal year, the indemnity payable to each owner shall be reduced prorata."

I should place an exclamation point after the above quoted proposal. The total amount of reimbursement proposed was only five thousand dollars, and yet the bill never got out of Committee! What a commentary on an attitude of indifference toward the beekeepers of New York State! Of course, there are only 7000 of us; and perhaps therein lies the reason for the indifference.

But, to speak realistically, isn't part of the failure of the proposed legislation to make any progress due to the failure of the 7000 beekeepers of New York State to make themselves heard? Am I wrong in assuming also that the bill did not have any genuine support from the officials of the New York State Conservation Commission? Am I wrong in guessing that the anticipated fun to be experienced by the hunters of New York State took precedence over the economic welfare of the comparatively small group of beekeepers in the State?

Today twenty dollars would scarce-

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ly pay for the frames and foundation in one hive body. Certainly, the proposed legislation did not fail to pass because of any demand for an excessive compensation.

Of course, New York State is not the only state in the Union to fail to secure legislation on this subject. States that need this legislation will continue to fail (in most cases) until and unless the beekeepers of each State become vocal, aggressive, concerned, positive about the matter. I suggest that the subject be referred in each State concerned to a committee of the most competent individuals involved to do whatever is necessary to secure positive results. Such committees should include in their agenda a meeting with the State Commissioner of Conservation, the members of the Legislative committee that has the subject under their jurisdiction, and the Governor in question. Anything less is likely to prove futile in the majority of cases. Each beekeeper should also sit down with his local state senator and state assemblyman. In a previous article I reported hearing a state assemblyman in Florida declare to the members of a beekeepers' club that he deplored their failure to make him aware of their legislative needs. In a state such as New York where the hunters are so numerous (and perhaps selfish), a greater than normal attack needs to be launched. No milk warm effort is likely to succeed.

Included in the information given to the legislators, should be factual data showing that approximately one third of the food on our tables (and the tables of the legislators) is there as a consequence of the pollination by honeybees of the flowers of the plants that yield that food — practically every fruit, most of the nuts, a large share of the vegetables, part of the food eaten by the animals that eventually become the meat on our menus, such as: the clovers, alfalfa, bird's foot trefoil, vetch, and so on. Much of this pollination is free. And the fact is that, in the event of the loss of an adequate number of honeybees to accomplish this pollination, there are no substitutes in adequate numbers available to do the job. Any beekeeper who wants to study this question can find all the material he needs in Agriculture Handbook No. 496, Insect Pollination of Cultivated Crop Plants published by the Agrcultural Research Service of the United States Department of Agriculture. No one need exaggerate the data. For example, It is foolhardy to claim that **more** than something like one third of our food is ours because of honeybee pollination. It is likewise untrue to claim that honeybees are the only pollinators. But they are the **chief** pollinators. No other insects are available in adequate numbers to take their place; nor could substitutes be provided within any short period of years, so far as we know.

"It requires the total of as many as twenty to thirty frames of brood or even more in some cases to satisfy one bear."

The Black Bear Problem in Others States

New York State is, of course, not the only one plagued by the black bear problem in relation to beekeeping. I have before me a copy of a letter written by Mrs. Liz Rodriques, Secretary of the New Jersey Beekeepers' Association, to Dr. Roger A. Morse, Dept. of Entomology, Cornell University, Ithaca, N.Y. dated June 15, 1981 which reads in part: "On June 2, 1981 Anthony De Palma, a reporter for the New York Times advised me via the telephone that the N.J. Bureau of Wildlife Management, in a report dated April 23, 1981, was proposing to release black bears in the Pine Barrens of South Jersey.

Prior to this telephone call, the New Jersey Beekeepers' Association had no inkling that these plans were in the making.

The Pine Barrens are a large area of land in South Jersey under the jurisdiction of the Pinelands Commission which generally restricts farming in the preservation area to cranberry and blueberry production and beekeeping.

In this general area, are 8000 acres of blueberries and 3000 acres of cranberries. Each year, some 10,000 colonies of honeybees are brought in to pollinate these two crops and apples, peaches, cucumbers, and other agricultural crops.

We feel that the bee colonies would be a major target for the bears, while the berry and fruit farms would serve as prime forage areas of the black bears. The Pine Barrens are a natural habitat for bears and bees. The bees were there first, but no bears have been in the area for some 70 years!

The above concludes the portion of the letter that should be of interest to the average reader of *Gleanings*.

I do not wish to pass judgment on the preferences of the members of the Conservation Commission of the State of New Jersey, but my observation from this distance is that they seem to be no more aware of the threat to the property of beekeepers from inroads by bears than the New York State Conservation Department. Or is it, again, a question of numbers — the number of beekeepers versus the number of hunters whose chief concern so far as bears are concerned, is with the sport of pursuing them?

My belief is that the presence of black bears as objects for hunting should be confined to areas in any state that is relatively free from a concentrated human population, and an area in which the presence of honeybees is essential and proper.

There is another factor in the black bear situation that merits considera-

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tion by the personnel of the Conservation Departments of the Nation: that is that the behavior of a black bear in a wild environment is one thing; its behavior in a congested human community to which it has become accustomed may be quite different. A black bear in the remote woods has an instinctive (or acquired) fear of man. A bear on the borders of man's habitation loses this fear and may conceivably become a danagerous threat, especially to the young of the human race. This would be true, of course, only under unusual circumstances.

Further, I believe that a considered assessment of the whole hunting program would suggest that the presence of bears as objects to be hunted should be confined to truly wild areas, not to semi-wild territories — and certainly not to well populated districts as has now become the case in New York State. It should not be expected by hunters (or the Conservation Commission) that one can shoot a black bear in his back yard, as is now often the custom in New York State in securing venison.

Nor is it reasonable to expect the Conservation Department to protect bears to the point where they become visible to curiosity seekers as they drive by on the highway.

It is likewise unreasonable for the Conservation Department of a state to protect bears to the point where any class of citizen (in this case, beekeepers) is compelled to go about the country armed with a rifle to protect their property, nor to put out poisons which are likewise illegal — and extremely undesirable from the point of view of safety for both man and beast.

Nor is it reasonable to expect that a beekeeper must erect an electric fence around his bee yards in other than a wilderness area. The typical beekeeper could not afford to build such fences. It should not be expected of him in order to protect his property against wild animals that are allowed to roam in territory occupied by people.

The Practice In Other States

There are six states in the Union that have a compensation program to protect the property of beekeepers from devestation by wild bears. They are: Maine, New Hampshire, Pennsylvania, Vermont, West Virginia, and Wisconsin. Three Canadian Provinces have compensation programs: Manitoba, Ontario, Saskatchewan.

Some of the states have restrictions, such as, for example Pennsylvania, which will compensate for bear damage only if the bear damage occurs within 274 meters from an owner's residence.

It is hardly to be expected that the members of the public at large will soon come to understand the value of honeybees to their food supply, nor the true threat bears are to beekeepers' property. But it does seem reasonable that the members of a conservation department of any state should conprehend and understand the facts involved. They are the appointed or elected representatives of the people. They have an obligation, it would seem, to be concerned not only with the pleasure feature of hunting the animal, but also the damage that it can cause to the property of individuals whose profit margin is seldom high. To be blind in this matter is reprehensible and unforgiveable.

Medina Visitors From Egypt

DR. SALAH EL-DIN RASHAD, Professor of Apiculture at Cairo University, Egypt was a recent visitor in Medina at the A. I. Root Company. He was accompanied by Mohamed Ismail, a graduate agricultural engineer.

Dr. Rashad is the beekeeping consultant for the Arab Contractors Osman Ahmed Osman and Company who are developing agricultural crop land in the Nile delta. Four years ago the late President Sadat led Egypt in the campaign of food security. Irrigation and land development have created a "green revolution" in the desert lands. A well studied and scientific plan was set up for five years and is working towards a 99,000 acre development during the years 1980-81 to 1984-85.

L. to R.-Mohamed Ismail, L. Goltz, Editor Gleanings, Dr. Rashad, Professor of Apiculture, Cairo University.

Bees in and Around

By DEWEY M. CARON
Newark, Delaware

The Washington, D. C. area is host to thousands of visitors each year. People from throughout the U. S. and the world come to see our government in action, to advise it or just come to visit and be spectators. There is much to see and do in our Nation's Capitol. A portion of the visitors see observation honey bees and/or displays of bees and their products each year. There are several places one can see honey bees in and around Washington, D. C.

Smithsonian

On the Mall in downtown Washington, D. C. are the several museums of the Smithsonian Institution. The National Museum of American History, Museum of Science and Technology, has had a bee display for a number of years. The display features a standard Langstroth hive with glass replacing the wooden sides. The hive is designed to include live bees but bees have been absent for several years due to frequent losses in the past when the Mall shade trees were treated with pesticides. There is also a replica of the original Langstroth hive on display and a skep with bees painted on a backlighted wall funneling from the skep entrance. Jars of honey showing different colors are also part of the panel. There are also wax candles, a foundation press and an artificial insemination device. The graphics are excellent with several of the McGraw-Hill Study prints in use.

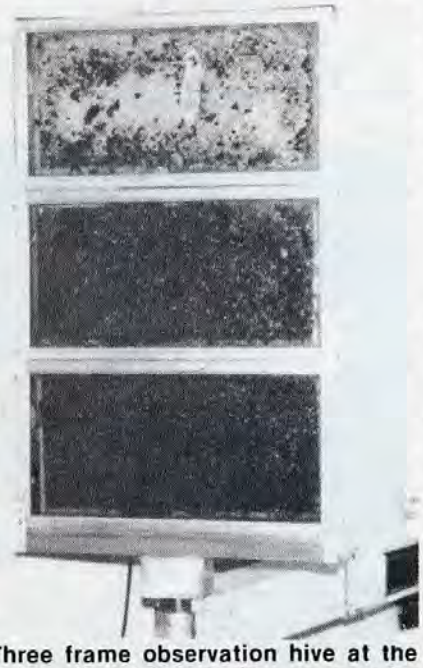
The display is not easy to find, since it is in one of the nooks behind several pieces of farm machinery. To get to it, turn right at the water powered sawmill and proceed toward the outer wall on the lower level. The display doesn't get high visibility, but it is a good one that holds viewer attention.

Next door, in the Museum of Natural History, there is a live bee hive year round in the Insect Zoo. The large observation hive occupies a prominent place in front of a huge window looking out on the Mall. Foragers fly over a wide area of Washington to find sufficient nectar and pollen. The queen is usually marked but during the past spring (1981), the hive had 2 queens - a mother/daughter situation as a result of supersedure. Attractive information panels nearby provide information about honey bees and social insects. Adjacent to the honey bees is another social insect - a colony of leafcutter ants that right now need a new queen.

The insect zoo is in a corner of the Museum, but it is well marked. You will find it on the 3rd level beyond the bone and reptile exhibits. Take the appropriate hallway from the level above the Mall entrance foyer which is dominated by the mammoth stuffed African bush elephant. Live insects are featured in the zoo and volunteers are on hand to answer questions, feed tarantulas and allow the youngsters to have a first-hand look.

While in the Natural History Museum, you might drop down to the middle level and wander to the back of the corridor "Birds of the World". A panel near the end of the corridor shows greater honey guide birds "waiting" while a ratal (honey badger) finishes digging a wild bee nest from the ground so they can feed on the wax and honey remains. The display looks very life-like as a natural panorama.

The Smithsonian museums are open 10 to 9 from April to September and 10 to 5:30 during the winter months. They are a most popular place to visit. You might see someone from around the corner or from around the world during a visit.



Three frame observation hive at the University of Maryland — a popular visitor and children tour subject.

The White House

The most famous House in the United States has been visited by honey bees but none reside there currently. A swarm of bees was removed from a parking area between the White House and the Executive Office Building a few years ago by a Northern Virginia beekeeper. The secret service agency contacted the University of Maryland a few years ago about removal of bees from a bee tree on the White House grounds. The colony was exterminated because of concerns for security (quickest and safest removal!) and the hole patched.

Rock Creek Nature Center

Rock Creek Park is a green strip through the District of Columbia. Out beyond the National Zoo is the Rock Creek Nature Center, open Tuesday through Sunday 9 to 5. There are nature trails, horse stables and a center with modern displays including an observation bee hive. The hive died out last winter but was to be restocked in May from USDA Bioenvironmental Bee Lab bees.

The Rock Creek observation hive has been part of the display for several years. It is part of a nature room that youngsters will find of special interest. The hive is a multistory one with a clear plastic tube to the outside. Two panels have a brief explanation about bees and pollination.

U. S. Route 1 North

Within a short distance of Washington, the University of Maryland Apiary and the Beltsville USDA Research Station both have bee displays. The University of Maryland apiary is a popular tour for school-age children. The visit includes a look at bees in observation hives, a taste of honey and a lecture highlighting the importance of bees and beekeeping.

Small one and two frame observation hives are established during the spring, summer and fall at the Apiculture Building while a large 3-frame observation hive winters suc-

the Nation's Capitol

cessfully 2 of 3 seasons. The Apculture Building is an entire building devoted to apiculture and it includes a classroom, offices, an extracting room and laboratory. The apiary in front of the building houses 10-30 teaching and research colonies. The apiary site is wedged between high rise 8-story dormitories on the west side of campus across from the football stadium.

The USDA Beltsville Research Station and Bioenvironmental Bee Lab are also a popular stop with national capitol visitors. A display of bee materials and signs indicating the personnel and their duties are posted for easy identification at the bee lab which occupies the entire floor of the large insect studies building. One or more observation hives are established for frequent visitors and some seasons there may be several established for on-going research. Back in the 60's there was an entire building housing over 40 observation colonies for special projects on brood development and nutrition.

The Bioenvironmental Bee Lab is not on the regular self guided tour of Beltsville, but group tours to the bee lab can be arranged through the visitors center. The bee lab also assists several parks in the area by stocking their observational units and additionally it provides disease diagnosis service for the bee industry.

Adjacent to the University of Maryland is the headquarters of the National Entomological Society of America on Calvert Road in College Park. The Society headquarters has an observation bee hive on display for visitors to view. It is maintained by Jerry Odland, Associate Editor of the Society and a beekeeper. The honeybee is the only insect on display at the Society headquarters.

Maryland National Capital Park Bee Displays

A large number of park and green spaces are maintained by a regional park authority in the 2 Maryland Counties (Montgomery and Prince George's) adjacent to Washington, D. C. Several of these have nature Centers. In Montgomery County, Meadowside Nature Center has had bees for 7-8 years and currently has a 4-colony apiary. The colonies are enclosed in a rustic wooden fence setting at the base of a gigantic tulip popular tree on a rise to the side of the center. The bees are used in a conservation club summer program with youngsters and for other programs throughout the year.

Maydale Nature Center has bees now for the 2nd season. Naturalist Julie Melville, formerly at Meadowside, uses the bees in several programs at the center. Julie and other naturalists were host for the national meeting of Interprepative Naturalists in 1976. That program featured a special seminar and workshop on honey bees for naturalists.

Brookside Nature Center in nearby Wheaton Regional Park is another popular attraction in Montgomery County. There has been an observation bee hive at Brookside for several years. Naturalists Loren Lustig and Ken Arnst have a special interest in youngsters and honey bees. The present hive is a 5 tier one with 2 frames at each level. The special "bee room" has a very attractive and informative display. Also at Brookside, bee colonies maintained near the nature center are used to produce cut comb honey to obtain samples to hand out each season to tour individuals and youngster groups.

In Prince George's County, there is an unusual bee display at Robert Watkins Regional Park. A full size bee colony is maintained on a platform just outside a large window viewing area. Glass windows are cut into the wooden sides of the hive. A microphone inside or near the entrance picks up the sounds of bees. Informational panels nearby enhance the attractiveness of the display. It is a beautiful display and elicits plenty of attention.

Inside the Robert Watkins Nature Center Looking out. The beehive is outside but can be safely viewed. A microphone transmits "bee noise" via a speaker activated by observers.

Montgomery County School programs

Adjacent to Meadowside Nature center is a unique Montgomery School facility - the Lathrop E. Smith Environmental Educational Center. Fifth or 6th grade youngsters spend a day to a week or more at the Center and work on a wide variety of projects and participate in an outdoor environmental program. Honeybee colonies are part of the experience and are used in projects by staff and

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Bees in and Around the Nation's Capitol

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youngsters. Currently about a dozen colonies are used in the program. It provides the elementary age youngsters with a unique opportunity.

The School system also uses the beehive at Brookside in a science education program each year for selected youngsters. This program and the one at Smith are largely the result of special interests of the teaching staff.

Northern Virginia

The Arlington County Park Division maintains an observation beehive and exhibit at Gulf Branch Nature Center in Northwest Arlington off Glebe Road. Naturalist Tom Hutchinson also takes a portable observation hive to schools and clubs on a busy schedule. A popular feature of the nature center is honey extraction day in late July when the surplus crop of 3 colonies maintained in the park is extracted.

Within 1 - 2 Hours

There are some excellent displays featuring honeybees within a short distance of Washington, D. C. Prince William Forest Park in Triangle, Virginia, adjacent to Quantico Marine Base, has an observation hive and bee display. Adjacent to Camp David in Maryland, Catoctin Mountain Nature Center has a display of ancient crafts that includes an observation hive and bees. And where the Shenandoah and Potomac Rivers meet in Harpers Ferry, West Virginia, a new nature center is in the process of installing an observation hive.

Some additional displays are: the Carroll County (Maryland) Farm Museum in Westminster, Maryland, Piney Run Park Nature Center in Sikesville (Carroll Co.), Battle Creek Cyprus Nature Park, Calvert County (Maryland) and the Smithsonian Chesapeake Bay Center below Annapolis, Maryland.

In Baltimore, there are several displays of bees and observation bee hives. The Baltimore Zoo has a live insect zoo during the summer that includes an observation hive. The Cloisters Children Museum of Baltimore on Falls Road beyond the Beltway has a fine display. Also near Pimlico Racetrack on Green Spring Avenue, the Cylburn Wildlife Preserve has a bee exhibit.

Temporary Displays of Bees and Beekeeping

The area around Washington, D. C. features a large number of enclosed shopping malls and each Maryland and Virginia county has a fair with honey shows. Honey bees are included in Mall displays such as Maryland Agricultural Week which 2 years ago featured the theme "Maryland - Land of Milk and Honey". Active regional bee asociations in the Virginia and Maryland suburbs around Washington and in counties that surround Baltimore hold frequent meetings and arrange displays for various events. These associations participate in a number of activities each year where bees, beekeeping or bee products are displayed and explained.

Outside view of the bee colony at the Robert Watkins Nature Center, MD.

Report on Apimondia, 1981

By J. IANNUZZI
Elicott City, Md.

THE MEETING OF the 28th International Congress of Apiculture of Apimondia in Acapulco, Mexico, October 23-29, 1981 is now history. Attended by 2,285 registrants from 71 countries representing 83 bee organizations, it was covered in the Pacific coastal resort city famous the world over. The actual site of the sessions was Centro Acapulco, the mammoth convention center about a mile away from the major hotels, where Mexican President Lopez Portillo himself appeared on the closing day to bid welcome and fond farewell. The world group will next meet for a week in Hungary — which won out over Scotland in the balloting—starting on August 26, 1983.

Americans seemed to be fairly well represented. The American Bee Federation had its own group including Bardwell Montgomery, the state bee inspector from West Virginia. A group of 30, headed by Arthur Godon Strang, Boyds, Maryland, a former Maryland State Beekeepers Association president, and including 11 who began their trip from Miami, made the one-week event into a two-week excursion. Others travelled alone such as Bee Venom King Charles Mraz, Middlebury, Vermont, who read a six-minute paper entitled "The Status of Apitherapy in the United States"; D. Warren of Boston who delivered one on "Overview of Some Current Concepts of Utilizing Bee Venom in Medical Research"; Hachiro Shimanuki, co-author with Elton Herbert Jr. of a paper on "Sterol Requirements for Brood-Reading by Honeybees Fed a Synthetic Diet"; James Tew of the Agricultural Technical Institute, Wooster, Ohio and Malcom T. Sanford, recently of Ohio State.

Americans also made a good showing in the exposition hall with exhibits also from France, Germany, Brazil, Mexico, Yugoslavia, South Korea and Japan, among others. Found there sporting their specialties were William Maxant from Ayer, Massachusetts; Cartwright Plastics from Seymour, Indiana (sold exclusively as hive parts by Kelley); Greg Griswold's Fields of Ambrosia, Madison, Wisconsin — he was passing out free empty plastic bears and Richard Turanski's Glorybee Honey and Supplies, Eugene, Oregon. Even Joe M. Parkhill was there pushing his sugarless cookbook, *The Wonderful World of Honey,* despite the fact that his materials for display were hung up and failed to make it through Customs.

The Southern States Beekeepers Federation was represented by two of its four principal officers: President Steve Forrest with wife Sandy, Wilkesboro, North Carolina and Recording Secretary Ralph Wadlow with wife Carroll, Ft. Myers, Florida, who were all part of the Strang group originating in Maryland.

Touring the exposition room reminded one of a trip through the pages of *Gleanings* or *The American Bee Journal* since so many of the names of current advertisers were familiar and the actual products were right there. But here was the chance to check on prices and quality. For example, Fabrikat Herzog of Germany frequently advertises both a foundation mold and a motorized two-roller mill for producing foundation but never lists the price for either. A visit to its display revealed that the former sells for $150 and the latter $1,280 to which must be added shipping.

The Apimondia meetings covered the fields of bee biology, melliferous flora and pollination, bee pathology, beekeeping technology and equipment, and beekeeping economy which, incidentally, cover the five standing commissions, in addition to the special session on apiotherapy. A typical meeting was a three-hour session, twice daily, in which anywhere from 15 to 30 papers were read, then translated simultaneously into English, French, German, Russian or Spanish, as necessary, through individual headsets. Listed in the program for delivering papers were such well-known American names, in addition to those already cited, as W. C. Rothenbuhler (co-author), Frank A. Robinson, Al dietz (co-author with M. T. Sanford), V. R. Coleman, N. M. Kaufeld, E. L. Atkins, David DeJong, C. Johansen, D. F. Mayer, D. M. Menapace with W. T. Wilson, Norman E. Gary, H. Vande Kerkohof, Roger A. Morse, Joanne Weber, Jonathan W. White and Col. J. Vick, among others.

(Continued on page 32)

Dr. Hachiro Shiminuki, Beltsville, MD and Irene B. Iannuzzi, Ellicott City, MD in front of the honey ("miel") enterprise visited by Apimondia Registrants in Acapulco.

From left: Charles Webster, Sharpsburg, MD; John Iannuzzi, Ellicott City, MD; Ota Koichi, Toyokawa-shi, Japan; Irene B. Iannuzzi, Ellicott, MD; and Dorothy Webster, Sharpsburg, MD at Centro Acapulco, meeting place of Apimondia, 1981.

Report on Apimondia 1981

(Continued from page 31)

Although no honeybees themselves attended the conference, Apimondia provided an excursion to Acapulco Miel (the last word means "honey"), a honey enterprize located off Pie de la Cuesta near downtown Acapulco, away from the convention hotels. Founded in 1960 with the object of establishing 25,000 colonies, the business today consists of 15,000 hives scattered over the countryside, up to 87 miles away and produces about 11,000 Italian and Caucasian queens yearly primarily for its own use in three-compartment nucs each marked on the top "with (painted) signs which aid the bees in their orientation." The extraction plant, with a capacity of 4,000 light tons, operates primarily for export since the honey is too expensive for local consumption (for example, a half-pound container sells for about $1.40 in the local stores). There also is a carpenter shop that obviously produces every type of beeware necessary.

Through pre- and post-congress tours, one also had the opportunity to visit Miel Carlota at Calle Queretaro #111, Cuernavaca, the city of flowers with the "eternal spring." This was the very same place that a younger Charles Mraz worked many years ago for several months developing his well-known queen. It seemed to be a carbon copy of Acapulco Miel. Its woodworking shop produced a frame, of **equal** thickness on all four sides, being wired horizontally AND vertically preparatory to the installation of foundation. Its manufactured smokers had square bodies, similar to what is used in Germany. Unlike the first place visited, these people passed out delectable light wildflower honeycomb chunks for samples, much appreciated.

The third honey establishment seen by some of the registrants was the LOL-CAB Cooperative (Apicola Maya) located at Calle 32 No. 514-C, Merida, Yucatan, 30 minutes flying time from Cancun and Cozumel. Handling about a half million tons of honey a year, it is considered the greatest bulk honey producer in the world. Unlike the other two places, one did not see queen rearing and equipment manufacture, only an extensive indoor tank farm.

The final day of the conference, Thursday, October 29, 1981, saw the awarding of prizes, diplomas and medals. William R. Davis Jr., Fairfax, Virginia, a member of the Maryland Beekeepers Tour group, won a bronze medal (third place; first was gold and second silver) for his set of floral slides in worldwide competition. (His wife Eloise is the young lady who has captured more silver platters/bowls at the Eastern Apicultural Society annual meetings in the past four years than anyone else.)

The sweet, however, was mixed with episodes of the sour. For example, on Friday, October 23, the opening day, an English beekeeper walking the Acapulco beach with his wife, was captured unsuspectingly by a rambunctious wave and lost his life as did a Chilean apiarist at the same time. The wife escaped unharmed. The former was interred there. And a lady from the Maryland group who lives at Ft. Myers, Florida was also struck by a wave the next day near the same beach when her back was turned, thought she was a "goner," and was rescued by her alert husband and two stalwart Mexicans. She spent the next seven days in a wheelchair because of a badly wrenched left leg. Another member of the same group lost his $300 Minolta camera to a pickpocket team acting in tandem at a bus stop near downtown Acapulco.

Despite these black marks, a good time was generally had by all. Many will never forget Our Lady of Gaudalupe Basilica with its miraculous painting; the massive Diego Riviera murals at the national palace; the Xochimilco "floating" gardens; the stunning performance of the Ballet Folklorico in Mexico City; the three giant pyramids of the sun, moon, and masks at Teotihuacan about 35 miles northeast of the capital; Taxco, the silver city with more than 300 silver shops supplied by three mines beneath the city; the massive University City of 300,000 students (tuition: $8.00 a year! but there are no dorms) with gigantic murals on the outside walls; and the Mayan Indian ruins — temples and pyramids — at Kabah, Uxmal and stunning Chichen Itza in the Yucatan peninsula surrounding Merida.

Apimondia, Acapulco, 1981 was indeed a worthwhile apian experience!!

Clarence E. Krickler, Sykesville, MD, Maryland State Beekeepers' President, 1972-1973, standing in front of the Shrine of Our Lady of Guadalupe, Mexico City. He was part of a group of 30 Maryland beekeepers.

Left to right: Ralph Wadlow, Fort Myers, FL; Irene B. Iannuzzi, Ellicott City, MD; Ruth Huber, Forestville, MD; Arthur Godon Strang, Boyds, MD and Maryland State Beekeepers Association President, 1970-1971; Louise Strang, Boyds, MD; Margaret Sandige, Washington, D.C.; Sally Icenhower, Washington, D.C. — part of the Maryland beekeepers' group on a boat at the so-called "floating" gardens, Xochimilco, Mexico City.

Research Review

By DR. ROGER A. MORSE
Research Editor of Gleanings
Professor of Apiculture
Cornell University
Ithaca, NY 14853

The Bee Meetings In Acapulco

AFRICAN BEES and varroa disease were the topics most on the minds of the North American beekeepers attending the international bee meetings (Apimondia) in Acapulco, Mexico at the end of October. Over 2,000 persons from all parts of the industry around the world were present.

The scare stories about Africanized bees, and especially those by some researchers who feed such stories to the press, are making several U.S. beekeepers angry. Many American beekeepers have visited South America and they are aware that Africanized bees are not easy, but also not impossible, to manage. Speakers at the meeting talked about the methods that are being used to manipulate these bees in the honey producing areas where they are present, especially in Brazil. Those from the tropical parts of South America where African bees have been established for some time prefer these bees as honey producers.

I am especially intrigued by a soon-to-be published paper I was shown by Professor Kerr of Brazil on the southern spread of the African bees. It presents evidence that there are limits to how far south the African bees can survive. This was confirmed by a talk I had with a beekeeper from Uruguay about the bees in that country. From hearing about the plants in northern Uruguay where citrus is grown, I would presume the area is similar in climate to Orlando, Florida. The African bees have not moved that far south and apparently cannot do so. This suggests that Africanized bees would not survive in most of the United States.

I also talked to Mexican beekeepers and asked if there was any substance to the thought that African bees had been brought into Mexico from some South American country several year ago. The answer I got was positive. One beekeeper told me he had some especially "hot" bees resulting from queens he had recently purchased from another Mexican firm. Everyone I talked to was eager that the subject be researched. I understand from Dr. Shimanuki of the USDA, who was also present at the meetings, that consideration is being given such a study.

There were many discussions and papers on varroa disease caused by the mite *Varroa jacobsoni*. While many American beekeepers were upset over the publicity given African bees, they were much more worried about varroa. The disease has already spread from Asia to Europe, North Africa and four countries in South America. No perfect method of control has yet been found.

In Burma it has been found that caging the queen for 21 days, opening brood cells with dead brood, and force feeding colonies sugar syrup to stimulate cell cleaning, will rid the colonies of most of the mites. Good crops have been harvested after such treatment. Obviously, this involves much work and better methods are being sought. One must select the time of year that is done with great care so as not to interrupt a honey flow or the production of bees just prior to a flow.

In Germany a drug (K-79) had been shown to give good control of the mites. However, there is a residue in the comb and, of course, this is not desirable. In Germany, as in the United States, government approval would be required to use this drug and that may be difficult to obtain.

Drs. Lionel Goncalves and David De Jong presented information on the spread of varroa disease and aspects of its biology. In addition to deforming some bees it has been found that a mite infestation will decrease both a worker bee's longevity and size. I talked with one 3,000-colony beekeeper from Argentina who said his honey production was definitely down because of varroa disease.

I talked with several people about what the future might hold regarding varroa disease. Most thought it was inevitable that it would someday be accidentally introduced into the United States. In our discussions it was repeatedly pointed out that we need to know how the native host of the varroa mites in Asia, Apis cerana, resists the disease as well as it does. Several people had hopes that some degree of natural resistance might be found among some of the infested colonies in Argentina, Uruguay, Paraguay and Brazil; if so, they could be used to breed for resistance.

It was interesting that almost no one was seriously concerned about acarine disease, which is known to be in many states in Mexico. This disease is caused by mites that infest the tracheae (breathing tubes) of honeybees. It is a disease we certainly don't need and, like chalkbrood, which was first found in the United States in the late 1960's, it will cause some losses. However, American beekeepers seem to think we can learn to live with acarine; varroa disease poses a much greater threat. There is no barrier to prevent acarine from entering the U.S. and I think it may be only a few years before it is widespread in the U.S. and Canada. □

Dimilin Use Debated

Homer Powers, Virginia State Apiarist is quoted in the newsletter of the Beekeepers Association of Northern Virginia as recommending the chemical Dimilin. It is a growth regulator on Lepidopteran larvae and does not affect honeybees, according to Powers. Labeling, however, does not permit its use in settled areas. Powers suggests that beekeeping associations in gypsy moth infected areas investigate this control and compose a position statement supporting a change in the labeling of Dimilin to permit its use in populated neighborhoods.

Bee Talk

By RICHARD TAYLOR
Route #3
Trumansburg, NY 14886

YESTERDAY I HARVESTED the last odds and ends from my garden — it is now late November — and today it is snowing. How swiftly the seasons change! A few last brussel sprouts, a few last carrots and parsnips, and now my garden, so recently full and beautiful, is only a forlorn and bedraggled patch of mud and dead vines and stalks. But now my mind shifts gears, and instead of thinking of the tasks at hand — things to be harvested and stored, and honey to be gotten from the hives — I begin my daydreaming and woolgathering aimed at what lies ahead. And the daydreams that used to be so filled with my beekeeping now are accompanied by rich and exciting dreams of gardening.

Most beekeepers are gardeners. The two go nicely together, as beekeepers know. But too many gardeners, alas(!) do not know this. That is, there are lots of gardeners who have not yet discovered the joys of beekeeping, though few beekeepers who do not also garden.

My own case was not typical. I was a passionate beekeeper for years and years before developing any passion for gardening. Maybe I had too many other things on my mind. But now that most of may life is behind me and the ambitions that drove me before have subsided, I can have a more peaceful outlook on life, and into that peace of mind, a well tended and flourishing garden fits as beautifully as the humming bees, and the song of birds, and soft sunsets.

The more I live, the more I love the idea of living close to the earth. I sometimes think that we are in danger of becoming alienated from the very earth from which we have sprung. No other species is. All other creatures, however harsh may be the conditions of their lives, are at least still close to the earth that nourishes them. But we, in trying to escape that harshness, have to some extent isolated ourselves from the rest of creation, and from our Mother Earth herself.

Thus, men have gathered into cooperative societies, developed currencies and then the specialized lives that this has made possible. We do not, each of us, have to hunt, husband or farm. Others can do this for us, and together we escape much of the hardship and constant threat that is the lot of all other living things. We have, however, carried this way past the point of positive benefit, so the escape from toil and want have become replaced with the search for ease and possessions far beyond what can make us happy, or even really well. In other words, in our desperate effort to escape the one pair of evils, hardship and want, we

Drawing by Clacy Diamond, From *Beekeeping for Gardeners* (Linden Books. Interlaken, NY 1981)

have invited two others, boredom and an alienation from nature.

Some people, having lived their lives in the artificial environment of cities, have not merely forgotten nature; they never knew her. They have little choice, then, to continue, day after day, adding to their sometimes already excessive pile of possessions, things that were originally sought as protection from want, but which now sometimes overwhelm their very lives. In their escape from one master they become slaves to another.

It is the still felt pull of nature that leads some persons back to the wilderness. Most of us cannot retrace our steps that far, of course, but will settle instead for a basic simplicity in our lives, along with a real and more or less constant communion with nature. That is the chief joy of gardening, as well and the exquisite joy of beekeeping. A wise person does not do either of these things to become rich. If he did, his means would be as foolish as his end. What he is likely to be seeking instead is a basic affirmation of his nature or, if this seems pretentious, then let us say that he is seeking the simple happiness of an uncluttered life that is lived closer to its source, which is the earth, bathed in sunshine and rain, the great givers of life.

What happiness exceeds planting in the sweet spring earth, tending and tilling through the warm months of growth, then harvesting, with your own hands, the good food that will help carry you through the winter cold? What does a person who can do this need of power or riches, so long as his basic needs are fulfilled? Think of the last time you saw a summer thunderstorm approach, then drench your thirsty garden and, perhaps, yourself; or anticipated a threatening frost, and survived it with plants intact. Or think of nourishing tiny seedlings, then watching them burgeon over the weeks, culminating in basket after basket of the freshest and most natural of foods, then finally tasting what nature and your own guiding hand have so perfectly wrought. Something in the human spirit is revived in this way. A person who depends entirely on others for this result can live, certainly, but not live as well; and similarly, one who converts this basic vocation of gardening into a vast business, with machines and trucks and devices for the massive application of pesticides, can also live, and sometimes bountifully, but toil will have replaced work, and anxiety will supplant normal care and concern. The joy of gardening is unique. It cannot be purchased, nor carried over into an agribusiness. To try to do this is to succumb to the very alienation from nature of which I have spoken.

The tending of honeybees fulfills exactly the same need, for just as our ancestors lived in daily familiarity with plants, so did they husband animals. Not many of us can tend herds and flocks, but all the basic satisfactions of doing so can be derived from the husbandry of

(Continued on page 35)

Federation Convention News

By TROY FORE
General Chairman
1982 ABF Convention

UP TO YOUR ears in snow? Looking at the calendar and counting the weeks until hive-checking time? Thinking about sunshine and warm weather?

The Georgia beekeepers have just the thing for you: A week in the Hostess City of the South (Savannah, Ga.,) attending the 1982 American Beekeeping Federation Convention, Jan. 19-22. You get a well-earned break from the daily routine, a chance to rub elbows and swap ideas with beekeepers from across the country, a peek at what's coming out of the bee research stations, and plenty of fun.

The headquarters is the Hyatt Regency Savannah, just opened last April. Room rates range from $45 for a standard single to $65 for deluxe double. Charges for convention meals and tours are also in line with those in recent years. Some prices are the same, other have increased only sightly, despite in inflationary times.

A word to those who plan to drive a camper or truck to Savannah: The Hyatt parking garge is limited to six foot three inches clearance. Parking for larger vehicles is available; inquire on arrival at the convention.

For those who plan to fly, Delta Airlines is the offical convention airline. Call, toll free, 800-241-6760 to reach Delta's convention travel desk where the agents have been briefed on the convention schedule.

If you have not received a convention registration packet, call for yours today: 912-427-4018.

It was smiles all around as Gov. George Busbee, seated, signed a proclamation designating the week of Jan 17-23, 1982, as "Beekeeping Week" in Georgia. the designation coincides with the annual convention of the American Beekeeping Federation, which is being hosted in Savannah, GA, this year by the Georgia Beekeepers' Association. On hand for the proclamation signing were GBA Secretary Cecil Sheppard, left, of Doraville, and GBA President Troy Fore, right, of Jesup. The Governor, who said he had honey on his toast that morning, was presented with three samples of honey.

Bee Talk

(Continued from page 34)

honeybees. A hive of bees can flourish almost anyplace, even, for a city dweller, on a roof. A small corner of a back yard is enough, and the bees themselves will range over countless surrounding acres, without it mattering to them or to you, who actually owns those acres. They can be tended at your leisure, and even wholly ignored for weeks at a time, while they go right on gathering nectar and making the honey you will evetually harvest. They do not require daily feeding, and normally require no feeding at all. No pens need to be cleaned out, and there is nothing akin to butchering. There are not even any unpleasant odors. On the contrary, all the odors of a bee hive are pleasant ones, whether from incoming nectar, or from the waxen combs, or the resinous and sweet scented propolis that the bees gather from trees to varnish the inside of their hive. And what is the reward of this already joyous and engrossing culture of bees? The most delectable food on the face of the earth, and the only sweet that need not be in any way processed or altered by the intervention of man.

It is not just to nourish our bodies that we garden and tend bees. It is to find fulfillment, and a sometimes elusive happiness, in the most direct and elemental way that we can.* □

*Most of this "bee talk" is from *Beekeeping For Gardeners* (Linden Books, 1981), and is used with permission.

Ohio Apiary Inspector Retires

Robert S. Goddard, a beekeeper for forty years and a state apiary inspector for the past twelve years, retired from the Ohio Department of Agriculture on October 30, 1981. During his years of service, Mr. Goodard has contributed significantly to the reduction of American foulbrood disease and educating beekeepers regarding disease identification.

Many of his colleagues throughout the state wished him well during his retirement years at a dinner party in his honor.

Retiring from bee inspection, however, does not mean Mr. Goddard will not be associated with bees. He plans to devote much of his time toward his own beekeeping operation.

Notes From The Straw Skep

By BESS CLARKE
50 Lycoming Street
Canton, PA. 17724

I HAD A fascinating conversation with Astrid Brooks, president of Perkioman Valley Apiaries Inc., at the winter meeting of the Pennsylvania State Beekeepers Association. Astrid is a native of Holland. She came to the United States in 1974 to marry Dr. Robert Brooks after a whirlwind intercontinental courtship. The couple met at a party in Amsterdam where Brooks had stopped to visit a friend on his way home from the Apimondia meeting in Moscow.

Brooks is a physiologist whose speciality is using bee venom to control arthritis. Formerly associated with Walter Reed Hospital, he is now involved with drug studies from five pharmaceutical companies. He told me that he had helped to write the book, "The Swarm".

Astrid is 28 years old, five feet seven inches tall, weighs 107 pounds, and has long blonde hair. Move over, Honey Queens! Her picture was in the November 17 issue of the National Enquirer. In case you missed it, as I did, her tongue is sticking out and there is a bee on it. The picture was a aftermath of a story about Astrid in the Philadelphia Bulletin which was picked up by the UPI. The staff of the magazine contacted her to use as a rebuttal to a story they'd previously run about the dangers of being stung.

To make the picture, Astrid told me they'd chilled the bee, and put some honey on its wings to slow it down. She had honey on her tongue too. There is some question about the kind of bees in the picture. I asked, hopefully, if it were a drone, but she said she thought it was a bumblebee because the honeybees were too small for the photographer's purposes. It's hard to tell from the picture.

Astrid and Bob began keeping bees as a hobby two years after they were married. They stated with twenty colonies and have now grown to five hundred. Bob talked about retiring from his job to work with his wife. Where did they learn about bees? Bob had taken the short course at Penn State during the fifties and always been interested in bees. Astrid enrolled in the Delaware Valley Short Course. She says she's learning on the job.

Astrid has assembled all the equipment for five hundred colonies. She stapled, wired, and put foundation in 10,000 frames. It took thirty gallons of paint for the 1,000 deep supers.

In addition to the bee work, Astrid has been responsible for building two A-Frame houses and a 40 x 100 foot honey house on their properies at Green Lane, and at Obelisk, PA. The couple lives in an apartment in suburban Philadephia although I can't imagine when they have time to spend there. They said that while they were working on the honey house, they ate dinner every night for several weeks at 11 p.m. at McDonald's.

As I said before, I was fascinated with the Brooks. Talk to them if you ever have the opportunity.

I had a letter recently from Pramudhito Bagio, chairman of a technological institute in Bandung, Indonesia, asking for any written matter on apiculture which could be used for study in his county. Bagio said that there are only two apiarists in his country who keep more than 100 colonies, in spite of a revival of the beekeeping movement in 1972. He said that their field officers lack recent publications and some have not had any training.

I sent him some cookbooks in response to his first letter and now he has written to ask for more general information on bees.

I suspect he has written to a great many people, but if any of you would like to help, here is his address:

Pramudhito Bagio, Chairman
Pusat Studi Penegembangan Biologi
Terapan Jalan Ganesa 7
Bandung, Indonesia.

RECIPE

At the Pennsylvania meetings people bring goodies to share at the coffee hours. I got there just in time to get a taste of Baklava. Since there was a demand for the recipe I have decided to share it so here you are.

BAKLAVA: Package of frozen phyllo dough, 1½ cups butter, 4 cups walnuts, 3 cups pecans, ¾ cup sugar, 1 teaspoon ground cinnamon; for syrup — 1 cup honey, 1 cup sugar, 2 tablespoons lemon juice, 1 stick cinnamon.

Chop or grind the nuts finely and add the ¾ cup sugar & ground cinnamon to make a mixture. Melt the butter. Thaw frozen phyllo dough, covering with a damp towel to keep it from drying out as you work with it. (Phyllo dough is very thin sheets of pastry such as strudel dough. It is available in the supermarkets.) Lightly butter the bottom of a 13 x 9 pan. Layer with melted butter. Sprinkle 1 cup nut mixture over phyllo. Top with 4 more sheets of phyllo, brushing each with the melted butter. Spread another layer of nuts. Repeat these layers four or five more times. Top layer should be eight more sheets of phyllo brushed with butter. Stud top with whole cloves arranged in parallel rows. Bake at 325° F. for one hour. Cut into diamonds and cool. To make the diamonds cut four or five lines lengthwise and six or seven on the diagonal. The cloves should have been stuck so there is one in the center of each diamond.

Make a syrup of 1 cup honey, 1 cup sugar ¾ cup water, 2 tablespoons lemon juice, and a stick of cinnamon. Boil gently, uncovered, for 15 minutes. Remove cinnamon. Pour warm syrup over the cooled pastry. Let cool competely before serving. □

Obituaries

Horace "Linc" Wells

On September 25 at the age of 69, "Linc" Wells of Riverhead, NY passed away at Sloan-Kettering Hospital in New York City.

The son of a Methodist Minister, Linc was a graduate of the NYS College of Agriculture at Cornell University and Worked for 29 years as an agricultural agent and administrator with Cooperative Extension of Suffolk County on Long Island.

Linc was instrumental in the organization of the Suffolk Beekeepers' Association in 1949. This group later became known as the Long Island Beekeepers' Club. He guided the Beekeepers for 32 years.

Linc was also active in the Eastern Apicultural Society. From its very start he provided support and attended every meeting that health permitted.

In recognition of his outstanding work with Cooperative Extension, Linc received the Distinguished Service Award from the National Association of County Agricultural Agents in 1964.

In addition to his wife Elsie, Linc is survived by a son, George and a daughter, Janet, both of whom reside on Long Island.

Henry Puppe

HENRY PUPPE of Nebraska City, Nebraska died in October, 1981. Mr. Puppe was an award winner at several American Beekeeping Federation Honey Shows. He was a commerical beekeeper and was the grandfather of 1974 American Honey Queen Cheryl Burkhart.

Milo R. Bacon

MILO R. BACON of 8 Gardner Road, Norwood, Mass., a long time active beekeeper and teacher, died suddenly on October 4, 1981 in Norwood.

He was appointed Chief Apiary Inspector for the Commonwealth of Massachusetts and served in that position from 1952 to 1967.

In 1979 he was appointed a Federal Indemnity Inspector for the State of Massachusetts.

Milo and several other beekeepers organized the Norfolk County Beekeepers' Association in 1959. He served as President of the Association from 1975 to 1979.

Milo R. Bacon

He was elected Secretary-Treasurer of the Massachusetts Federation of Beekeepers in 1971 and he remained an officer of the federation until the time of his death.

Milo was a charter member of the Eastern Apicultural Society and he was a regular participant at the annual meeting of the society. He also served on the Massachusetts Federation of Beekeepers Committee which hosted the Eastern Apicultural Society when it held its annual meeting at the Massachusetts Maritime Academy in Bourne, Mass. in 1975.

Milo Bacon is survived by a daughter, Jean B. Sawyer of Pennsylvania, a son, David A. Bacon of South Walpole, Massachusetts, six grandchildern and fourteen great grandchildren.

William Butterfield

WILLIAM BUTTERFIELD of Florence, MA died recently. At one time he had one of the largest beekeeping operations in New England. He kept his bees in the Shoreham, Vermont area. He bottled his honey under the "Vermont Clover Honey" label.

Butterfield is survived by his son, Dr. William Butterfield of Rye, NH, two brothers and five sisters. □

Book Review

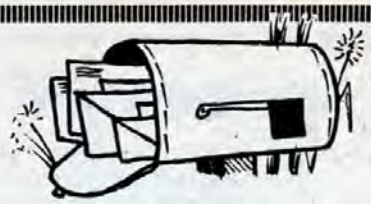
The 1980 ABC of Bee Culture, by A. I. Root. Facsimile edition reprinted by Molly Yes Press, New Berlin, N.Y., 1981. Pp. iixx + 403. $11.50 paper, $17.95 cloth.

This reprint of a classic edition follows upon this publisher's earlier facsimile reprint of C.C. Miller's *Fifty Years Among The Bees*. It is a book for lovers of nostalgia. It is loaded with woodcut prints, and descriptions of archaic tools and practices. Most of it appears to be A. I. Root's writing, although an unspecified amount is from the pen of his son, Ernest. The pages, and with them the type, have been enlarged.

It is a very entertaining book indeed, enchanting not only for its content, but for its personal, home-spun style. The contemporary beekeeper, even a well-read one, can learn much from this old book, for it contains the shrewd observations of some of the great bee masters of all time. In those days just about every great beekeeper had some pet idea or invention, on which he bestowed his name, and those names are all here. An appendix contains fascinating biographies of many of those great beekeepers, most of them written by C. C. Miller.

Richard Taylor

Gleanings Mail Box



Sumac Plants Available

Dear Editor:

In the October, 1981 issue Questions and Answers you advised a reader that is is unlikely that a nursery would carry sumac. The Warren County Nursery, Route 2, Box 204, McMinnville, Tennessee (wholesale) carries *Rhus aromatica* (fragrant sumac), *Rhus copallina* (flameleaf sumac), *Rhus glabra* (smooth sumac) and *Rhus Tyuphina* (staghorn sumac). Their telephone number is (615) 668-8941 or 668-8004. Perhaps this information would be useful to your readers.

W. R. Kreitzer
Lexington Park, MD

Help For Sting Sensitivity

Dear Editor:

Five years ago I almost lost my wife. We were 65 miles back in the bush when she got a bee sting on her face and found herself to be, from what the doctors described later, hypersenstive. Everyone said to give up beekeeping.

I attended a Canadian Honey Council Meeting and they told me not to sell out but get a doctor's help to overcome the hypersensitivity to bee stings. My wife started to take her treatments every week at the doctor's office. About a year and a half later she received a bee sting and was OK and still is today. We thank God for His help and the understanding which has come through Mr. Mraz's writing.

Rodney Moody
Victoria, B.C. Canada

Needs Recipe for Beeswax Salve

Dear Editor:

I enjoy your magazine and its varied articles. Having been a beekeeper for only three years, I find I can use all the advice I can get. I am attempting to find a recipe for a beeswax salve which apparently was quite effective. Hopefully one of your rearers might be able to help.

I would also appreciate any recipes for any home remedies that readers know to be effective. After all, a lot of Granies home remedies worked but unfortunately the knowledge is disappearing. I would like to try and preserve it. Thank you.

Rose Fort
552 Brussells St.
St. Marys, PA 15857

Pollen Trapping

Dear Editor:

We would like to have you correct the answer you gave to A.S. in Montana on Page 567 of your October 1981 *Gleaings In Bee Culture.*

From past experience on more colonies trapping pollen than any other firm in the United States we would like to answer the question as follows:

A. The secret of pollen collection from a colony of bees is to leave the trap on the beehive continuously. It takes from 28 to 42 days (one full cycle of brood) before the bees are used to going through the trap and collect more pollen and more nectar. The trapped pollen should be collected once a week in dry climates; more often in wet climates to prevent molding; every other day when the pollen flow results in two pounds of pollen trapped per colony.

A colony will over compensate for the loss of pollen by increasing the number of pollen collecting bees up to 1000%. The pollen trap colony will increase the amount of nectar collected after the one cycle of brood has experienced going thorough the pollen trap on a permanent basis. Most commercial traps that are left on the colony year-round cause no congestion at the colony. However, the bees are somewhat disoriented when the trap is first put on the colony and they do get mean. But this wears off in a few days and the bees revert to normal.

If a pollen trap utilizes the five squares to the inch wire, the beekeeper does not need to worry about depriving the colony of pollen. The bees will take into the colony all the pollen necessary to protect the colony. Every colony having a pollen trap had more brood.

The average amount of pollen gathered during year varies widely. If a pollen trap is on a strong colony in an area with a heavy pollen flow, it is estimated that the pollen will exceed 100 pounds per colony.

We are familiar with Montana. Montanta sweet clover pollen is some of the best-tasting pollen and highest-quality pollen available in the United States today.

Royden Brown
Scottsdale, AZ

Defends Position on Honey Feeding

Dear Editor:

As a beekeeper and a pediatrician I am for both honey and children. I am not "a natural food assassin". My argument with Charles Mraz is over giving honey which may contain botulism spores to infants under the age of six months. I am enclosing a policy statement from The American Academy of Pediatrics (an organization of 23,000 pediatricians). It states that The Center For Disease Control of the U.S. Public Health Service recommends infants under six months not be given honey.

Any physician or beekeeper who recommends honey to a small infant would be in an undefendable situation to a liability law suite, if the infant were to develop infantile botulism. I ask the readers of this journal, "which one of you would volunteer to testify as an expert witness in defense of the physician or beekeeper?"

California has had the most infantile botulism. Since this policy statement infantile botulism has declined by 50% in California.

Forrest G. Hawkins, M.D.
Wilmington, DE

A Warning About Lye

Dear Editor:

As an avid beekeeper, I have followed the usual procedures of most

(Continued on page 39)

Capping The News

THE EDITORS

"Beekeeping Small Ta'k"

Gleanings Delay

WE APOLOGIZE for the late delivery of the December issue of *Gleanings*. The cause of the delay was a change in our subscriber list from card files to a computer system. Hereafter your *Gleanings* will come labeled with your name and address plus the date of expiration. If you experience any problems with delivery please advise us at once at *Gleanings*, P.O. Box 706, Medina, Ohio 44258-0706.

Incidentily, if you receive a renewal notice after you have already sent in your renewal or paid your association secretary please disregard it. Everything will work out in the normal course of events. Your payment will be received and your renewal processed but this takes a few day's time and meanwhile a letter may be mailed out informing you of a subscription lapse.

Don't forget to send us any changes of address.

We wish to give you the best service possible and your cooperation and assistance is appreciated.

Apiotherapy Meeting

On Saturday, November 7th, 1981 the North Amercian Apiotherapy Society held its 4th annual symposium. The next symposium is scheduled for Saturday, November 13, 1982 with the place to be announced later, likely in the Washington-Baltimore area. Copies of the 1979 procedings (Vol. No. 2 — $10.00) and the 1980 procedings (Vol. No. 3 . $10.00) may be purchased from Harry Froehlich, Secretary, NAAS, 1202 Georgetown Dr., Bel Air, Maryland 21014.

From the extracts of the 1981 meeting it can be deduced that there is concern that exaggerated local reactions to Hymenoptera (bee, wasp, hornet) stings may lead to a more serious (anaphylactic) reaction in the future. Individuals hypersensitive to hymenoptera stings can be desensitized but must continue on maintenance doses of venom therapy. While only a very low percentage of the general population are highly sensitive to stings it must be kept in mind that this is always a possiblity. A medical aid kit available from a physician or a pharmacy should be available when sensitivity to stings is suspected or the tolerance of an individual is unknown. First aid measures should be followed by immediate medical attention.

The subject of bee venom therapy was discussed by several speakers at the apiotherapy meeting. After reading the abstracts one must conclude that test results on arthritic animals are not conclusive: Horses with arthritis showed variable results; arthritic dogs were treated and daily cage activity increased to near normal and plasma cortisol levels increased.

Bee venom as used in homeopathic medicine was reported to be a safe and effective treatment for a number of symptoms. In the homeopathic practice of medicine small doses of a substance is given to cure a condition which could be much more serious had a critically large dosage been received. For example, a number of small injections of bee venom is given to a patient under controlled conditions. This prevents or greatly reduces the possibility of a more serious life-threatening reaction to a venomous insect sting or stings. . . . Good news.

Apiary Inspectors of America Meet

The annual AIA meeting was held in September, 1981 at the University of Wisconsin in Madison. James Herndon State Apiarist of Florida was elected president, succeeding Gordon Rudloff of Ohio.

Policy statements included recommendations that a ban be placed on pollen and used bee equipment from all countries except Canada and that the AIA recommends and supports regulations restricting the importation of bees and bee products from any country.

Resolutions supporting the funding of research on the Africanized bee in South America and that all packages of terramycin be labeled with an expiration date were made.

The results of a survey of sampling techniques used in apiary inspection was summarized in a table printed in the AIA newsletter. The results showed that the percentage of apiaries and colonies inspected varied widely from state to state: From a high of 90% in Ohio to a low of 0% in Michigan. □

Gleanings Mail Box

(Continued from page 38)

beekeepers, — supering, hiving, and caring for my bees. Also entering competitions, taking home ribbons, etc.

And as most people I meet/know, just the mention of bees or honey, and I am ready for a long chat on this interesting hobby.

But, a most unfortunate happening of this summer has cost me great expense, long hours of suffering, and an unpredicted future.

All of this is due to the common practice of cleaning the bee supplies in lye water, a practice which should be stopped.

I am sending this letter in hopes it will help prevent others from suffering the same problems which I am having.

Pass this warning on to other beekeepers. □

Mrs. Geraldine M. Bonner
Lewisberry, PA

The Collector's Corner

by DARL and IVA STOLLER

OF ALL THE many honey pots in the world, none can equal those made in Ireland by the Belleek Pottery Company.

You can occasionally find new Belleek honey pots in better gift or jewelry stores. The prices are constantly increasing and the large three tiered pedestal honey pot costs approximately $90, with the other two costing $60 and $30 each.

The very rare, early ones are priced from $200 to $500 depending on the condition and its age. These are marked in black underneath the bottom, unlike the green mark of more recent years. The very early mark honey pots are very seldom available to the collector today.

The following information comes from the Belleek Company and from it we will learn how this lovely pottery came into being.

The Romantic Story of Belleek Parian China

Some say it was the leprechauns who led the way.

Others, less romantic, insist it was a certain John Caldwell Bloomfield who made the historic discovery.

Whichever it was, it all happened over a hundred years ago in a remote and beautiful part of Ireland. In the heart of County Fermanagh, on the banks of the River Erne, near the pastoral village of Belleek, a native clay deposit was found which proved to have qualities unlike any other clay in the entire world!

At first, the artisans who worked with clay to produce fine china were merely pleased with the pure, new source of raw material. But, the more they experiemented with the Belleek clay, the more astounded they became at its remarkable — almost magical — properties.

Honey Pots by Belleek

With this incredible clay, they could do things previously thought impossible. They could create china with a soft, almost creamy mother-of-pearl effect with spun-sugar designs that seemed almost too delicate to touch. But, to their amazement, the pieces retained a tough resilience that could withstand continuous daily use.

The craftsmen were jubilant and began to develop the unique designs and patterns for Belleek ware.

The Irish Belleek Works grew and propered. Today, just as a century ago, Irish Belleck china is made entirely by hand in buildings that are within walking distance of the original clay pits. Over 100 craftsmen hand-make Belleek for both utility and collector purposes, from danity "woven" baskets to wafer-thin but extremely practical teaware, and exquisitely lovely vases, sugars, creamers and figurines.

There is no assembly line at Belleek. Each Belleek piece is made from start to finish by one craftsman-who takes special pride in seeing his creation grow from raw slip to a perfect Belleek article.

Celtic art and Irish folklore figure prominently in the designs and flavor of Belleek. Each piece is clearly marked with the distinctive Belleek Hall Mark. If you at it carefully you will see four symbols: An Irish wolfhound, a harp, a round tower and a shamrock. Without this hall mark, it is not genuine Belleek.

As with anything of rare artistic standing, Belleek is sometimes imitated, but never duplicated. Because of the rare Belleek clay and the special hand-craft techniques perfected over 100 years, Belleek is totally unique and cannot be reproduced elsewhere.

If any of you are fortunate enough to own one of the early Belleek honey pots treasure it highly and guard it well. There are very few of them in the entire world, and the many passing years have given them an even more beautiful golden color that sets them apart from all others.

Until next time, happy collecting!

Questions and Answers

Q. I hope you will be able to answer my question about the problems of cleaning wet combs after extracting. I have tried putting combs out for the bees to clean up, and although I have no problem with fighting because the combs are some distance from the bee yard many combs are ruined. This is because wild bees and wasps also participate in the orgy and chew great holes in the foundation. Returning the supers to the hives simply results in the bees refilling the cells with honey. (One conjectures as to the source of the honey in October!) Although they do a nice job of repairing uncapped cells and do clean some to dryness they don't know when to quit and so I have to repeat the labor of putting on bee escapes. Even though I put an inner cover and either a tray feeder or a shallow super plus a queen excluder to discourage the queen going upstairs, it makes no difference to the behavior of the bees who remain up there.

If I left the returned supers on until winter the bees might evacuate but I suspect they would just die believing they were queenless. Perhaps the solution is to simply store the combs wet and have the bees do the job in the spring. E.N. Nova Scotia, Canada

A. What you dscribed as happening is a common experience and many of us have come to the conclusion that the best approach is to simply store the supers as they come from the extractor. This practice, of course, must be combined with an adequate moth control measure. It has been my experience that bees will clean up any granulated honey or other liquid honey which remains in the cells when the supers are put on in the spring. I think most beekeepers who practice this method will agree that there is no undesirable effect on next year's honey crop when supers are stored in the fall without being cleansed of the honey.

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Q. I have had bees for only three years, so have much to learn. The first year my two hives were a total loss, due, I think, to a spray in a field nearby. There were a lot of dead bees next to the hives. I fed 90 pounds of sugar that year. One colony did not make enough honey to hold them over winter. The second year I had four hives but lost one in the middle of summer, possibly queenless. I took off approximately 300 pounds of nice white honey. The third year, 1981, I had six hives and lost one again in the middle of summer, possibly from queenlessness again. I extracted approximately 650 pounds of honey.

My question is, why was all of my honey this year granulated or sugared right in the comb? Some of my honey supers had drawn comb and some had new wax foundation. All of the honey was so thick and partially sugared that it was a hard job to uncap it with an electric knife. Some of the cells were so filled with sugared honey that it would not spin out in the extractor. I extracted the first during the last of July and the first part of August and the rest in the fall. I would appreciate any information as to what would have caused this. All of my colonies are in a empty lot right in the city. R.B. Wisconsin

A. My first impulse was to answer your question by saying that probably your honey came from the fall honey sources such as our goldenrod and asters which are the cause of most of our early granulation. In noting your time of removing most of your honey this could not be possible unless honey had been stored in the combs the previous fall and had not been extracted. We do believe, however, that the cause of your problem is the source of the honey. Apparently the bees were gathering nectar from a herb, tree or shrub which gave the honey a tendency to granulate very quickly. One such plant which comes to mind is rape which I am told produces honey which will granulate in the comb, but of course you may not have it in your neighborhood. From all indications the plant nectar source was the cause of the rapid granualtion. this past year but we are unable to pinpoint the specific plant which may have caused this. We suggest you bring the problem up with members of your local beekeepers association who may also have encountered this problem.

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Q. Could you tell me which is up and which is down for a Root inner cover in the summer and in the winter?

Would you list the advantages and disadvantages of the slatted rack? J.D. Ohio

A. The ventilating port in the inner cover rim should be up during the summer and facing down during the winter. This allows ventilation during the summer by having an air passage between the open center hole and through the inner cover rim. With the inner cover reversed in the winter the air passage is through the inner cover vent, between the upper brood or food chamber and the outside.

The slatted rack is an auxillary piece of beekeeping equipment which is placed between the bottom board and the lower brood chamber unit. The advantages have been described as several. Using a row of spaced slats and a baffle board, the rack will help to stabilize the air temperature in the hive, particularly the lower part of the hive. It prevents strong drafts of air from sweeping into the hive, allowing better brood rearing conditions in the lower part of the hive. The principle disadvantage are the cost (about $6.25) and the labor of installation which involves lifting off the hive bodies, placing the rack on top of the bottom board and returning the hive bodies and supers to position.

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Q. I had 35 colonies of bees for 10-15 years. Our town made me move them. I didn't have land to put them on so I quit my job to move them. The bees did not bother anyone, but people said they didn't want bees in their flowers and around a water dish for their dog. Another person said bees came around her little swimming pool but I found that these were yellow jackets and not honeybees. I keep plenty of supers on the bees to prevent swarms, provide water sources and plant trees for cover around the apiary. No one complained before. I now have my bees two miles out of town but the city keeps growing and I'm going to have to move again because the man is going to spray fruit trees around the bees. I hate to

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Australia Diversifies Honey Exports

By J. B. PARKER
Burke, Va.

Australia's exports of honey suffered a severe setback in 1977 and 1978 because of the drastic decline in shipments to the United States and the United Kingdom during those two years. Then, a dramatic rebound occurred in 1979 in sales to the United Kingdom and astonishing gains were made to a number of new markets. Some of the important new markets developed in 1979 were Portugal, Spain, East Germany, France, and Italy and South Korea. Strong gains to significant markets in Asia and the Mideast occurred in the late 1970's. Strong gains in sales to Southeast Asia, Iran and the Arabian Peninsula occurred in 1980.

The value for Australia's exports of honey to the world reached a new peak of $9.5 million in 1979 - up from $6.1 million in 1978 and more than double the 1977 value. However the volume of 8,233 tons in 1979 remained below the 1975 level of 11,209 tons. The United Kingdom accounted for about half of Australia's honey exports in 1975, but only one-third in 1979. The drastic reduction in Australia's exports of honey to the United States from 2,191 tons in 1975 valued at $1.6 million to only 16 tons in 1978 contributed to the decline. Australian honey shipments to the United States made a slight rebound to 249 tons valued at $246,000 in

(Continued on page 43)

Australia: Exports of honey to selected markets by quantity and value, annual 1975-79.

Destination	1975	1976	1977	1978	1979	1975	1976	1977	1978	1979
	Metric Tons					1,000 Dollars				
Total World	11,209	9,552	4,825	5,042	8,233	8,196	6,898	4,513	6,106	9,534
EC	7,444	6,293	2,791	2,432	4,366	4,856	3,816	1,989	2,156	4,177
United Kingdom	6,338	4,623	2,359	2,139	3,331	4,098	2,788	1,679	1,808	3,146
West Germany	823	1,243	327	127	661	566	760	218	118	628
France	38	--	--	--	102	21	--	--	--	128
Belgium	46	81	46	61	89	35	74	50	140	104
Italy	--	--	--	--	131	--	--	--	--	126
Portugal	--	--	70	--	899	--	--	52	--	918
Spain	--	--	--	--	313	--	--	--	--	309
East Germany	--	--	--	--	104	--	--	--	--	91
Malaysia	166	292	279	302	352	239	445	429	505	703
Singapore	142	283	271	254	369	231	394	410	413	636
Indonesia	50	87	150	97	104	88	116	156	112	110
Japan	667	316	198	73	206	551	260	197	90	218
South Korea	--	--	--	1	74	--	--	--	1	123
Iran	66	55	322	1035	254	53	50	324	1546	443
Saudi Arabia	47	84	98	192	122	88	154	160	399	275
Kuwait	20	31	80	1	27	29	53	134	3	64
PDR Yemen(Aden)	--	--	15	73	218	--	--	19	114	364
Oman	97	115	99	145	120	87	105	99	155	147
UAE	44	71	77	88	83	66	116	124	141	179
United States	2,191	1,003	20	16	249	1,589	701	16	19	246
Canada	90	23	4	5	--	60	14	5	5	--
Mauritius	22	16	19	22	41	21	22	27	40	66
Paraguay	--	--	--	--	24	--	--	--	--	43

Source: Foreign Trade of Australia with the conversion of value to U.S. Dollars by the United Nations.

Australia Diversifies Honey Exports

(Continued from page 42)

1979, but deliveries in 1980 remained small. Canada and China dominated American honey imports in 1980.

The United Kingdom apparently encouraged other members of the EC to be more considerate in their treatment of Australian honey salesmen, and in 1979 a new boom in sales to other EC markets occurred. The volume of trade remained relatively small, but the rate of growth was sensational. Australian honey exports to West Germany rose from 127 tons in 1978 to 661 tons in 1979. France opened as a new market for 102 tons of Australian honey in 1979 and Italy made initial purchases of 131 tons. Sales of Australian honey in the other EC markets continued to rise in 1980. Australia's total honey exports to the EC in 1980 were about double the 1978 level of 2,432 tons, but still below the 1975 volume of 7,444 tons.

Even more exciting than the entry of Australian honey in a substantial volume to all EC markets rather than just the traditional British market has been the development of new markets along the route which Quantas Airways has scheduled flights. There is apparently a connection because samples can be delivered promptly and export salesmen can get special fares for trips which are planned well ahead of time.

Malaysia and Singapore are the two most important booming markets for Australian honey in Asia and frequent flights between these countries and Australia are in operation. Indonesia has remained a steady market for about 100 tons of Australian honey annually. This is relatively small in contrast to the combined markets of Singapore and Malyasia which will soon be in the 1,000 tons per year range. Australian exports of honey to these two markets surpassed 700 tons in 1979 valued at $1.3 million. This was more than double the 1975 level.

Some of the most rapid growth in Australian honey exports during 1981 will probably be to the Mideast. Air cargo to Tehran, Baghdad, Dharan, Abu Dhabi, Jeddah and Bahrain is likely to increase this year. The growth in Australian exports of honey to Iran in 1981 may surpass the 1978 pace when deliveries reached 1,035 tons - more than triple the previous year. Exports of Australian honey to Iran fell to only 254 tons in 1979 but made some recovery in 1980. Iranians make a warm beverage which contains honey, water, raisins and spices. This beverage has increased in demand since alcoholic beverages were banned in 1979.

Supermarkets have now been built in all major cities of Saudi Arabia and their design and facilities closely resemble modern stores in Europe and America. Honey imported from a number of countries can be found on the shelves of supermarkets in Saudi Arabia and the Gulf Sheikdoms.. Australian exports of honey to Saudi Arabia doubled in 1978 - reaching 192 tons. Then, stronger competition from Latin American suppliers, the United States and Eastern Europe caused Australian honey exports to Saudi Arabia to decline to 122 tons in 1979. Shops in the duty-free port of Aden have again stocked consumer goods for sale to crewmen from the ships on their voyage to and from the Suez Canal. Australian exports of honey to People's Democratic Republic of Yemen increased from 73 tons in 1978 to 218 tons in 1979. Shipments to Oman reached 145 tons in 1978, but fell back to 120 tons in 1979 because of greater competition from other suppliers.

One new market for Australian honey exports in 1979 was off the path of Quantas Airways. It was Paraguay which took 24 tons of Australian honey valued at $43,000.

The marketing opportunities for Australia in Southeast Asia, Iran and the Arabian Peninsula were excellent in 1980. Australian exporters intensified their efforts to sell in those markets rather than undercut the relatively low prices for which China was sending honey into the United States. U.S. imports of honey from Australia tumbled from 242 tons in 1979 to only 22 tons in 1980, and the value fell from $218,000 to $30,000. The average price for U.S. imports of honey from Australia rose from $900 to $1,356 per metric ton. U.S. imports of honey from China (mainland rose from only 300 tons in 1978 to 8,182 tons in 1979 when most favored nation treatment was granted. U.S. imports of honey from China declined slightly to 7,919 metric tons in 1980, but higher prices allowed the value to rise by 2 percent to $6.66 million. The average price for U.S. imports of honey from China increased from $789.54 per metric ton in 1979 to $841.49 per ton in 1980, but this was still well below the price for Australian honey. Stocks of Chinese honey imported in 1979 held by American wholesalers were considerable in 1980 and that fact also contributed to the smaller purchases from Australia and some other foreign suppliers. Total U.S. imports of honey declined 16 percent in 1980 to 22,247 tons and the value fell by 7 percent to $21 million.□

Questions and Answers

(Continued from page 41)

see my bees destroyed because there isn't any place to put them. There are a lot of beekeepers who are in trouble if they want to keep their bees. I don't mean to be selfish but my problems seem to be on the rise. If you can think of something I can do please let me know. S.W. South Carolina

A. I am not certain we can answer your question because what you have to do will depend upon your own individual circumstances. We agree with you that keeping bees in a city has become more and more of a problem and is something that must be faced by every city beekeeper at one time or another. We think you have made some reasonable concessions to your critics and taken ample precautions to prevent your bees from becoming a nuisance. We hope that you will find an improvement to your situation in the near future. Placing bees on farms with open space and an appreciative landowner may allow you to continue beekeeping. A short classified ad in your local newspaper may assist you in finding such a location. Your County Agr. Agent and friends may also provide information on bee sites.

A list of points to consider in keeping bees in a residential neighborhood is available from The A.I. Root Company, P.O. Box 706, Medina, OH 44258-0706

1981 At The Los

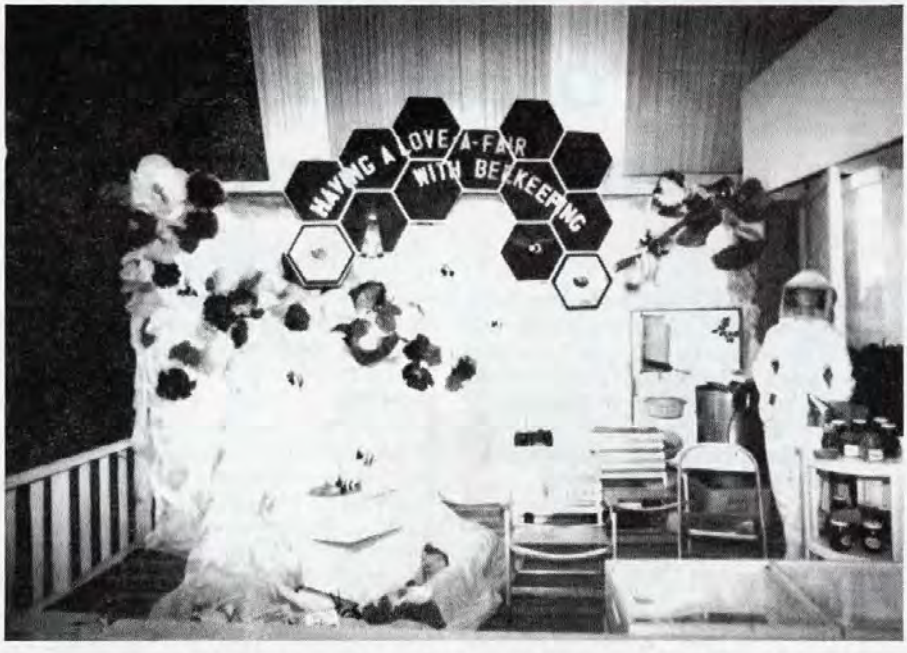
By ROY DAVIS
Pomona, CA

THE BEEKEEPING INDUSTRY coninued its thirty year prominence with what was possibly its largest display yet at the Los Angeles County Fair held in Pomona, California, September 10-27. This year eight booths by organizations, packers and suppliers presented a 100 foot frontage to displays plus seven other small displays. These were visited by 30,957 to 148,732 people daily for a total of 1,384,667 who attended the fair this year.

The organizations were Los Angeles County Beekeepers Association, Orange County Beekeepers Association and Calfornia Honey Advisory Board. Beekeeping equipment and supplies were shown by Pierce Manufacturing Company of Anaheim and Walker's Los Angeles Honey Co.. Packers showing were Superior Honey Co. of South Gate, Sioux Honey Association by the Anaheim branch and Walker's Los Angeles Honey Co.

Two member beekeepers are in the Organization booths for 4-6 hour shifts. These people have the opportunity to talk to fair goers and tell them that bees make honey from nectar and not from pollen. There are many more misconceptions and

Los Angeles County Beekeepers' Association booth which displayed a cutaway opening in an enlarged hive. Bees danced on the comb all during the fair. The booth took First Prize. Photo by Mike Agnew.



Orange County Beekeepers' Association booth was a second place winner. Photo by Mike Agnew.

Walker's Los Angeles Honey Company booth. Photo by Mike Agnew.

Angeles County Fair

misunderstandings to correct and then offer them recipes provided by the California Honey Advisory Board.

A central display was of entries of bees honey and beeswax for individual competition. Entries in the honey division were of honey from the following nectar sources: alfalfa, avocado, bean, California buckwheat, clover, cotton, eucalyptus, manzanita, mesquite, orange, safflower, sage, star thistle, tamarisk and wildflower. Sweepstakes winner was Roger Jaynes of Bloomington.

Los Angeles County Beekeepers Association designed, constructed, installed and manned their booth with the efforts of 65 members. It had several educational features. The central one was the cut away opening in an enlarged hive with bees on a comb. Through the animation genius of one member these bees simulated a dance all through the fair. Attendents in the booth handed out a little brochure telling about the dance. Another feature was the two four frame observation hives that were mounted on about a ten cubic foot lighted environment chamber into which the bees could go for water, syrup and pollen patty. Thus they were able to remain on display for the 18 days of the fair.

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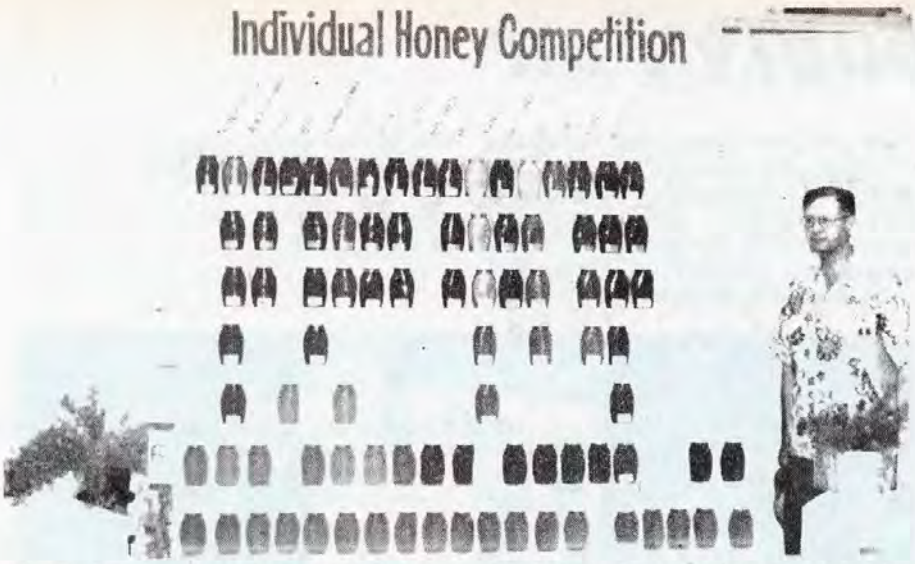
California Honey Advisery Board booth at L.A. County Fair. Photo by Mike Agnew.

Superior Honey Company of South Gate booth at L.A. County Fair. Photo by Mike Agnew.

Pierce Manufacturing Company, Anaheim booth at L.A. County Fair. Photo by Mike Agnew.



Roy K. Davis, Chairman, Bees & Honey Division, L.A. County Fair. Photo by Mike Agnew.

Warmuth Honey Company of Canyon Country, CA. L to R Margleen Jordan, Joe Warmuth, Marge Warmuth. Photo by Mike Agnew.

Sioux Honey Association booth at L.A. County Fair. Photo by Mike Agnew.

At The Los Angeles County Fair

(Continued from page 45

This booth took first prize and was, on invitation, displayed at the Ventura County Fair where it also took first prize.

The Orange County Beekeepers' Association booth placed second.

In addition to the above presentations, many of the county, city and Grange booths included a mini display of beekeeping items. Sutter and Tulare counties had displays of honey, wax, pollen and candles. San Dimas, Orange County and Los Angeles County Granges had fine displays. Some of these were on small rotation devices. Each of the displays occupied about ten square feet in respective booths.

Added to all of these, Warmuth Honey Company of Canyon Country had a booth where they sold honey in various containers and pollen.

So you can see that this large fair presented the beekeeping industry in all its forms with organization educational displays, equipment suppliers, packers, and Grange and County displays scattered throughout the large agriculture building. □

New IBRA Publications List

The International Bee Research Association has just issued a new 16-page catalogue for 1981/82.

The catalogue, known as List 1, illustrates the wide range of recent development in beekeeping and bee research. There are publications on beekeeping techniques, bee breeding, bee behaviour and anatomy, bee forage and pollination, hive products, and bee diseases.

List 1, which describes over 90 books, reprints and bibliographies, can be obtained free of charge from the International Bee Research Association, Hill House, Gerrards Cross, Bucks SL9 ONR, England.

The Master Beekeeper Program

"I congratulate all of those who were willing to participate in the examination at the recent EAS Confrerence in New Jersey."

Roger A. Morse
Department of Entomology
Cornell University
Ithaca, NY 14850

WITH THE TREMENDOUS upsurge of interest in beekeeping over the last 12 to 15 years, university beekeeping specialists became overwhelmed with requests for instruction and assistance. Since a large number of qualified instructors were needed to fill the void, the Master Beekeeper Program was started at Cornell University in 1976 for the express purpose of identifying and certifying persons who have an in-depth knowledge of bees and beekeeping.

In 1981 the Eastern Apicultural Society assumed administration of the Master Beekeeper Program. A committee was found to administer the examinations. Dr. Clarence Collison of the Pennsylvania State University is chairman of the governing committee. Other members are Paul Comer of Massachusettss, Peter Bizzoso of New York, Charles Mason, and Dewey Caron of the University of Delaware and myself.

This is not a training program. It consists of a series of examinations to test various aspects of knowledge of bees and beekeeping. Anyone who has five years experience in beekeeping and has taken one of the many available correspondence courses or a series of short courses may take the examinations. We recognize that many successful beekeepers may not choose to participate in the program, especially since some familiarity with such subjects as the history of beekeeping is required; obviously these areas are not of interest to everyone. One does not need to pass such an exam to be a successful beekeeper or to teach a successful course in beekeeping. However, we do urge those teaching beekeeping to become involved in the program.

To earn the Master Beekeeper cerificate one must pass each of three examinations: a written examination, a laboratory exam and a field exam. As the program is presently constituted one may take any one, two or all three of the exams whenever they are given. There is no time limit; once one has passed one of the three parts, that part need not be repeated. If one does not pass any one part the first time, that part may be taken again at a later date.

I congratulate all of those who were willing to participate in the examinations at the recent EAS conference in New Jersey. Not all of these persons passed all three parts and were certified. Those who participated had little advance warning of the severity of the testing. The Committee hopes that those who did not pass all of the tests will take them when they are offered again.

The Written Examination

To pass the written examination one must have knowledge of beekeeping comparable to a student who has taken a two-hour lecture course (usually 28 to 30 one-hour lectures) in a college or university. There are several texts that are popularly used in such courses including *The Hive and the Honey Bee*, *Beekeeping*, *Bees and Beekeeping* and the encyclopedia *ABC and XYZ of Beekeeping*. While the questions asked were not taken directly from these texts, the subject material is treated by them. Other reference texts including those on honey plants, anatomy and diseases may be useful. It is expected that those who participate in the program, like most teachers, will have libraries of their own and will be reasonably up-to-date concerning the beekeeping literature.

The beekeeping industry as we know it had an almost violent sudden beginning. Within 25 years after the discovery of bee space, the important implements and methods successful beekeepers use today were invented and designed. As one reads the current bee journals and reviews the equipment that is on the market it becomes clear that many useless devices are now being created and often reinvented. A portion of the examination has been devoted to asking questions about history — who did what and when. Such questions are important not merely to determine whether those taking the test have committed a host of dates to memory but to emphasize that we do not want to reinvent the wheel or be bogged down with useless gadgetry that has been developed over and over again.

One of the plagues the beekeeping industry has suffered during the past five years has been the dispute over honey's role in infant botulism. Many rash and foolish statements were made in the early stages of this debate. It is becoming clear that honey is no more responsible for the problem than a host of other foods. There is no reason to single out honey as a culprit in infant botulism. A 15-point question on the recent version of the written examination given in New Jersey asked questions about honey chemistry. Some questioned if it was valid to ask such questions and the Committee answered by stating that a Master Beekeeper should be as familiar with the product

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The Master Beekeeper Program

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as with the bees themselves. Knowing something about acidity and pH is as important in beekeeping as it is in gardening and other phases of agriculture.

Professor Karl von Frisch earned a Nobel prize for his reserch on the honeybee dance language. No questions were asked about his studies in the most recent exam, although they have been in earlier exams. Several persons indicated they had made a special effort to study in this area since it appeared to be an obvious subject about which to ask questions. Questions on the dance language were not avoided purposely but only because there is so much to ask that not everything could be covered. Likewise, no questions were asked about pheromones or the glandular substances produced by bees such as the alarm odor and the sex attractant. Questions about communication by bees through dancing and the use of chemical secretions are very likely to be asked on future exams.

One essay question is included in the written examination. Since Master Beekeepers are expected to be able to teach others it is expected that all answers, especially the essay, will be written in good English and that precision and care will be used in their presentation. Reasonably good spelling is expected.

The Laboratory Examination

In beekeeping, as in the pursuit of knowledge about any animal, there are many interesting and unusual behavior patterns exhibited. For example, why, and under what circumstances, would bees build comb in a place where they could not survive? Why would bees draw the foundation on one end of a comb and not on the other? A portion of the laboratory examinations has been directed toward displaying such and asking potential Master Beekeepers to explain why these things occur.

Judging honey and beeswax is another aspect of apiculture on which applicants were examined. As in the case of most honey shows the emphasis has been placed on those problems that are most easily controlled by the beekeeper. In honey there is no excuse for a ring of foam being found around the top on the inside of the jar. Honeybees do not put air into the honey; that is done when the honey is extracted or pumped improperly. Likewise, air bubbles are not acceptable in a cake of wax being exhibited. Foreign matter, such as dirt in wax or wax particles in honey, are also objectionable. Since not everyone would assign the same number of grade points to a sample, such grades have been not asked for or used in the tests. In the past, those taking the exams were presented with samples and asked to rank them or to list the faults present.

We believe that a Master Beekeeper should be familiar with bee diseases to the same extent (or

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Virtue, like honey, sweetens life.

Some Successful Bee Club Programs

"Under this system we have gotten away from the long harangues that can waste people's time in an unstructured situation."

By LEONORE M. BRAVO
San Francisco, CA 94114

BESIDES REGULAR monthly meetings, the San Francisco Hobby Beekeepers' Association sponsors at least one area-wide bee day a year in which neighboring bee clubs as well as members of the general public and beekeepers who do not belong to clubs may take part. Two y ears ago we invited Dr. Steve Taber to speak on bee behavior. In addition he entertained us with his wit and commented on individual biases in beekeeping. It was the occasion of our annual picnic and he brought a box of cherries to share from his Vacaville farm. He became interested in our area-wide ventures. This year he came to our February Bee Day to listen to Robert Schmalzel, a former associate at the USDA bee research facility at Tucson, Arizona, present his fine work on pollen which was fully illustrated with beautiful flower slides. At that time he invited all present to visit his apiary and queen-rearing operation at Vacaville and eat all the cherries they wanted.

Most people travelled about 50-60 miles to take him up on his invitation on the date set. A few came as far as 100 miles. While these people from other organizations asked me for suggestion for programs which I had found available and successful. I responded that I have written an article on the anatomy of the successful bee club based on input from eight California hobby or partly hobby organizations and finding it too long had, with the agreement of the editor, made it a two part feature. This, the second part deals with programs and I hope that it will provide useful ideas for that perennial problem of getting a program worth listening to.

In April of 1980, coming into the sixth year of our existence, past officers and other long time members who had by then heard just about all of the run-of-the-mill content of bee meetings decided that the program should not be left to any one individual; President or program chairman or even to a few people but should be the result of a careful appraisal of the needs and interests of a membership with varying levels of sophistication and points of view. On this basis a twelve month program was laid out with a pot-luck dinner in December and a picnic in June. These are both chiefly social affairs,I but a certain amount of "housecleaning" takes place at the December meeting and we have had speakers at the last two picnics which have brought out more people than these who would come for the picnic alone.

Speaker at our last picnic was Glen Hartley, president of our neighbors, the Alameda County Beekeepers. When asked to speak he demurred saying that he had a lot of work to do getting supers ready for his foothill apiary some 200 miles away. We told him that he had been highly recommended by members of his club and that we would really like to have him. "But what am I going to talk about?" he asked. I answered that all long time hobbyists have interesting stories to tell. To begin at the beginning and tell us how he got started and how he finally arrived as involved as he is with what to us hobbyists is a commerical number of hives 100-200. We also told him that we'd pay his transportation and provide his lunch if he would come.

The latter is very important. Any and all busy people are reluctant to leave what they're doing and go around talking. When transportation is offered and the person still says no it means that he will only speak for a standard fee or that he/she just can't give the time or doesn't want to. A remarkable number of "good amateurs" are, I believe, pushed into accepting speaking engagements by the offer of transporation at least. Obviously they come for the real reason that they know a lot about bees or beekeeping and in the end they enjoy sharing their information out of their deep interest in their hobby. We have been offering local people coming 20 miles or so $15.00 which is more of psychological than material value, indicating our sincerity. It also saves the person from being deluged with requests to run around to every monthly meeting in the area speaking.

Anyway, beginning with observing his grandfather at age eight and doing a little with him, through chasing swarms while driving a cab in his youth, to getting serious and taking weekend classes for beekeepers offered at U.C. Davis under Dr. Norman Gary, and joining the Alameda County Beekeepers, Glen Hartley had a fascinating collection of adventures, successes and failure to report. Besides being entertained one could learn by listening to his experiences. Like any hobbysist who has been at it 30 years or more he had some pet ideas which others would argue with. In his case it was use of plastic foundation. That subject came up on our day at Steve Taber's ranch before Glen arrived and all agreed that plastic foundation was not satisfactory. When Glen arrived I quickly pointed him out to the doubters for questioning.

The picnic seems to be the ideal place for the above kind of "story". It is important that such hobbyists be well enough informed about bees and beekeeping through having taken courses, attended conventions, and kept their reading current through the bee journals to be balanced in their presentations, of course. Unsophisticated old timers may be fun to listen to but fall short of the expectations of the more sophisticated hobbyists.

This is a good place to talk about our area-wide bee days of which we have had three. Inspiration for the first came to the writer upon attending the first Western Apicultural Society meeting at Davis. I asked Dr. Robin Thorpe, one of the program participant, if he would be willing to

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Master Beekeeper Program

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nearly so) as a qualified apiary inspector. In the examinations just given in New Jersey, the applicants were shown healthy, diseased and chilled brood and asked to state which was which and the cause of the problem in the case of the diseased material. Some were asked the stage in which the brood died. Twenty-five percent of the grade in the laboratory examination was concerned with disease identification. The Committee has felt that disease identification is one of the more important aspects of beekeeping and questions about diseases may also be asked in the field examination as problems are encountered.

The Field Examination

In the field examination, applicants are asked to open, examine and comment on the condition of the colony they are examining. Sometimes they are asked to open several colonies. Being properly dressed to work in an apiary and being able to light a smoker are parts of the exam. As the examination of the colony proceeds the examiner may ask that hive parts be identified. Elementary questions may include identification of chalkbrood, European foulbrood, sacbrood, chilled brood, etc. The Committee has avoided using colonies infected with American foulbrood and identification of that problem is left to the laboratory exam. However, one must always be alert to the fact that American foulbrood may be found anywhere, anytime and that there is a possibility it may turn up during an examination.

In a field examination the examiner may create a situation that causes the bees to become angry and that calls for the judicious use of smoke. Another aspect of some field exams is that the participant may be asked to explain what he is doing or demonstrate how to cope with a certain situation as if he were talking to a beginning beekeeper. The ability to

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Some Successful Bee Club Programs

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come to San Francisco and present a very interesting paper on the evolution of the honeybee which I heard there. and what his fee would be. I thought that a lot fo hobbyists in our area who lacked time or money or the imagination to go to the WAS convention would certainly have enjoyed it if it were available to them at home.

Dr. Thorpe agreed to come and sharing the program was Stennet Heaton of Oakland who is famous for his collection of slides of butterfly wings, who presented some fantastic slides of bee anatomy on the same program. We were able to secure Len Foote of the State Department of Agriculture as a speaker without fee and we had a panel of experienced, successful, long-time city hobbyists to answer questions about city beekeeping, which is different in some important ways from keeping bees commercially.

We did our planning far enough in advance to have it advertized in the bee journals. We found quite a few people in the area who read the journals but do not belong to any of the bee clubs. We were able to use the Josephine Randall Junior Museum for the day which has a good auditorium without charge as long as the event was also advertized in the local papers and was open to the general public without charge. About 150-200 people took advantage of the offering.

In order to pay the speaker's fees we had a pot-luck luncheon with a limited menu. That is all participants were asked to bring sandwiches, a salad, or a dessert as well as pay a donation for the luncheon which they in fact were providing since we couldn't charge admission. We had a system of giving name tags to those bringing food which admitted them to the lunchroom when the time came so that we did not end up feeding the general public free. In order to assure that the food went around we served it, with one sandwich, one dessert and one salad to the sustomer instead of the usual pot-luck proceedure of samples of everything. Some members of the San Francisco Beekeepers brought additional loaves of bread and packages of cheese to serve as backup and which they could use at home if not needed. Beverages, tea and coffee, were made available by the San Francisco group as it was their home base.

It all worked well. The food went around, people enjoyed the social exchanged, and we collected enough money to pay the speakers and reimburse the paper service and beverages. At our last bee day we had to use our backup sandwich provisions and didn't collect enough to meet expenses due to an overly ambitious program. In which case participating clubs shared the extra cost. We also have people bring equipment and "inventions" for display at these area wide meetings.

I report the area wide meeting because it is very stimulating although it might not have wide application for other hobby clubs. The majority of members of beekeepers organizations reported in my earlier article live within a 100 mile radius of San Francisco making this event possible. It is important to advertize it widely and especially in the bee journals to get to the people who do not belong to organizations.

Professionals from the State Department of Agriculture have provided at least two meetings each year since we began and have sometimes taken part in our area-wide meetings as well. County and Federal offices would be resources in other areas.

So the two social meetings and the two state speakers are as four points of the year with eight slots to fill. In the first year of the annual program we had three "paid speakers" to whom we made token payments of transportation as described. Herbert Fields of the San Francisco Bay Area Beekeepers has "40 feet of bee books" which he had collected over a long period of time. When he spoke it turned out that he began collecting books as a child, starting with dinosaurs. He falls into the category for us of "good amateurs", i.e. people with a lot of knowledge from reading, attending conventions, bee oriented travel and experience with bees, but lacking a degree in entomology. Among treasures he showed us at least one book from the 17th century, other early editions including those of the *ABC and XYZ of Beekeeping*, *The Hive and the Honeybee*, as well as some very early editions of *Gleanings In Bee Culture*.

Another well read and experienced "sideliner", Oliver Frank a landscape artist with a wide knowledge of plants gave a fine slide presentation of a trip of Buckfast Abbey, Brother Adam, and the International Bee Research Ass'n. He will talk about the local bee flora in the coming year's program.

In looking over local resources for speakers we turned to the Department of Entomology at U.C. Berkeley. There we found a student of Bernd Heinrich who is known for his studies of both honeybee and bumblebee physiology who very ably filled the slot on research. Our neighbors to the south, the San Mateo County Beekeepers looked to Stanford where they found a researcher on bee venom therapy for a meeting.

The membership meetings always have a theme and some members make contributions of very high caliber, virtually semi-professional. The simplest format and one which they greatly enjoy is a roll call meeting in which each member reports on the "state of the art". How his/her hives are doing, any problems, any good solutions and anything else about the backyard beekeeping venture. This can take up to two 1½ hour meetings and we always learn things from one another.

At another members particpation meeting we asked for reports on research that they had been following in one of the bee journals. Our youngest member, Michael Dulay, a Science Fair winner who has been with us quite a while repeated a preceedure for testing the iron content of honey reported in the *American Bee Journal*, July 1980 using local honeys and some exotic honeys that we had on hand. The results let to a lively discussion.

Another young member with an interest in going on into entomology and apiculture, being greatly impressed with the writing of C. L. Farrar had written the *The American Bee Journal* for back issues containing a series of articles by him which he reported on. Perhaps this is the way book collections begin!

A member with a long time interest in flowers and the bee flora showed some slides of bees using the flower of Monkshood, *Aconitum, sp.* She had never seen the bees using this plant

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Master Beekeeper Program

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teach beekeeping, using clear and straight-forward language and easy-to-follow manipulations, is one of the skills looked for in someone holding the Master Beekeepers certificate.

Cetified Master Beekeepers 1976 to Date

Person Certified	Address
Arleth, John M.	Lindenhurst, NY
Bantz, Norman	Tuckahoe, NY
Barrett, John	Plattsburg, NY
Bizzoso, Peter F.	Ronkonkoma, NY
Blodgett, Freelan	Elba, NY
Bonney, Richard E.	Charlemont, MA
Caputo, Marc	Fredericksburg, OH
Churchill, Raymond	Watertown,NY
Cole, Willie Robert	Blowing Rock, NC
Doan, Edward	Hamlin, NY
Doan, Judith	Hamlin, NY
Fielitz, George	Coram, NY
Foster, Craig	Riviera Beach, MD
Gabbert, Benson E.	Macedon, NY
Glatz, Roberta	Feura Bush, NY
Hampton, David T.	Toronto, Ontario
Harman, Ann W.	Laytonsville, MD
Harris, Fred	Sparta, NJ
Johansson, T.S.K.	East Berne and Flushing
Lawrence, Ralph	Tillson, NY
Lounsbury, Sheldon	Tioga Center, NY
Maker, Archie, Jr.	Latham, NY
May, Richard T.	Block Island, RI
Meyer, Reinhold	Commack, NY
Miller, Gifford	Endicott, NY
Miner, Ernest H. Jr.	Walkersville, MD
Munzer, Fred	Newport, NY
Reidener, Max	West Islip, NY
Robinson, Gene	Buffalo,NY
Rutkowski, Edward	West Falls, NY
Rowe, David	Kingston, NY
Rowe, Myron E.	Kingston, NY
Scott, Louis	Eden,NY
Sun Chun, Ping	Morristown, NJ
Svcbada, Frank D.	East Islip, NY
Webb, Thomas	Sussex, NJ
Woods, Gary	Delanson, NY

Some Successful Bee Club Programs

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over a number of years fairly systematic observation until this occasion of which the local bees seemed to have deserted everything else for the Monkshood which grows in abundance in the area. Slides showed some bees to be entering the flower toward the base of the petals between some viscious looking claws on the sepals to expolit the nectaries while others were squeezing into the front of the corolla in an upside-down position to gather pollen.

Each year in August the subject is honey. Members bring in small jars labelled as to neighborhood for sampling. These are used also at the Flower Show exhibit later in the month. This program also features products made with honey, recipes, and any articles of interest on the subject.

There are many possible "themes" for meetings which we haven't gotten around to yet. The essence of this system is that **the program** is the central feature which is consistent with the objectives stated on the questionaires collected from other clubs and reported earlier, foremost of which is information exchange. The second highest proiorty, social, is met by the two social meetings and by a refreshment period at the end of each meeting. The meeting begins formally at 7:30 and the formal part ends at 9:00 or so allowing one half to one hour for people to stand around swapping stories or giving and getting practical advice from the more experienced beekeepers.

Teaching new beekeepers is handled by providing a course in the Community College district each spring to help beginners get going. If we didn't have this system we would provide some kind of out-of-meeting instruction in beginning beekeeping because successive waves of newcomers looking for advice can dominate a club's meeting time and make it unattractive to experienced members.

Under this system we have gotten away from the long harangues that can waste people's time in an unstructured situation. By calling on all members systematically everyone has a chance and is encouraged to participate which avoids the frequent situation where a few do all the talking which may discourage some from attending meetings in which they find it difficult to participate.

A minimum of time is given each meeting to routine affairs such as the minutes and the treasurer's report.

Slides and films are a well known resource for meetings so haven't been given comment here. Clubs without accesss to speakers use them frequently according to data which I collected and referred to earlier. We use them occassionally; more often in teaching than in club meetings. In passing, let me point out that all clubs probably have more access to speakers than they think. As outlined here any and all local and regional resources should be looked into.

We have had no boring meetings under our annual program system and recommend it highly.

News and Events

FLORIDA
Beekeeping Short Course

The American Honey Producers Association, Inc., and Dr. Larry Connor, Director of Beekeeping Education Service. Cheshire, Connecticut are sponsoring a beekeeping short course Jan. 25, 26, 1982, at the Court of Flags Hotel, 5715 Major Boulevard, Orlando, Florida 32805. Phone: 305-351-3340 or toll free 800-327-0721. Registration is $25 per person for the complete two day program. Single day registrations are $15 per day per person. Late Registration Fee of $5 per day charged after January 15, 1982. Write your check or money order for full payment payable to Beekeeping Education Service. Mail by January 15th to:

AHP—SHORT COURSE
c/o Dr. Larry Connor
P.O. Box 817
Chesshire, CT, 06410
Phone: 203-271-0155

Full refunds will be made, upon request, until January 18, 1982.

NEW YORK
Champlain Valley Beekeepers' Association

On Saturday, October 17th from 2 a.m. — 6 p.m. at the Miner Center auditorium a meeting was held by Miner Institute to establish a Beekeepers' Association. There were approximately fifty beekeepers in attendance.

The following people were elected as officers to the Champlain Valley Beekeepers' Association: President, John Barrett; Vice President, Dick Crawford; Secretary, Loretta Surprenant; Treasurer, Michele Brelia.

The next meeting will be Saturday, January 16, 1982, 9:00 a.m. to 12:00 p.m. at the Miner Center Auditorium in Chazy, New York.

MASSACHUSETTS
Norfolk County Beekeepers' Association

The Norfolk County Beekeepers' Association will hold its regular monthly meeting on February 1, 1982, Monday at 7:30 p.m. at the Norfolk County Agricultural High School, 460 Main Street (Route 1A), Walpole, Massachusetts. William Denhart of Reading, Massachusetts will speak on "Successful Management of Two Queen Hives." Light refreshments will be served. All beekeepers, their family and friends are invited.

OHIO
Central Ohio Beekeepers' Association

A Beginner's Beekeeping Workshop is being planned by the Central Ohio Beekeepers' Association. The workshop will start Tuesday January, 26th (7:30 p.m. — 9:30 p.m.) and continue for six weeks. The Workshop will be at the city of Columbus, Franklin Park Conservatory, 1777 E. Brood St. Further information may be obtained from Joe Hutt, 4011 Lynward Rd., Columbus, Ohio 43228 (1-614-276-5975).

CONNECTICUT
Beekeeping Promotion and Education Seminar

A one-day program to provide beekeepers, teachers, extension agents, and other interested parties with the information and tools needed to teach others about basic beekeeping ideas. While no one-day program will make someone into a full time beekeeper, this course is designed to provide basic education on bees, beekeeping, pollination, bee products, bees and pesticides, and other areas.

Beekeeping promotion is delt with in such areas as press-release preparation, 35mm slide program preparation and presentation, and other areas.

Registration $15, includes program hand-outs and ideas.

The program date is March 13, 1982, Saturday at the Middlesex County Extension Center, Haddam, CT. The sponsors are Dr. Larry Connor, Beekeeping Education Service and the Middlesex County Cooperative Extension Service. Write or Phone:

Dr. Larry Connor
P.O. Box 817
Chesire, CT 06410
Phone: 203-271-0155

Please pre-register — Late registration (at door) — $20.00.

TEXAS
Beekeeping Course

An 18-hour basic beekeeping course will be offered by Paris Junior College's countinuing education division beginning Tuesday, March 2, according to June Jones, Director of continuing education at PJC. Classes will be held from 6:30 to 9:30 p.m. Tuesday and Thursday for three weeks in the Alford Center.

Fee for the 18 hours of instruction is $30, to be paid in advance by mailing a check payable to Paris Junior College to the continuing education office or going by the office in the Alford Center on campus.

Instructor will be A. G. Bolton, who has taught in the past for Paris Junior College and for the Gordon Cooper Area Vocational Technical School in Shawnee, Oklahoma.

More informaton may be obtained by calling the PJC continuing education office, (214) 785-7661, extension 145.

ARIZONA
Beekeeping Short Course

A beekeeping short course will be presented on March 6, 1982 starting at 9:00 a.m. and continuing until late

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News and Events

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afternoon. The course will be held at the Agricultural Cooperative Extension Service on East Broadway in Phoenix. The program will be conducted by Dr. Norman Gary of the University of California, Davis. For more information contact Brett E. Cameron, 6849 W. Lewis Ave., Phoenix, AZ 85035 (Tel. 602-245-1391) or Mike Kuzmik, 1544 W. 6th St., Tempe, AZ 85281 (Tel. 602-968-0969).

CALIFORNIA
Beekeeping Instruction

The San Francisco Community College District will sponsor a series of five lecture-demonstrations in practical beekeeping for city hobbyists. It will begin on Tuesday, February 23, at 7 p.m. at the Marina Middle school, 3500 Fillmore St., San Francisco, and will continue on Tuesday evening through March 30.

Opportunity to observe correct handling of bees will be provided on Saturday, March 27, as well as a hands-on experience for those who have participated in the lecture-demonstrations and are prepared.

There will be no course fee but participants will be expected to buy a text recommended at the class opening. Instructions will be Louis V. Dubay and Leonore Bravo. For information call 415-861-5636.

The American Honey Producers Association Convention Program

Court of Flags Hotel
Orlando, Florida

MONDAY, JANUARY 25, 1982

9:00 a.m. Registration — All Day
Executive Committee
Set Up Exhibits
Beekeeping Short Course — All Day

12:00 Noon Recess

1:30 p.m. Board of Directors — (Open Meeting)

8:00 p.m. Committee Meetings —
Resolutions Committee
Nominating Committee

TUESDAY, JANUARY 26, 1982

9:00 a.m. Registration
Beekeeping Short Course

10:00 a.m. Call to Order —
Berna Johnston, President
Invocation
Flag Salute
Welcome — Vern Sisson,
Babson Park, Florida
Response — Dick Blake,
Shenandoah, Iowa

10:30 a.m. President's Address — Berna Johnston

11:00 a.m. Updating The Federal Bee Research Program — Dr. H. Shimanuki, National Programs Staff — Agricultural Reserarch Service

11:30 a.m. Updating The Federal Pesticide Regulations That Affect Honeybees — Phil Gray — Environmental Protection Agency, Washington, D.C.

12:00 Noon Recess

1:00 p.m. Beekeeping Costs — Harry Fulton, Mississippi Apiarist

1:30 p.m. Washington Committee Report — Richard Adee

2:00 p.m. Beekeeping Economics — A Panel Discussion — Jack Meyer, Jr. Moderator (Panel members will be selected at convention)

4:00 p.m. Varroa Mites — Dr. Roger Morse — Department of Entomology, Cornell University

4:30 p.m. Reading The Resolutions

WEDNESDAY, JANUARY 27, 1982

9:00 a.m. Bee Supplies For 1982
Tom Ross, Dadant & Sons, Inc.

9:30 a.m. Potential Problems of Africanized Bees
Dr. M. D. Levin, Chief,
Crop Sciences, USDA, ARS

10:00 a.m. Africanized Bee Studies In South America — Dr. Tom Rinderer, Agricultural Research Service, Baton Rouge, Louisiana

10:30 a.m. Break

11:00 a.m. The African Bee In Africa
Dr. David J. Fletcher, Department of Entomology, University of Georgia

11:30 a.m. Genetic Problems of Honeybees — Mel Greenleaf, Director, Hybrid-Bee,Inc., La Belle, Florida

12:00 Noon Recesss

1:30 p.m. The Honey Industry Needs A Good Extension Program — Dr. Larry Conners, Beekeeping Educational Service

2:00 p.m. General Assembly Business Session
Secretary-Treasurer' Report
Resolutions

3:00 p.m. Board of Directors —
Election of Officers — Resolutions
Old and New Business

7:30 p.m. Banquet

THURSDAY, JANUARY 28, 1982

9:00 a.m. Executive Committee

BUY & SELL

Classified rates, 45¢ per counted word, each insertion, payable in cash in advance. Each initial, each word in names and address, 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) count as one word. Not less than 10 words accepted. Copy should be in by the 5th of the month, preceding publication. Send classified ads to : The A. I. Root Co., Advertising Department, Gleanings in Bee Culture, 623 W. Liberty St., P.O. Box 706, Medina, Ohio 44258-0706.

MAGAZINES

THE AMERICAN BEEKEEPING FEDERATION needs your support; participate in national affairs; receive six issues of the NEWS LETTER per year. The ABF, Inc., 13637 N.W. 39th Avenue, Gainesville, FL 32601.

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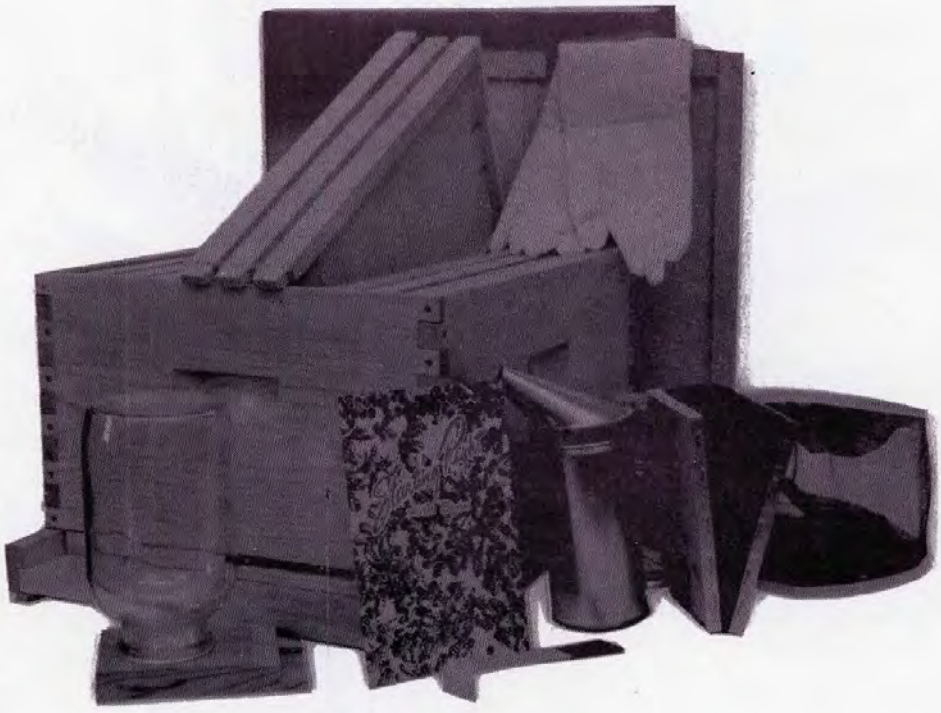

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