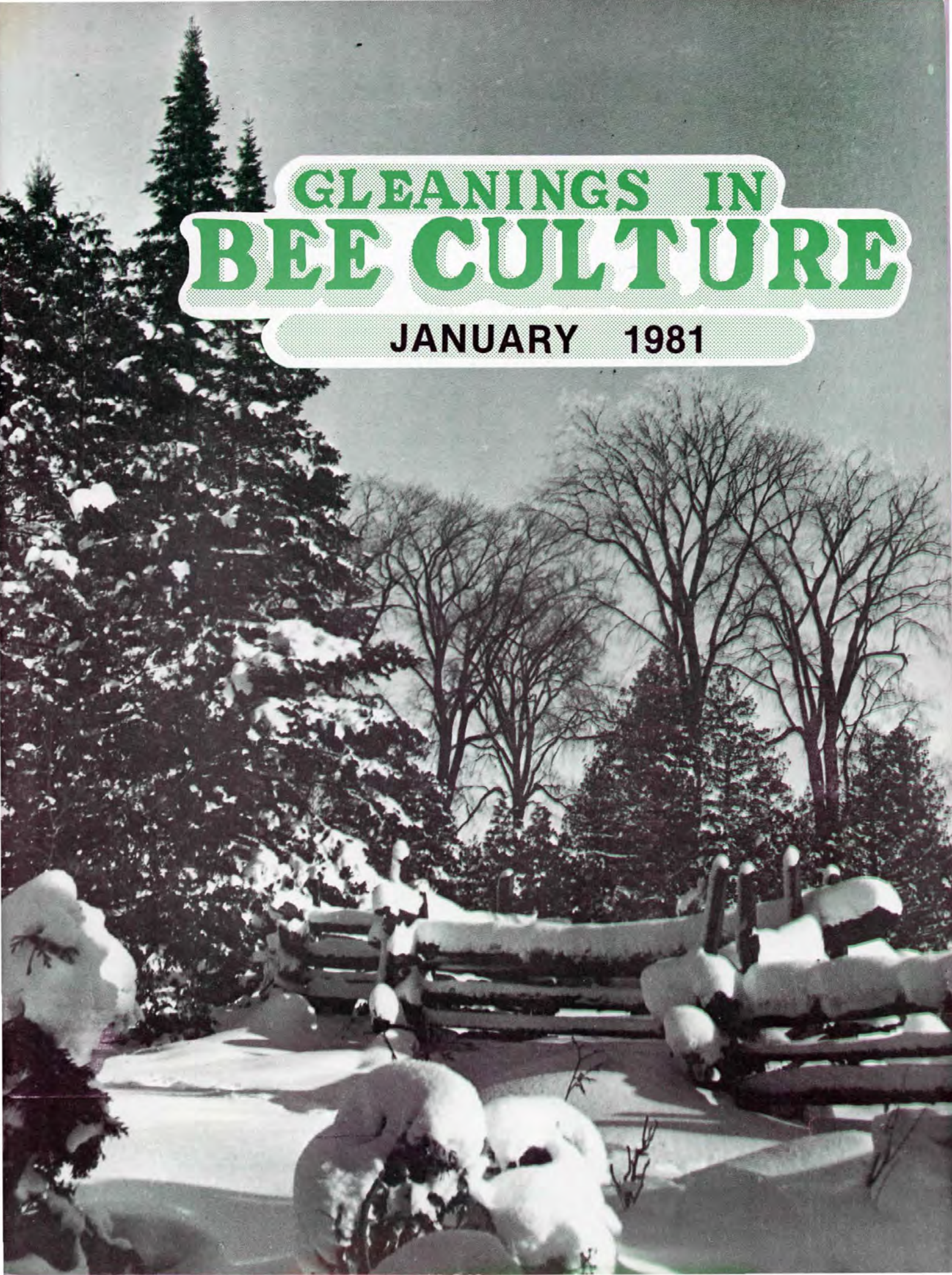

GLEANINGS IN BEE CULTURE

JANUARY 1981

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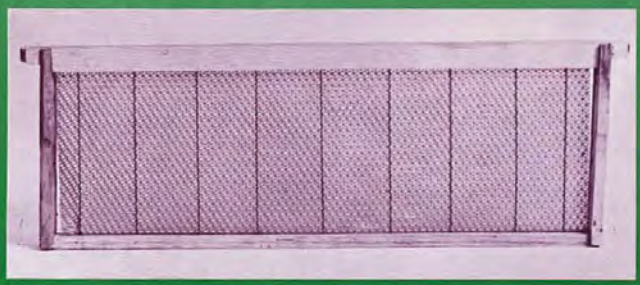

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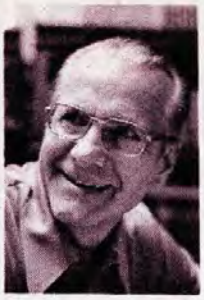

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HAPPY NEW YEAR

Resolution: We, of the *Gleanings* staff, resolve to renew the committment which gave birth to these pages — the committment to help beekeepers succeed. We sincerely thank you for your continued support and patronage and encourage you to contact us at any time with your questions, comments and suggestions. Mostly, we want to wish you and yours a very joyful and properous new year!

1981 Gleanings in Bee Culture

January 1981 (ISSN 0017-114X) Vol. 109, No. 1
Created to Help Beekeepers Succeed
108 Years Continuous Publication by the Same Organization

CONTENTS

Robson Honey Company of Arizona and California*

**Updated from Some Beekeepers and Associates. pp. 97-98. Moffett Publishing Co. 1979.*

"During the past three falls, Robson has operated a reverse package business."

By JOSEPH O. MOFFETT
Cushing, OK

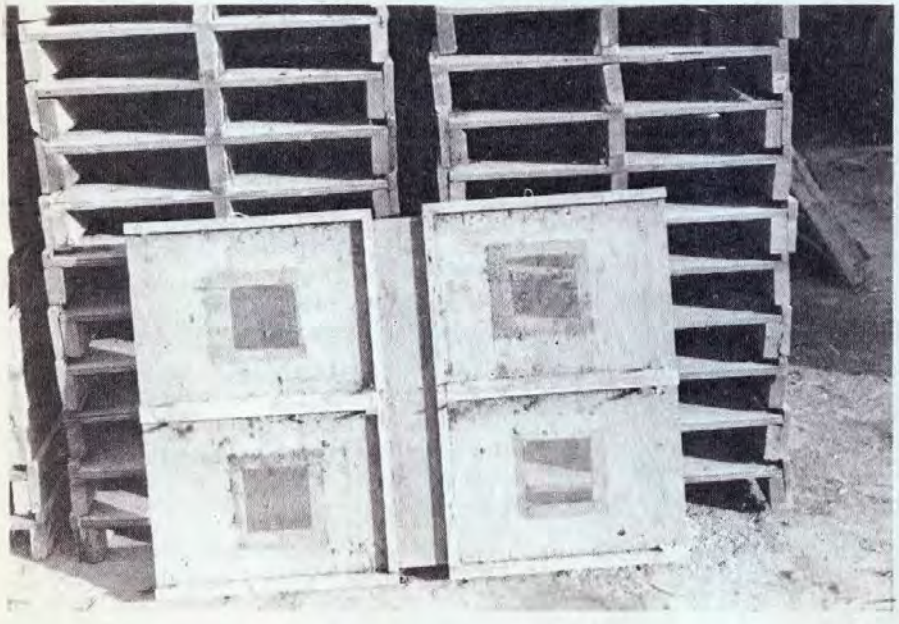
The Robson Honey Company is operating 6,000 colonies of their own in Arizona and California. About 4,000 are kept in the Aquila area of Arizona. The other 2,000, which were purchased from Gilchrist of Bard, California in 1979, are kept on the California side of the Colorado River between Yuma and Bard.

Robson also overwinters 4,000 colonies for four beekeepers from South Dakota, North Dakota, and Montana. Robson has the use of the colonies for pollinating and to make nuclei. In the spring, the Northern beekeepers are given strong colonies with new queens. The beekeepers are charged freight for moving them south, and for the return trip north.

In early 1981, the company plans to move almost 10,000 colonies to California to pollinate almonds. In past years, Robson rented about 2,500 colonies each spring for cantaloupe pollination, and another 1,500 colonies in the fall to pollinate late cantaloupes. In 1977, Robson and Harold Lee provided 500 colonies needed to pollinate male-sterile cotton to produce hybrid cotton seed on an experimental basis.

Charles Robson is shown with one of his trucks which is equipped with a hive loader that he makes. Charles also packs honey, runs bees for pollination and honey, manufactures hive bodies, and is a bee supply dealer in Phoenix, Arizona.

These pallets are used by Charles Robson in his reverse package business. The bottom boards are built in the pallet. A six inch screened opening is made in each bottom board to provide ventilation for the bees on their trip south. For the past three years Robson has bought bees from almost 3,000 colonies in Montana in the fall and shook them into his own hives. Then, he moved these bees to Arizona where he has sold some of the bees and queens and kept the rest for his own bee operation.



During the past three falls, Robson has operated a reverse package business. Bees and queens that were normally killed in Montana in the fall are collected and brought back to the Phoenix area to sell and to replace colonies lost from insecticides. For example, between August 15 and October 15, 1977, Robson's men blew bees and queens from 2,812 colonies in Montana and moved the bees back to Phoenix. In both 1978 and 1979, this operation was conducted on the same scale.

Moving the bees. Four six-inch holes are made and screened in each pallet to provide air for the bees while they are being moved. These holes are in the middle of each bottom board. The bottom boards are part of the four colony pallets. The trucks are equipped with sleepers. Once the bees are loaded, the two drivers drive straight through. They stop only for fuel, food, and every six hours to wet down the bees on the 1,600-mile trip. Two-by-four planks are turned edgewise to separate the

layers of pallets and to provide air and circulation for the bees.

Robson has brought a 12-unit motel and adjoining house in Aguila. His manager lives in the house, while Robson's men and beekeepers who work for him stay in the motel. The old Atlantic-Richfield truck stop in Aguila also was purchased and made into a warehouse and honeyhouse. Robson has leased 3½ million acres from the State of Arizona for Apiary sites. He has a 3,000 gallon water truck to haul water to his desert apiaries during the dry season.

Robson packs honey in Phoenix under the "Bee Tree" label at his original Phoenix location. Health food stands and roadside stands buy a large portion of his packed honey. He also is a supply dealer and manufactures some wooden goods for resale. Charlie Robson also makes hive loaders, both for his own trucks, and for other beekeepers. One of his latest manufacturing ventures is a special trailer on which he plans to keep bees permanently. The bees can then be moved in and out of agricultural areas easily to try to avoid losses from insecticides. In past years, Robson has suffered severe losses in the Salt River Valley from insecticide spraying on cotton to control destructive insects. However, the use of the synthetic pyrethrins to control cotton insects the last few years has reduced these losses. Robson has developed and is patenting a pollen trap that he believes is superior to any other now on the market. He has a contract to produce these traps in quantity. Charles has built facilities to fill retail packages of pollen. He will be packing for a large wholesale distributor of pollen. Robson also plans to sell these retail packs by mail order nation-wide. Robson also plans to collect pollen from his own colonies with his new improved pollen traps.

Robson requeens in the fall by introducing a queen cell to weaker colonies over a division board which has a six-inch screened hole, then uniting in the spring by removing the division board. He divides strong colonies into two and gives the queenless one the queen cell. Then he either reunites the new division with the old colony in the spring or keeps the new colony as a separate unit.

Charles Robson (1931) was raised around bees, but got started again in 1955 when he, his mother, and his older brother bought Everett Chandler's bee operation. He helped his folks as a boy in their home apiary which they kept as a sideline. In 1919, when she was 16, his mother had started grafting queens for Robert Moore. Also, Charles' uncle, Bud Kenson, was a commercial beekeeper in the Salt River Valley of Arizona for 46 years (1924-1970). Robson worked for Holsum Bakery as well as kept bees until 1960 when he went into beekeeping full time. In 1963 he purchased Bill Crockett's bees. In 1965 he bought out Ed Hogland.

Screened hive bodies, each containing bees and their queen, are being loaded in Montana before being moved to Phoenix for the winter.

One of 4 colonies on a Robson pallet is open for inspection. A division board feeder has replaced the outside frame nearest the middle of the pallet.

An illustration of the depressed state of the bee industry then is that in 1972 Robson bought the 700 colonies belonging to Glenn and Bill Blair for $10.00 a colony. These colonies were four stories high. The Blairs' also included their extracting equipment and their other bee supplies for the $10.00 per colony price.

In 1978 Robson bought the Quartzsite, Arizona bee operation belonging to Roy Davis and Roy's father-in-law, Ohan. One of Charles' sons, Mike, works with him and also runs 500 colonies of his own on the side. His other son, Raymond, owned 1,000 colonies until 1978. Then he sold his bees to his father and purchased Arizona Realty, the oldest licensed real estate company in Flagstaff.□

*(**Some Beekeepers and Associates** is a fascinating book about some of the most interesting people and organizations in beekeeping today. Some of the histories are remarkable and much can be learned from reading about the operations of the major honey producers. This book can be ordered from the A.I. Root Company, Medina, Ohio 44256. The Catalog Number is X54 and price is 9.90 plus $1.03 postage.)*

The bees are being blown out of the hive bodies in Montana. In the fall these bees and their queen from each colony are placed in a hive body containing two frames and moved south to Arizona.

Two of Charles Robson's trucks are shown arriving in Phoenix with bees and queens shaken from Montana colonies in the late summer and early fall.

Book Review

By ROGER A. MORSE
Dept. of Entomology
Cornell University
Ithaca, NY 14853

DR. MILLER'S *"FIFTY YEARS"* REPRINTED

Dr. C.C. Miller, a physician who gave up his medical practice for beekeeping, was one of America's best known authorities on bees at the turn of the century. Although he claimed he never invented anything, he was constantly testing equipment and methods and reporting on their value in the beekeeping press. He wrote several books but the best known is his *Fifty Years Among the Bees*. It was published in 1915; however, after Miller's death in 1920 the A.I. Root Company published what is known as the Memorial Edition, containing tributes to Dr. Miller by Drs. E.R. Root and E.F. Phillips. It is this edition that has been reprinted.

The Miller book is not one that can be read quickly nor is it a good reference text. It is written in a rambling style and yet this book is filled with discussions and recollections that are both informative and entertaining. Clarence Schrader, a successful comb honey producer in central New York State who died a few years ago, once told me that he always kept *Fifty Years* handy for winter evening reading. He told me he could always learn something new when he picked up the book. I believe this is precisely the way it should be treated.

Swarm control was the subject which held the greatest fascination for Miller. Since he produced only comb honey his colonies were always congested and prone to swarm. He tested every new theory and method that came to his attention. However, he was also well aware that there is no substitute for young queens, good combs and routine inspections, as is well known by successful comb honey producers today.

The reproduction of the book has been carefully done. The pictures are not as clear as those in the original but are still useful. The type has been enlarged by ten per cent to make it more readable.

The book is available from Molly Yes Press, R.D. 3, Box 70B, New Berlin, New York 13411 for $7.95 paperback and $12.50 hardcover plus one dollar postage. Only 500 copies were reprinted so I expect the supply will be exhausted rapidly.□

Monthly HONEY Report

LAWRENCE GOLTZ

December 10, 1980

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	Reporting Regions								
Sales of extracted, unprocessed honey to Packers, F.O.B. Producer. Containers Exchanged	1	2	3	4	5	6	7	8	9
60 lbs.(per can) White	42.00	31.20	33.60	31.20	34.80	40.80	32.50	32.50	
60 lbs. (per can) Amber	42.00	28.80	31.20	31.20	33.60	36.25	29.50	31.00	
55 gal. drum (per lb.) White		.52	.57	.53		.56	.54	.53	.51
55 gal. drum (per lb.) Amber		.48	.52	.52		.51	.47	.51	.50
Caselots — Wholesale									
1 lb. jar (case of 24)	26.50	24.25	24.25	20.65		22.00	22.90	20.50	24.00
2 lb. jar (case of 12)	25.00	22.40	22.25	19.50		21.25	19.60	18.50	
5 lb. jar (case of 6)	30.00		24.00			23.50	23.75	23.40	23.50
Retail Honey Prices									
½ lb.	.90		.83	.75	.90	.75	.72	.75	
12 oz. Squeeze Bottle	1.35		1.25	1.10	1.55	1.05	1.25	1.15	
1 lb.	1.35	1.35	1.39	1.20	1.70	1.15	1.30	1.20	
2 lb.	2.55	2.49	2.69	2.35	3.15	2.15	2.39	2.20	
2½ lb.	3.15								
3 lb.	3.80	4.79			4.55	3.35	3.20	3.45	
4 lb.	5.00			4.25	5.20	4.25	4.35	4.25	
5 lb.	6.00		5.25		6.55	5.05	5.10	5.25	
1 lb. Creamed			1.41			1.65		1.35	
1 lb. Comb	1.75			1.95		1.60	1.65		
Round Plastic Comb	1.50		1.75			1.75	1.55		
Beeswax (Light)	1.85	1.70	1.95	1.90	1.85	1.75	1.80	1.80	1.85
Beeswax (Dark)	1.80	1.60	1.85	1.80	1.75	1.70	1.75	1.75	1.75
Pollination Fee (Ave. Per Colony)	30.00		22.50				15.00		20.00

Region 1

Honey sales are about average for this time of year. Honey has not increased in price in tune with the rest of the economy. Dark honeys are in increased demand. More honey was left on hives for winter stores than usual. Some beekeepers harvesting propolis to offset high costs but most feel it is too much work for so little money. Pollination rentals increasing.

Region 2

Bees went into winter in good condition. Not much change in honey market in New York, but sales reported up in West Virginia and prices up slightly. Honey sales fair to good in Pennsylvania. Honey sales to large buyers are slow, perhaps due to high interest rates. Those who were feeding in late fall had difficulty in getting bees to take feed because of cool weather.

Bees may need feeding in Maryland in the spring as some colonies were not fed as usual because of the high cost of sugar. Honey sales remain good and demand exceeds the supply, as usual.

Region 3

Honey sales slower in Indiana, possibly due to slowed economy, and with interest rates jumping around the improvement may be slow. Weather through the mid-eastern states has been fairly moderate into December. Bees have been rather active, using stores, but too early to tell how much. With sugar prices up, more honey was left on colonies. Hardly any producers have honey on hand.

Sales of gift packages of honey are very good according to a Wisconsin honey packer who specializes in that type of packaging. Wisconsin honey crop was about 75% of 1979. Very little fall honey. Hives not fed may be short of stores in the spring. Rain plentiful.

Region 4

Most colonies in good condition going into winter. Iowa averaged about 87 lbs per colony in 1980. Bulk honey moving very slowly in Iowa, with wholesale and retail sales slow, but expected to improve. Honey prices being adjusted upward. Honey sales good in Minnesota through November with above normal temperatures. 1980 was excellent crop year in Nebraska. Colonies went into winter in very good condition. Honey sales very good. Fall weather moderate.

Region 5

Most colonies were fed and went into winter in good condition. Honey sales fair to good. Good honey crop from Brazilian pepper in Florida. Honey sold at North Carolina State Fair at $2.00 per pound.

(Continued on page 10)

MONTHLY HONEY REPORT

(Continued from page 6)

Region 6

There were threats of forest fires in Kentucky but no bees reported lost. Rainfall improved in Fall. Honey market is normal. Colonies in fair condition, statewide, in Alabama, but some feeding was necessary. A great deal of interest in feeding high fructose corn syrup as a bee feed with the high price of sugar. Very mild winter to date in Tennessee and bees consuming honey rapidly. Early spring feeding will be necessary. Honey sales are good, especially amber for the bakery trade.

Region 7

Fall honey flow, although late, helped provide stores for colonies in Arkansas. Colonies must be watched in the spring. Honey is not moving well in the stores and a recent price increase by the larger packers will not help sales. Producers' honey being purchased in Arkansas on delayed payment plan, usually six months. Honey production was down about 80% in parts of Oklahoma due to the drouth. Bees going into winter in poor condition. No local honey for sale in Oklahoma and sugar prices very high. This year was very difficult for Oklahoma beekeepers. Bees in fair to good condition in Texas, but feeding was necessary in the fall. Winter rains are finally returning moisture to the parched soil. Demand for honey remains steady. Outlook for an early spring crop of honey appears favorable in Texas.

Region 8

An Indian Summer gave bees in Colorado a chance to prepare for winter before the colder weather in November and December. Honey sales at consumer level are good. Most of new crop of honey, which was below average, has been sold. Packers have been buying on a delayed payment basis. October and November were mild in Montana with some snow in the mountains. Honey moving slowly in retail stores but is being moved from producers to packers, with slightly higher prices in the stores. Extracted honey is somewhat darker in color in areas affected by the drought in Montana.

Region 9

Packers buying cautiously from producers due to high interest rates and uncertainty of sales. A price adjustment upward reflects increase in packaging costs.

Pollination fees for almonds in 1981 being agreed upon at about $24.00 per colony, alfalfa seed pollination fees are $19.00 to $21.00 for 1981.

Not much demand for honey at wholesale level in Oregon. Noted Christmas basket containing 2 one pound jars and 1 round comb of honey selling for $10.00.

WORLDWIDE

Honey imports have been equal between Mainland China and Canada during 1980. Mexico is the next leading supplier of honey to the United States with Brazil and Argentina far behind. Imports may increase when domestic supplies of honey are sold and demand increases through the winter.□

Carl Killion Doll Featured at ABF Convention

A boy's dream of beekeeping will be immortalized in a special collector's doll offered for the first time at the American Beekeeping Federation convention in Seattle, Washington, in January 1981. Wisconsin needlesmith Rebecca Iverson has handcrafted a scenario featuring a doll of Carl Killion Sr., inspired by the commemorative cachet of the U.S. Post Office honeybee commemorative envelope.

The cachet drawing of the young Killion was the inspiration for Iverson's collector doll. The 10-inch replica of the blye-eyed, sandy-haired, freckle-faced youngster will be part of a total scenario of the cachet, complete with log bee gum. The scenario will be sold at auction during the Seattle convention, with proceeds from the sale going to the American Honey Queen program.

Iverson and her husband, Barry, both hold college degrees in art and live on a farm near Amery, Wisconsin.□

Rebecca and Barry Iverson

Notes from the Straw Skep

By BESS CLARKE
50 Lycoming Street
Canton, PA 17724

"My husband came home from a trip to Florida with a present for me...."

The most recent meeting of the Pennsylvania State Beekeepers' Association was held in the heart of Pennsylvania Dutch country in Lancaster County. While we were there we were privileged to visit a beekeeper who operates his farm without the use of electricity. In addition to his own crops, he does custom extracting for neighbors, and sells bee supplies and honey.

Deisel fuel is the source of power which operates a compressor. Air under pressure is stored in a tank the size of a railroad tank car. Lines are run from the tank to the milk cooler, the extractor, and other places where power is needed. Small motors, no larger than a tight fist, are powered by the air. Their speed can be controlled very precisely through valves set in the lines.

Uncapping is done with a hand knife and a solar melter is used for rendering wax.

A separate workshop houses a drill press, sanders, hand drills, and a table saw, all operated with air motors.

Other farmers in the area use water power to run their equipment. A hydraulic ram set in a stream can supply enough energy to run farm machinery.

It's always a treat to drive through the beautiful farmland of Lancaster County, Pennsylvania and observe the prosperous farms with horse drawn machinery being used for field work, and no wires cutting across the skyline. The tourist trade has reduced the numbers of these farms in the past few years. The price of land has risen so precipitously that farmers must go elsewhere, but there are still many farmstands along the backroads in the county.

It was a pleasant surprise to see Larry Connor at the meeting. We first met Larry when he conducted a short course for commercial beekeepers at Ohio State University. More recently he has been connected with Genetics Systems Inc. in LaBelle, Florida. Now he and his family have moved to Connecticut where Larry is beginning a new venture in consultation work with beekeepers.

My husband came home from a trip to Florida with a present for me — the Tampa Bay Beekeepers cookbook titled "Buzzin' in the Kitchen". One of the recipes which I've never tried before, is for HONEY ORANGE PANCAKE SYRUP. Blend together ⅓ cup orange juice and ⅔ cup honey. Serve warm on pancakes for a delicious taste treat. It's just as good on ice cream, too.

We've been enjoying the grapefruit which Bill brought with him. It's one of our favorite fruits and a delicious way to serve it is broiled, with a drizzle of honey on the cut surface. Honey blends so beautifully with fruit flavors. If you aren't already doing it, please try honey drizzled over all kinds of your favorite fruits.□

Is Research Important?

"Unless we pause in our busy days to reflect on our good fortune, we are in danger of taking...for granted."

By GRANT D. MORSE, Ph.D.
Saugerties, NY

When my paternal Grandfather was a young man, section comb honey was just beginning to be produced and sold. How to make wood sections for comb honey was discovered in 1857. He couldn't produce and sell liquid honey on an extensive scale either because the extractor hadn't yet been invented. That came in 1865.

And what was true for my Grandfather was true for yours too. Sometimes, with a good bit of trouble, they were able to produce a few fancy glasses (bottles) in which they had induced the bees to make comb and honey.

Unless we pause in our busy days to reflect on our good fortune, we are in danger of taking so many of the modern devices we possess for granted. For example, we fail to realize how fortunate we are to have our brood frames and our extracting frames. It wasn't until 1851 when Langstroth discovered the prevalence of bee space that the modern frame and its perfect sheet of wax foundation came into common use. Why didn't some one prior to 1851 realize the significance of bee space? It was right there — in front of the nose of every beekeeper.

Today every beekeeper understands the significance of bee space. Am I right about this? How about the fellow who makes some of his equipment and fails to keep all measurements to standard? But he finds out when he allows too much space above or below the frames, and the bees build comb and store honey there. He discovers the importance of bee space when he discovers there was too much room between the supports of his comb honey sections and the tops of the sections below. When he takes off his supers of comb honey, the combs the bees have built there drizzle their honey on to the sections in the stack and render them substantially unsalable.

And compare the efficiency of the several types of uncapping devices with the old iron knife kept semi-warm in a vessel of water.

And contrast the smooth running extractor that accomodates hundreds of frames with the old hand-driven reversible extactor.

And compare the several modern methods of swarm prevention in use by commercial beekeepers with the old practice of encouraging swarming in order to secure increase. And the end in this detail of beekeeping is probably not yet here.

Adulterated Honey

Occasionally we come upon a phase of our business that seems to retain some of its problems. Such a one is adulterated honey. Back in the year 1897 and the period associated with that year, there were reported cases of mixing corn syrup with honey and selling it as pure honey. The enactment of Pure Food and Drug laws by the Federal Government supposedly put an end to that. The first such laws enacted in this country were produced in 1906.

In 1959 some Japanese researchers developed a method of converting a portion of the dextrose in corn syrup into levulose, using a bacterial enzyme. Levulose is one of the sweetest of sugars, hence it becomes a medium for satisfying the sweets needs of humans. The new product is called isomerose. In 1978 researchers in the USDA found a way to detect the presence of this substance in adulterated honey. However, there are reports that some suppliers are still adulterating honey and selling it as pure honey. The beekeeping industry must remain alert to detect and stop this practice. Such a procedure is fair neither to the honey producer nor the consumer.

Additional Research Benefits

Beekeepers today are much better able to understand the behavior of their bees because of the research that has been carried on in the field of communication. Von Frisch was the first to demonstrate the amazing extent of communication among bees by way of the dance. More recent research has emphasized the significance of communication through the secretion of pheromones that serve as signals in the bee world.

It is a bit unorthodox to suggest that individual bees vary in their capabilities. But they doubtless do vary nearly as much as humans vary from one another. Since the number of genes in their physical equipment is less that the number in man, the variation is somewhat less. But bees do vary. They vary from one another because each one inherits a slightly different complement of genes than her partners. (Except, of course, for identical twins.)

Individual bees demonstrate a variation in their capabilities by the fact that some never dance in order to communicate. Some assume the role of scout for food, water, or home site. Approximately five percent function in such capacities. Some become scouts at an early age. Some bees confine their gathering of nectar or pollen to small, well-defined areas measuring as little as 35 feet by 35 feet; and if the nectar flow from that source continues long enough, some individual bees spend an entire lifetime of gathering in such a small area. Though physical differences between individual bees are not apparent to our human eye, it is probable that no two bees in the world look exactly alike. Since they are physically smaller than human beings, such differences are doubtless somewhat less discernible.

It is not difficult for most of us to acknowledge that bees may communicate by such an act as the dance. It may be a bit more difficult for us to comprehend that communication by way of pheromones is prevalent.

Pheromones may roughly be classified into two categories: those employed within the hive and those used in the out-of-doors. Our knowledge of within-hive pheromones is limited. We do know a good bit about the sex attractant of queens; the alarm odor of bees acting as guards; Nasanov scent employed by bees to mark the entrance of the nest in order to make it more recognizable by those temporarily disoriented; and the pheromones employed by members of a swarm to help them act in unison.

The honeybee pheromones with which we are familiar are chemically relatively simple, consisting of carbon, hydrogen, and oxygen only.

Research in the Field of Bee Venom

Not all basic research carried out in the colleges and universities finds an immediate application. But one instance of such a piece of research is the method of gathering or collecting bee venom.

Perhaps something like one percent or more of human beings are allergic to the venom of a bee sting to such a degree that life is sometimes threatened. Such individuals usually strive to secure inoculations from a physician that will gradually

(Continued on page 14)

IS RESEARCH IMPORTANT?

(Continued from page 12)

build up their resistance to the threat of a sting to such an extent that their lives are no longer threatened when stung by a bee.

Till comparatively recently, physicians prepared injections for this purpose by grinding up the whole body of the bee in question, honeybee, wasp, etc. But such a method might be compared with grinding up a human being to secure his saliva supply. Consequently, the serum secured in this fashion was not very effective.

The breakthrough came in the early 1960's when Dr. Allen W. Benton, then a graduate student at Cornell University, learned how to collect pure honeybee venom. Today his company markets pure bee venom and wasp venoms procured by special techniques he has developed. Wasp venom extracts have been available for only a short while and many physicians are still not familiar with them. However, knowledge of this is spreading rapidly.

Research on Wild Nests of Honeybees

A research study originally carried out by Seeley and Morse at Cornell University on the wild nest of the honeybee has some practical applications for the beekeepers of the country.

For example, these researchers found that scouts for wild nests demonstrate a distinct preference for a cavity in a tree that is slightly smaller than the dimensions of a standard Langstroth hive body. Perhaps one of the implications from such a finding is that a nest of those dimensions encourages frequent swarming. Beekeepers are asking the unnatural when they place a colony of bees in a man-made nest of three or more hive bodies and attempt to prevent swarming altogether.

The scouts also showed a pronounced performance for nests located fifteen or more feet above ground level. Beekeepers are naturally precluded from indulging the bees in this preference. The reasons for the bees preferring a lofty site may stem from a desire to assure good air drainage; a site at about the level of their elevation of flight; and some degree of protection from many of the enemies that prey upon their stores such as skunks, mice, and bears.

In building cells in their combs, bees in the wild nests devoted approximately 17% of their space to drone cells. Certainly this has an implication for the human beekeeper.

The fact that the scouts for wild nest sites showed a preference for nests that were slightly shaded should also mean something to the beekeeper. Studies by other researchers show that an average colony in an average location (if there be such) uses up to a gallon or more of water per day in cooling the nest. Beekeepers whose colonies are exposed to the direct rays of the sun should perhaps take this demonstrated preference of the bees into consideration.

Research is not confined to the Apiculture departments of colleges and universities. Many a beekeeper has discovered significant facts previously unknown, and has made his findings known to his fellow workers.

But it is entirely possible that much know-how followed by individuals who are more than average in their success is never made known to others, and must remain to be rediscovered by others in a later generation. This is unfortunate. Beekeepers' meetings might well feature round table discussions in which each participant is encouraged to tell of his successes. Just suppose Langstroth had not revealed his discovery of the existence of bee space. How long would it have taken for someone else to discover it?

Research Currently in Progress

I do not pretend to have knowledge of information in this field beyond that of others. I do know, as does everyone else, that the Brazilian bee imported from South Africa is under constant study. If this study accomplishes nothing more than to allay the fears of uninformed laymen on the subject, it will be well worth while.

The varroa mite is also under study. *Varroa jacobsoni* is a parasite mite of honeybees discovered by Oudemans in Java in 1904. It is a threat to our European bee because it feeds on the blood of larval, pupal, and adult honeybees.

The female mites enter the cells of bee larvae just before they are sealed. There the mite lays 3-8 eggs which hatch and feed on the developing larvae and pupae. Despite being fed upon by the mite, the infested bee usually emerges. Damage is in the form of a shortened abdomen and damaged wings or legs. The reproductive rate of this mite is quite low so that 3-5 years may pass from the time of initial infestation until the mites markedly weaken the colony. Meanwhile mites are carried to other colonies in the apiary by drones and drifting workers, and so the entire apiary becomes infested.

Varroa jacobsoni originated in Asia where it infested the native bees, *Apis cerana* and *Apis dorsata* neither of which seems to be nearly so severely damaged by the mite as our European bee. *Apis mellifera* which was carried to Asia became infested with the mite, and when later some of these European bees were returned to Europe and other continents, they returned with the mite infestation. No effective means of control has as yet been devised. The matter is being studied, as we have said.

Research by Laymen

As we said earlier, not all research is carried on by the educational institutions. Many a commercial beekeeper, amateurs too, are constantly studying bee behavior as well as their own management practices.

One of the more significant topics on which there is very wide divergence of opinion is in the field of swarm control and swarm prevention. (The word control is used in connection with action after queen cells have been started.)

Commercial beekeepers are plagued by the fact that they're often short of time to apply the swarm prevention methods that they might like to use. Probably the most popular practice followed by this group is to add supers early in the season. Some give an upper entrance and exit so as to reduce the travel by the workers down through the brood nest. Some elevate a frame or two of capped brood into the third hive body when it is added. They then try to keep watch to see if cells are built and if so, the brood is separated from the queen. Many of the more progressive operators attempt to requeen a portion of their apiaries each year since supersedure cannot be counted on to take care of the problem.

Another common problem of beekeepers in the North is wintering. Some give a wide-open entrance all winter. Others shudder at such a practice. Some pack for winter; others would not be bothered by such a manipulation. But the real truth of the wisdom of each method is tested when a severe winter occurs. But even then some of the stubborn ones attribute the death of an excessive number of colonies to the severity of the weather.

Labeling Queens

There are a host of small-scale beekeepers in this country who are inquisitive and interested enough to be always alert to small details of their operations. Their research is not on a grand scale. They would not call it research, probably, but it constitutes a never ending willingness to find out what is going on in their bee world.

One of these details that many an amateur has found profitable is the marking of his queens. A clear example of the

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IS RESEARCH IMPORTANT?

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value of queen marking is evident when the operator unites two colonies by the newspaper method without eliminating one of the queens. It is usually only by marking the queens in question that the operator can know which queen survives. Most beekeepers are aware that a queen more than two years old may not be able under stress to carry on her duties; for example, she may not endure the strains of a severe winter; or she may lay so few eggs as to keep the colony understaffed.

An operator who does any requeening wants to know whether he is replacing a young queen or one that is three years old.

Queens are commonly marked by holding them gently between the thumb and forefinger. Others use some mechanical device for holding her while they mark her with a fast drying paint such as automobile touch-up paint, or artist's pigment mixed with a solution of shellac in alcohol. Others use finger nail polish. A small dot of the paint is applied with a fine brush, stick, or other device to the dorsal surface of the queen's thorax. Care should be taken to avoid getting the paint on the eyes, antennae, or wings of the queen. The paint should be thin enough to flow into the hairs on the queen's body, but not so thin that it runs beyond the area for which it is intended.

Selection of the color to be used should be based on the International color coding system for queens. Or one may use his own code.

Areas of Desirable Further Research

Let us now turn our attention to some fields in which it appears that further research may be profitable. Certainly one of these is how to carry on beekeeping in the midst of the use of insecticides. Poisoning of bees is largely caused by the insecticides used in crop protection. Western beekeepers in the US find poisoning is the most difficult threat they face. Poisoning usually takes place when bees come in contact with insecticidal residues on plants. It is contact with the blooms of these plants that usually causes the trouble.

Many of the field bees are destroyed by coming in contact with insecticides. Brood is commonly destroyed by being fed pollen that has become contaminated. The degree of residual action possessed by a chemical is one of the primary concerns. One such chemical appears to be Penncap-M, a product of the Pennwalt Corporation of the US.

This is a microencapsulated pesticide. The beekeeper finds it a problem because the capsules are about the size of pollen grains. The bees carry the capsules back to the hive where they are stored and become the food of brood for several months thus causing wholesale destruction. Pollen from sweet corn to which Penncap-M has been applied is an example. No cases of honey becoming contaminated with Penncap-M have been reported.

Dust applications of insecticides are usually more hazardous to bees than sprays. Strong colonies typically seem to suffer more from insecticides because a larger percentage of their number forage.

Bee poisoning from insecticides can be reduced somewhat in the following ways: (1) By securing the cooperation of plant growers and users of pesticides to select those that are the least harmful to bees. (2) By not applying pesticides to plants while they are in bloom. (3) By injecting poisons into the soil rather than onto the plant where such applications are feasible. (4) By applying liquids rather than dusts, powders, or microencapsulates. (5) By applying the insecticides in the evening or at night when bees are not flying.(6) By eliminating blooming weeds, such as dandelions, that are flourishing adjacent to the plants being treated. (7) By adjusting the times of applications to take into consideration the residual hazard caused by low temperatures, or applying insecticides in warm periods when bees are likely to be flying. (8) By adjusting the location of apiaries to neighborhoods where application of insecticides is least likely to occur. (9) By studying the problem so that one can confer with those using the insecticides and advise them of the least destructive selections of materials, and the best methods of application.

Further Study of Supersedure Desirable

Many beekeepers appear to suffer loss of many colonies from current honey production because of undue confidence in the value of supersedure. Just how many colonies in an apiary supersedure their queen annually without swarming? No one seems to know for sure. It is possible that colonies could be managed to take better advantage of the supersedure method employed by bees under some circumstances to secure a new queen.

Queen Introduction by the Nucleus Method

The question of which queen survives when two colonies are joined by the newspaper method may not be one of the major problems of modern beekeeping but it does have significance for many operators.

Many like to use this method of introduction because it almost always results in the presence of a queen. But which one? This is an important method. Hunting out the queen below which it is desired to have replaced is to be avoided if possible.

How strong does the introducing unit have to be? Do the bees do the destroying of one of the queens, or do the queens usually determine the outcome?

The Installation of Horizontal Wires

Some operators prefer to work with bees; others would rather make the equipment to be used. One chore (for many) is the installation of horizontal wiring to reenforce the foundation, to prevent its sagging, and to make it less vulnerable to breakage the first few times it is placed in the extractor.

There must be a faster, easier way to perform this work.

Eliminating Wax Moths In Comb Honey

I predict that the production and consumption of comb honey in this country will increase markedly in the future. This will be partially because cut comb honey is likely to become more popular. The reason for this lies in the practicality of the plastic container currently in use, also the fact that cut comb honey can be produced much more easily than section honey or cobana sections.

But cut comb honey is likely to harbor the eggs of wax moths much in the same fashion as is true of section honey. At present, the only approved method of destroying the viability of these eggs is by freezing the honey for a short period. Two full hours recommended.

In the "good old days" we used cyanogas for this purpose. Its use is no longer approved by Federal authorities. One of our organizations should alert a willing chemical company to discover an agent that will accomplish the purpose without contaminating the honey.

The Potential Value of Bee Venom

As we have mentioned earlier in this article, the discovery of a practical method of collecting bee venom has made the inoculations of those allergic to bee stings a practical matter.

But does the use by humans of bee venom to treat arthritis and allied ills have a practical value? Our good friend, Charles Mraz, has been preaching its efficacy for years. Goodness knows that arthritis is an unfortunate affliction of many people. If bee venom can be of even moderate effect in moderating the suffer-

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Siftings

*"We must eliminate this **Killer Bee** publicity that has given our bees a bad name."*

By CHARLES MRAZ
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Recently, Langstroth's original book, *"Hive and the Honeybee"*, has been reprinted. This is one of the best things that could have happened to "Modern Beekeeping".

Now it turns out that Dr. Miller's book, *"50 Years Among The Bees"* has been reprinted by Molly Yes Press. To my mind, these two books can be considered as the "Old and New Testament" of beekeeping. "Upon these two books we can find all there is to beekeeping."

These two books should be required reading for all those starting to keep bees. It will save them many years of useless effort of trying to "invent" new ideas that Dr. Miller and Langstroth tried and discussed 100 years ago. It will be a shock to many new beekeepers reading these two books how many of their "Great Inventions" have already been invented many years ago. If you do not have a copy of these two books and have not yet read them, then you must do so as soon as possible. You will find yourself reading them over and over again.

There is another book that must be reprinted, *"Bee Venom Therapy"* by Bodog F. Beck, M.D. in 1935. This book is very scarce, going as high as $200.00 for an original copy. I had about six copies and as you may have guessed, several of them have disappeared. I loaned them out and now it is impossible to recover them, my "loanees" swear they returned them, they do not have them. I still have my original copy, autographed by Dr. Beck as I was associated with him in our work with bee venom therapy thru 1935 to when he died in 1942.

Recently, any of you that watch TV on occasion, may have seen some TV programs on Bee Venom Therapy on some of the networks. This is creating quite an interest in this field of "Immuno-Therapy" which is open to tremendous possibilities. Immuno-therapy is now one of the "newest" approaches to the treatment of the three most deadly degenerative diseases; Rheumatic Diseases, Heart Disease, and Malignant Diseases. With 46 years of experience in this field, I feel very strongly at the present time, this is the best approach to the control and treatment of these types of disorders for which modern medicine today, has no satisfactory, safe or effective treatment.

Sunday on CBC, Canadian Broadcasting Corporation, a program is scheduled on the subject on the "Market Place" program, 10 PM Eastern Standard Time. By the time you read this, it will be over with, but I hope it can be recorded for future viewing.

Recently, there is considerable interest in another TV program by ABC on their "That's My Line" program. In December, if all goes well, it will be produced with the help of friends on the West Coast. What will happen, how it will turn out, God only knows. But we will do our best to put on a good program that we hope will promote beekeeping not only important for the production of our food, but also for safe and effective treatment of today's "incurable" Degenerative Diseases. Should it come on the air, I hope all beekeepers will try to see it and perhaps tell your friends about it, especially those crippled with Rheumatic Diseases. It may overcome some of the "bad" publicity we have been getting lately. We must eliminate this "Killer Bee" publicity that has given our bees a bad name. We must change it to something like "Saviour Bees", bees that heal us from incurable diseases. I realize only too well, the first people to be converted are beekeepers themselves, many of them neither believe in, nor take "their own medicine". We hope we will see you on TV.

I hope all beekeepers read *"The Canticle of the Bees"* on the cover of December 1980, *Gleanings In Bee Culture*. No one that has kept bees very long, can deny that bees and beekeeping do indeed have religious implications. When we observe the dramatic interplay between the flowers and the bees, how important they are to each other and how important they are to us, we cannot help wonder, but what "spiritual" being there is that has created and controls these wonders of Nature. It is difficult to be a beekeeper without reverence to a "Supreme Being", by whatever name you call.□

New Fabric Aids in Transport of Bees for Crop Pollination

To many beekeepers, nowadays, honey is a profitable sideline. The real money is in renting bees.

One of the difficulties until now has been transporting the hives. Bees do not particularly like to travel, and when they do it must be in open trucks. Without air circulation they will suffocate.

Most of the time the bees stay in the hives when on the road, but there are always some that venture outside and get blown away. If they get upset by a rough road or a traffic accident, the beekeeper and the surrounding community have a problem.

The solution is obviously some kind of truck cover to keep the bees inside. Beekeepers in Florida are now using an innovative material developed by John Boyle and Company of New York for applications requiring a high strength mesh. The fabric is a woven grid of polyester coated with PVC. The plastic coating locks the polyester fibers in place, giving a fabric that is both strong and open.

The covers, which average 12' by 12' in size have tie-downs along the edges. Some beekeepers make their own, while others order them from Peterson Industries, in Lake Wales, Florida, which reports a substantial increase this year in orders for custom made covers.□

Beekeeping Technology

An Overview of the Effects of Pesticides on Honeybee Colonies

By JAMES E. TEW
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AN OVERVIEW OF THE EFFECTS OF PESTICIDES ON HONEYBEE COLONIES

Extensive studies have been conducted on honeybee and pesticides for many years. Bee kills resulting from insecticides were first reported during the 1870's (Johansen, 1977). Having become widely applied after World War II, synthetic organic insecticides were recognized by the bee industry as a serious problem — a problem that still persists today.

There are presently over 210,000 beekeepers in the U.S. — 200,000 hobbyists; 10,000 side-line, and 1600 commercial beekeepers. These beekeepers own a total of four million colonies. In recent years bees from these colonies produced approximately $100,000,000 worth of honey and $3,4000,000 worth of beeswax. The most significant service bees perform, however, is plant pollination. Bees pollinate over $6 billion worth of food crops each year and contribute inestimably to the ecological balance (eg. wild life food and erosion control).

As the agricultural system has changed through the years, individual field size has increased considerably. Heavy use of herbicides and changes in cultural practices have resulted in fewer nesting sites for wild or native pollinators. These changes have increased the importance of "domestic" honeybees as crop pollinators. Yet, the perplexing question that persists is how to apply pesticides so that the least harm is done pollinating insects and still control pest populations.

Until recently beekeepers had a federal Beekeeper Indemnity Payment Program. In 1977, 1,719 beekeepers were paid a total of $3,784,289 for colonies that were subjected to pesticide exposures. Roughly 310,000 colonies were inspected. Approximately 143,000 colonies were moderately damaged; 146,000 colonies were severely damaged; while, 20,5000 were destroyed (ASCS, 1978).

Insects (in this case — honeybees) are usually affected by pesticides in three ways: stomach poisons, fumigants, or body contact. Honeybees may be affected by any one way or by any combination of the three ways. Several factors may become significant in honeybee colony damage:

Pesticide application during bloom period. Obviously pollinating insects are attracted to some plant blossoms. Precautions should be taken not to apply pesticides harmful to bees during this period.

Application timing. If possible pesticides should be applied at night, early morning, or late afternoon. Some population loss will occur, but severity will be decreased.

Pesticide targeting. Unfortunately pesticide drift is a problem. Application of sprays or dusts on windless days should help to keep drifting to a minimum. Ground application of grandular insecticides appears to cause the fewest problems.

Water contamination. Pesticide run-off or drifting may poison water sources for bees. Bees use large quantities of water for temperature regulation and brood rearing.

Pesticide formulation. Dusts are normally the most hazardous pesticide formulation. Sprays are not quite as bad while granular formulations seem to cause the fewest problems. Ultra low volume (ULV) may be much more toxic than regular sprays.

In reality, there are few practical precautions beekeepers can take to prevent colony damage. Selection of a safe site is a basic requirement. In many cases this may or may not be possible. It helps to know the major crops grown in a particular area along with the chemicals normally applied. Also notifying county agents, local farmers, and applicators about apiary locations may help. Prominent identification of apiaries is also a good idea. If a fairly small number of colonies are involved, they may be covered in wet burlap for a while. This technique works quite well when it can be practically employed. If colonies are routinely subjected, the only alternative the beekeeper has is to relocate.

Insecticides vary greatly in toxicity to honeybees. Occasionally a pesticide may be substituted for a more toxic compound resulting in decreased damage to pollinating insects.□

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Sprays Reduced

A survey showed that many Ohio fruit growers, because of increased pesticide and labor costs, better pest management practices or low volume spray applications, have substantially reduced their rates of chemicals used in plant protection. Growers in the study were averaging 37% less insecticide (active ingredient per acre) and 69% less fungicide than recommended on the label and in state guidelines. A study of crop losses by Ohio apple growers in 1979 showed less than 0.5% damage by insects and diseases. Unsprayed apple trees had yields reduced by 40-60% and quality of remaining fruits was 20-95% poorer than from sprayed trees.□

From *Ohio Report on Research and Development,* July-Aug. 1980.

Strictly Backlot

" Which is, as I said earlier, partly why I now keep bees."

By CARL CALLENBACH
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Elizabethtown, PA 17022

Now that the 1980 election caterwauling is over, I'd like to be the first to go on record as saying Ronald Reagon will not be able to bring back the Brooklyn Dodgers. Which is partly why I keep bees. Let me explain:

We were most of us eleven or twelve with maybe a couple of thirteens tossed in — Louie and Jack — and we were doing our growing up in the little town of Boalsburg, PA, around four miles from State College which in those days didn't mean that much to any of us, about a half hour if we biked the hills, a good hour or so if we were walking and collecting tinfoil from Lucky Strike and Camel cigarette pack wrappers hidden among the clumps of sweet clover, the various grasses and weeds along the highway. Mostly we hitchhiked.

Scene One: There are seven of us laying in the ditch along Route 322, in front of the 28th Division Shrine, where on Memorial Days important people in funny little hats marched and bands played. Out of sight of approaching automobiles, we lie quietly with our baseball gear strapped to our belts. I am wearing my Brooklyn Dodger baseball cap, and I fondle my new eleven-dollar Spaulding first baseman's mitt. It smells of saddle soap and Neatsfoot oil. I spit into the pocket of the mitt the way Jesse Lowder over in Millheim does it when he's on first base and rub the Blackjack chewing gum spittal into the glossy cowhide. I pound the pocket with my fist.

To my left Joe holds our only bat, begged from the Boalsburg senior leaguers, cracked and heavily wrapped with tire tape. The bat is a Mel Ott model; too heavy, it spins me into the ground when I swing. A realist in my dreams, I never hit the winning home run; rather than pick myself up from the dirt, I am more likely to take a third-called strike. Instead, with my new mitt I dream I make the impossible defensive play at first base and preserve Bob's one-run lead. After the game he shakes my hand and this is important. Bob pitches because he can beat up the rest of us with one hand, not even his pitching hand. He is tough. Later, in junior high school he comes to school with a naked lady tatoo dancing on his pitching arm. Teachers insist he keep it covered with his surplus army t-shirt, which he did until tenth grade.

Bob and Roy are up along the highway looking respectable. A car approaches and out go their thumbs. The car slows and stops on the gravel in front of our ditch lair. Bob and Roy approach the car. The rest of us in the ditch, gloves, mits, bat flailing, charge the car. "Wait a minute," shouts the driver. Too late, he knows he was a fool to stop, but Roy and Bob are both in the front seat. "I can't take but four more," he says. His tone is conciliatory.

"Five," says Bob. "Louie and Rap" — second base and right field, respectively — "can follow in another car. We'll meet at the ESSO station in State College."

From the gas station we walk a road the hundred yards to the playing field where in four years the Lock Haven High School baseball team would pound me from the mound in the second or third inning. I was pitching by then because first basemen cannot survive on fancy glovework, because sometime in the ninth grade between x2 and plane geometry and girls, I discovered a curve ball. Neither my mathematics teachers, the lithesome and leggy freshman girls, nor Lock Haven were much impressed.

Where maybe seven years later Mel Lightner was equally unimpressed with my senior league knuckleball and belted a bases-loaded pitch four hundred feet to the road we were walking.

The nine of us hustle on to the playing field and find six kids from State College, including George Smith who must be sixteen because he is big as a barn. Like Bob, he pitches. Who's going to argue?

"Where's the rest of your team?" Bob asks. It is Bruce, not George, who answers. He explains that he'd called everyone last week about the game. Maybe he should have reminded them last evening.

After we find first, second and third base in the nearby rock pile — flat limestone lessens the possibility of tripping over third base on your typical inside-the-park home run — it is decided that Harry, our centerfielder, and I would play for Boalsburg **and** State College. Neither of us would have a turn at hitting. That way, Bob noted with a smile, we wouldn't be in any danger of losing the ball. I laugh; Harry is stoic. He roams the outfield with gazelle speed and had he been able to hit a baseball, there's no limit to the number of bases he'd have pilfered. Later, in high school, he foresook baseball and ran the 440 for the track team. I don't know what ever became of his elegant hookslide.

It is quickly determined that State College will bat first by Bob's tossing the bat to Bruce and alternately, fist over fist, they grab the handle, moving up until there is nothing left but Bruce's fist. He throws the bat the required footage. Bob picks up his glove and heads to the mound. We follow and there is little applause outside of our heads.

By the fifth inning it is beginning to drizzle rain. We, that is, Boalsburg, have seventeen runs and State College has fifteen. It is always a scoring donnybrook for a number of reasons: Bob and George pitch from the regulation mound, sixty-plus feet from home plate. We have few strike outs and there are no bases-on-balls. Both pitchers call balls and strikes; however, balls are called simply to rule out batters having to swing at bad pitches, at every pitch. There is a lot of action. Balls spray everywhere. Outfielders gasp for breath between pitches. Baserunners lie moaning on the grass in back of team benches awaiting another turn at bat.

In the sixth inning it's a downpour and time is called long enough for us to strip to our shorts. Shirts, shoes, and socks are stacked behind first base. We move second base into the middle of the biggest puddle on the infield. Harry builds a moat around third base. I find a burlap bag full of sawdust and stand atop it at first base.

Bob pitches. A runner slides into first base. The sawdust flies into my hair, my eyes. I roll on the ground searching for the ball. He picks himself up and hurtles toward second base, sand and red clay flipping from his feet, up his back. He cannonballs into the pool of water covering the base, flips over like a seal, and head down, leaps Harry's moat and heads for home plate. I laugh hustericallly. We all do. Bob calls for the ball and we find it floating 2 inches beneath the surface of the water covering second base. It weighs a ton. I marvel that Bob can throw strikes. Well-hit balls barely reach the infielders. The outfielders dance among the puddles.

The next hitter circles my burlap perch, negotiates second base on his hands. He's standing on his head surrounded by Harry's moat when Bob makes his next pitch. Some kid by the name of Bill hits the ball, stumbles and falls several yards in front of first base and becomes mired in the clay and sawdust. I tag him out. He looks up and I cannot see his eyes.

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The Effect of High Voltage Transmission Lines on Honeybees

"Preliminary results indicate that hives...gain less weight, have lower brood production and may fail to survive the winter."

By ALLAN KING
Victoria, B.C., Canada

The Oak Ridge National Laboratory in Tennessee in a report published in January 1978 forecast that the projected rate of electrical power use during the next 20 years in the United States would require an additional 7.1 million acres of land. With ever decreasing supplies of fossil fuels, this forecast must be revised upward; one can anticipate an ever increasing need for electric energy, a must to maintain our civilization and culture.

Beekeepers have an interest and concern about the millions of acres of land used to transmit electric power; they believe the land should be put to use to produce food, if it is arable. This gives rise to the question concerning the effect, if any, on honeybee colonies located under electric power transmission lines.

The Electric Power Research Institute is an organization of North American electric power companies which grants research contracts to scientists on electrical problems. The EPRI reviewed research done with honeybees and electric fields and concluded it was found wanting. The research proposal included a study of temperature, acoustical noise and humidity; and hive alternating current electric field shielding. To secure accurate results, hives and frames were constructed without using nails, metal strips for frame supports, and wax foundation without supporting wire was included.

Preliminary results of the research were published in the December 1979 EPRI Journal and are quoted as follows:

"Honeybees are being studied for three basic reasons. First (and central to research needs), the beehive contains a highly organized caste society in which each individual is programmed from conception to death (roughly two months) to perform specific functions. If power line environments produce biological alterations, such changes could stand out clearly in the complex but highly formal chain of beehive events. Second, each beehive contains upward of 50,000 bees, an enormous sample size. Third, a number of commercial apiaries, for convenience of space, are located beneath transmission lines, and beekeepers are concerned about whether this environment will affect honey production.

BIOCONCERN (RP 934-1) and an IITRI engineering team (RP 934-2) have developed an approach to studying beehives under the 765-kV Commonwealth Edison Co. line near Joliet, Illinois. Preliminary results indicate that hives situated in the electric field gain less weight, have lower brood production and may fail to survive the winter. As a defensive mechanism, the exposed bees tend to deposit a resinous substance called propolis around the hive entrance. Before concluding that electric fields are responsible for these effects, researchers must exclude the possibility that bees are receiving unavoidable minishocks (a sensation similar to that which one receives after walking across a carpet on a dry day and touching a doorknob). These minishocks would arise from field-induced voltages on the hive parts and, if present in sufficient magnitude, would likely be stress-provoking. Whether fields alone or minishocks are responsible for the observed effects awaits resolution". End of quotation.

Several questions remain to be answered. Would it be detrimental to honeybee colonies if foraging bees were to work flowers or bee pasture growing under electrical fields produced by high voltage power transmission lines? How far away should honeybee colonies be placed to avoid the electric fields?

The EPRI has also found research contracts on the effect of electric fields on cardiac pacemakers, on plants, on birds and small animals and on large animals. □

The History of Modern Beekeeping in Egypt

"Enthusiasm was revived in 1953 when Egypt once again..."

By ROBERT E. PAGE JR.[1], MOHAMED M. IBRAHIM[2], & HARRY H. LAIDLAW JR.[1]

The data for this paper were obtained in Egypt as part of the Bee Genetics program of the Agricultural Development Systems Project, ARE-UC-USAID.

Beekeeping in Egypt has undergone two periods of development. The first period began in Pharaonic times more than 5,000 years ago and is only now beginning to phase out. This "traditional" period is characterized by the use of mud tube (fixed frame) hives and the Egyptian race of honeybee (*Apis mellifera lamarkii*). The second period, the "modern" period, began in 1880. This period is characterized by the transition from mud tube hives to modern beekeeping equipment, and the transition from the Egyptian bee to European races of bees, especially the Carniolan (*Apis mellifera carnica*).

Ancient Egyptian beekeeping is known from tomb paintings dating back to 3500 B.C. The tomb of Rakh-Mi-Raa in Luxor tells the story of migratory beekeeping along the Nile. Ancient hives were made the same way as they are today, out of Nile River mud, molded into pipe shaped tubes. These tubes were stacked like cord wood on rafts in southern Egypt (Upper Egypt) early in the Spring and floated down the Nile towards the Delta in the North. While they migrated northward, the beekeepers took advantage of the progressive flowering season from south to north. The water line on each raft was marked in order to know how much honey was being produced.

Bee products were important to the ancient Egyptians. Honey was called the "syrup of the Gods" and was used as a sweetener, a medicine, and was fermented to make alcohol. Beeswax was important for making candles that were used to light houses, palaces, and temples, and were used in many religious ceremonies.

Much was known about the basic biology and behavior of honeybees. The queen was revered as the "mother of all the bees". The bees became the symbol of Lower Egypt (the Delta region) and is always depicted in conjunction with papyrus (symbol of Upper Egypt) and the Pharoahs, Beekeeping lost its importance in Egypt after the discovery of sugar cane during the middle ages and wasn't revitalized until the introduction of modern beekeeping in 1880.

Map of the delta region of Egypt. Damietta and Manzala are located in the North East section of the map.

In 1880 the first movable frame beehives appeared in Egypt. These hives were imported by a Cyprian beekeeper who established his apiary near Cairo. The Cyprian bees (*Apis mellifera cypria*) that he hived in this equipment flourished, and soon his apiary grew to about 1,200 colonies. By 1900 the English hive that he introduced was common and many beekeepers kept Egyptian or imported, Cyprian bees in them.

Beekeeping enthusiasn grew and in 1912 the Ministry of Agriculture (MOA) became involved in beekeeping when it established an apiary with modern equipment near Giza. The purpose of this facility was to provide extension services to beekeepers and to encourage the use of modern equipment. This set the stage for the MOA's involvement for the next 68 years.

The importation of Cyprian bees also increased during this period. In order to regulate this the MOA issued a law in 1916 prohibiting the importation of any bees into Egypt without official permission.

The private sector was also involved and it wasn't long before Egyptian beekeeping organizations were established. A. Z. Aboushady, an Egyptian bacteriologist, returned to Egypt in 1922 after spending 11 years in England where he founded the International Club of Bees and the journal *Bee World*. In 1923 he founded the Egyptian Bee Club and the Unit of the Bee Kingdon which began publishing its journal, *The Bee Kingdom*, in 1930. These enthusiastic organizations were established to promote modern beekeeping and to import European races of bees for the improvement of the Egyptian race. Aboushady remained a motive force in the modernization of Egyptian beekeeping for many years.

In 1926 the MOA established an apiculture section and increased its efforts towards modern beekeeping. A government apiary was established at the Dakhla Oases in the New Valley in 1927 in order to raise Cyprian bees in total isolation from the Egyptian race. The Ministry understood the importance and value of raising pure European strains of bees for local marketing and for European export. The geography and topography of Egypt make it ideally suited for isolated breeding areas and for early queen production. The concept of isolated breeding areas expanded in Egypt and is still used today.

In 1928 efforts to improve the Egyptian race were completely abandoned. Instead, efforts were concentrated on the raising of pure races of bees for use in modern hives. In the same year Italian queens were imported, and in 1929, an isolated breeding area for the Italian race was established on the Baharia Oasis by the MOA.

Native apiary.

A typical "modern" apiary near Manzala.

By 1932 the MOA and many private beekeepers were concentrating on raising Carniolans. The MOA continued to exploit isolated areas for maintaining pure races of bees. In 1930 at Kharga Oasis, in 1957 and Borg-el-Arab, and in 1969 at Maryut, Carniolan breeding areas were established. In 1963 isolated apiaries in the Sinai were established for the Carniolan and Italian races. These areas were lost to Israel during the subsequent wars and have only recently been relinquished. In 1967 the newly reclaimed areas of Fayoum Oasis were used for breeding Italian queens.

In 1959 Dakhla and Kharga Oases were reestablished as isolated areas for raising Carniolan queens. An intensive selection program was initiated to select for Carniolan characters and by 1965 fixation of these characters had occured.

Isolated areas were established by private beekeepers as well. In 1936 the Siwa Oasis was used for producing Carniolan queens. These queens were exported to England until 1939. In 1934 one beekeeper in Damietta and one beekeeper in Manzala established apiaries to raise Carniolan queens in some newly reclaimed areas that were isolated from the native bees. In 1956 the MOA issued a law protecting these areas by prohibiting the rearing of any race of bee other than Carniolans on these newly reclaimed lands. As a result of this law, this area today has almost complete fixation of Carniolan characters.

The MOA and private organizations were also actively encouraging training in beekeeping and the use of modern equipment. In 1931 Aboushady persuaded King

Fouad to issue a decree that the Langstroth hive be the standard hive for Egypt. As a result the English hive was phased out by beekeepers. In the same year the MOA began manufacturing its own beekeeping equipment, except wax foundation, and made it available to beekeepers at very low prices.

Between 1931 and 1939 model apiaries were established in every governorate in Egypt to serve as training facilities for beekeepers. In addition, beekeeping became a primary subject area in the agricultural schools and in the Faculty of Agriculture, Cairo University.

In 1939 World War II caused the cessation of importation of bees and beekeeping equipment into Egypt. During the years that followed Egypt became independent by producing all of its own equipment and by producing its own Carniolan queens in Manzala, Damietta, and MOA apiaries. However, the period from 1939 to 1952 is marked by a general lack of enthusiasm for beekeeping.

Enthusiasm was revived in 1953 when Egypt once again began importing Carniolan queens. From 1953 to 1962 more than 7,000 queens were imported into Egypt annually from Yugoslavia and Czechoslovakia. The queens were delivered to the beekeepers as breeder queens from which to rear queens to be outcrossed with the indigenous bees. This "first generation hybrid" cross shows predominantly Carniolan characteristics that the beekeepers find desireable.

The MOA was concerned about importing diseases from Europe, with the great influx of imported queens, so in 1957 the apiculture section, under the direction of Dr. M.M. Ibrahim, began inspecting shipments of bees and refused those containing disease. The goal of the apiculture section at this time was to encourage the rearing of Carniolan queens in Manzala and Damietta for distribution to Egyptian beekeepers prohibiting importation of any bees into Egypt, however unauthorized importation still continues. Since Manzala and nearby Damietta were already queen rearing areas, and were isolated for Carniolan queen production by official decree, they emerged as the queen rearing center for all of Egypt.

At that time (1962) the trend in Egyptian beekeeping was set. The Carniolan race had become the principal commercial race of bee and beekeepers all over Egypt bought their queens from Manzala and Damietta. The MOA continued to increase the number of modern hives in Egypt and to displace the traditional hives (see Tables 1 and 2). However, in 1974 beekeepers began complaining about the quality of the queens they were purchasing. Then in 1977 Acarine disease became a serious problem in Egypt and associated with it was a decline in honey yields. Beekeeping practices quickly spread the disease over all of Egypt.

Now a new program, under the direction of Dr. Harry H. Laidlaw, has been initiated to try to improve the quality of the queens produced in Egypt. This is a joint project with the MOA, the University of California, Ain Shams University, and USAID. The objective of the project is to establish a disease free queen raising area that can supply queens to local queen breeders in order to improve their stock. Also, ways are being sought to control the Acarine mite and to restore the enthusiasm for beekeeping that Egypt enjoyed for nearly 6,000 years.□

TABLE 1

The number of modern hives in Egypt for given years 1926-1979.

YEAR	NUMBER OF HIVES
1926	300
1931	1,100
1939	8,489
1951	12,000
1952	16,000
1961	40,973
1962	54,015
1973	259,000
1974	386,000
1975	439,000
1976	432,000
1977	436,000
1978	475,000
1979	521,000

YEARS 1926-1962: from Dr. Mohammed M. Ibrahim, Ministry of Apiculture.

1973-1978: from Central Agency for Public Mobilization and Statistics. *Statistical Yearbook*, 1979.

1979: from Dr. Yehia Mohy El-Dien, Under-secretary for Economics and Statistics (personal communication).

TABLE 2

Honey and wax production for Egypt 1973-1979.

	1973	1974	1975	1976	1977	1978	1979
Number of hives x 1,000:							
Traditional:	650	690	716	661	513	419	376
Modern:	259	386	439	432	436	475	521
Total:	909	1076	1155	1093	949	894	897
Honey (tons):							
Traditional:	2163	2346	2359	2245	1503	1187	976
Modern:	4519	6076	6004	7063	5833	6426	6366
Total:	6682	8422	8363	9308	7336	7613	7342
Wax (tons):							
Traditional:	246	221	253	211	150	129	
Modern:	18	26	34	33	26	26	
Total:	263	247	287	244	176	155	

1973-1978:from Central Agency for Public Mobilization and Statistics, *Statistical Year Book*, 1979.

1979: from Dr. Yehia Mohy El-Dien, Under-secretary of Economics and Statistics (personal communication).

FOOTNOTES

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2/ Department of Plant Protection, Apiculture Section, Ministry of Agriculture, Dokki, Cairo, Egypt.

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Honey Grading Service

The Nebraska Department of Agriculture, Marketing Division is offering a $3.00 honey grading service to honey producers and purchasers. The Nebraska Agricultural Laboratory will be using the standard USDA grades and the best possible laboratory procedures. The lab has purchased a Pfund grader, and also will test the sample for moisture content. Lab personnel have been trained by experienced honey graders. A program of cross checking with other organizations that do

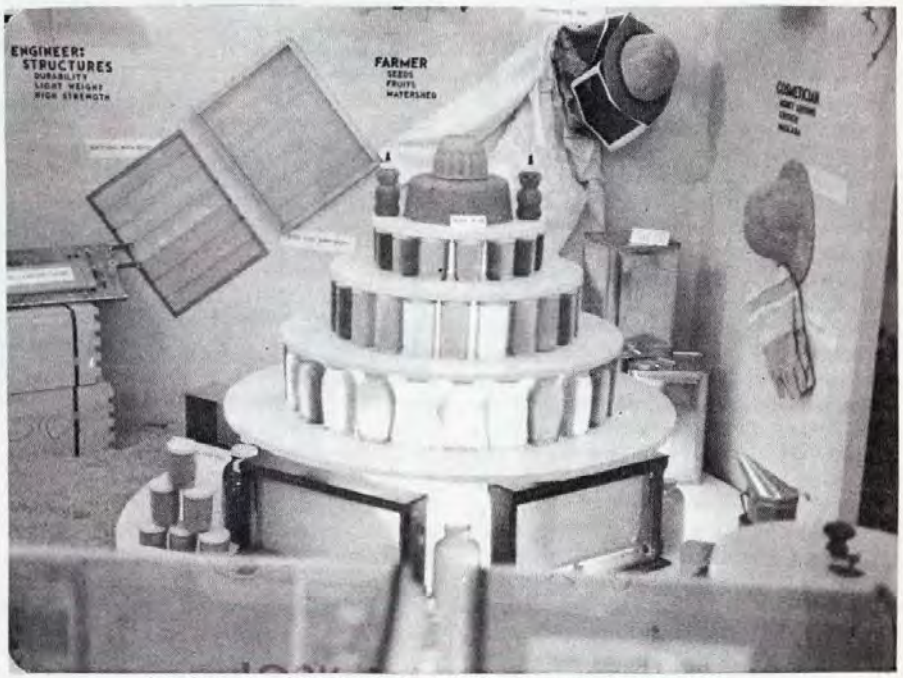
(Continued from page 46)

Beekeeping and The Los Angeles County Fair

" California's Honey Advisory Board is truely a good friend of every golden state apiarist."

By D. WILLIAM BUCK
1546 W. Compton Blvd.
Gardena, CA 90249

Beekeeping and honey were spotlighted with informative and very popular exhibits during the opening session of the Los Angeles County Fair in Pomona, California. Displays and booths sponsored by L.A. County Beekeepers Association, Orange County Beekeepers Association, California Honey Advisory Board, Warmuth Apiaries, and many others, attracted much attention. Potential hobbyists and sideliners found friendly encouragement and expert advice; informative answers to questions from the general public served the cause of educating more non-beekeepers about the value and generally innocuous nature of the honeybee.



Portion of exhibit by L.A. Co. Beekeepers Association.

Consumers gained valuable advice about the varieties, characteristics, and the many kitchen uses of honey. Marilyn Kiser of the California Honey Advisory Board was busy doing a beautiful job of promoting our product. Numerous pamphlets, recipe flyers and cook books were on hand, as well as honey samples for taste comparisons. By actively encouraging greater consumption of honey and by providing the state's beekeepers with a nice selection of slick, eye-catching publications, California's Honey Advisory Board is truely a good friend of every golden state apiarist.

Marilyn Kiser of California Honey Advisory Board.

Strange as it may seem, 1980 marked the first time that honey became available as an item of commerce at the L.A. Fair. Warmuth Honey House was doing a brisk business when I stopped by their display booth. The Warmuth family is now in their third generation of beekeeping and operate over 2,000 colonies. Located in the northeast section of the county, the Warmuths run one of the best honey shops I've seen. In addition to selling their harvests of sage, orange, California buckwheat, alfalfa and wild flower honey, they offer bee supplies, nucleus colonies and friendly advice for those just starting out in apiculture. In business for over fifty years at their Sierra Highway location, it's not unusual for customers to live as far away as 200 miles.

A county with seven million residents and a terrain altered to accommodate the automobile, the suburb and the shopping mall doesn't seem like it would have within its domain a beekeeping association, nor a honey and apiary supply business. But it does, and bee operators glean large crops in the mild climate. Los Angeles County Beekeepers Association

went all out this year with their fair exhibit and will be making greater efforts in the future to educate the public regarding the value of apiculture, related Charles Duncan, recently elected president of the Western Apicultural Society. "The problem," says Charles, "is that everyone deep down knows how important honeybees really are, but at the same time most people are scared to death of bees." If anyone can educate the public about the wonder, value and innocuous nature of bees, it's Mr. Duncan.

Association membership totals about 150 members but could easily increase by a large factor if more beekeepers in the county could be contacted. The problem, I think, lies in the isolation and apprehension so many hobbyists and backlotters maintain out of fear that local authorities may discover their backyard hives. For all its reputation, southern California grows less tolerant of that which stands in contrast to the sterility of the urban environment.

Orange County beekeeper Bob Maxon handles about 150 hives and is vice-president of the county association. When I dropped by the exhibit on the opening day of the fair, he was busy explaining to a homeowner the best ways to control garden pests without resorting to insecticides harmful to pollinating bees. He was also enlisting some future beekeepers, offering to deliver and establish the beginner's first hive. By noon on the opening day of the fair he had signed up six new beekeepers. I spoke briefly with Mr. Maxon and he related one criticism he holds against U.S. beekeeping: we've slipped far behind New Zealand, a nation which he

City of Southgate display featuring Superior Honey Company.

states is the most advanced in modern beekeeping, pioneering new techniques, better equipment, and improved management practices. I added that one possible reason for this state of affairs is that New Zealand apiculture probably receives greater public support compared to the situation in America, where indemnity and research funding proposals often wind up the butt of idiotic derision.

American Honey Queen, Francis Bean, appeared October 3, 4, and 5, highlighting the beekeeping and honey exhibitions. Unfortunately, I was unable to attend the fair after the opening day — supers for extracting awaited me as well as my last two supers of comb for the season. But from what I observed that opening day of the nation's largest county fair, I reach the conclusion that apiculture still thrives in the Southland. And the L.A. County Fair provided an excellent opportunity for the region's still-important bee industry to get together and tell its story — to stress just how important the honeybee is to everyone, be they urban or rural dweller.□

Marge Warmuth prepares orders for fair-goers.

North Carolina Bee Calendar Again Available

1. Sales price of the calendar, including postage, is $2.75.

2. Checks should be made payable to the N.C. State Beekeepers Assoc. or just to the NCSBA.

3. All proceeds from the sales of these calendars go to support the Apiculture Science Fund which is used to support graduate research in apiculture at N.C. State University.

4. Requests for calendars should be mailed to:

N.C. State Beekeepers Association
1403 Varsity Drive
Raleigh, N.C. 27606

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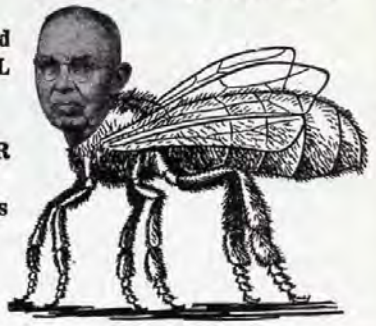
Bee Talk

Walter T. Kelley in the spotlight

By DR. RICHARD TAYLOR
RD 3
Trumansburg, NY

KELLEY — The Bee Man

Long ago I was told MAKE A BIG FOOL OF YOUR SELF AND PEOPLE WILL REMEMBER YOU. I did and they have. It was so nice meeting you.



I had wanted for a long time to go visit Mr. Walter T. Kelley, down in Kentucky, beekeeper and owner of the Walter T. Kelley Bee Supply Company, and the other day I got my chance. I had met Mr. Kelley just once, at a meeting of beekeepers in Lexington several years ago, but I had not had time to get to know him. This time I spent the day with him, and with his able and longtime assistant Doris Pharris, who over the years has been taking more and more of the load of business off his shoulders.

As I sat talking with Mr. Kelley I couldn't help thinking of Cephalus, the elderly character in Plato's *Republic*, who conceded to Socrates that he had made a great deal of money in his lifetime, but that nothing meant as much to him anymore as the realization that he had lived a life of justice, and had never been shady in a single dealing with anyone. You cannot meet Mr. Kelley without instantly recognizing his integrity. Crusty, outspoken, and refreshingly irreverent, you nevertheless see there a man of firm principle that is effortlessly carried into every facet of his life and, along with that, the warmth of genuine friendship for everyone.

Mr. Kelley, like so many beekeepers, is a loner, the sole architect of his life, and his success. Raised by a spiritualist father, he broke away into skeptical independence, declaring an unwillingness to believe in anything unless he could see it for himself. He somehow got into the Masons, but went to only one meeting, and has similar sentiments about churchgoing. He has that great quality of individualism, once more prized as an American virtue than it is today. He is, in every sense, a self-made man. His bee supply factory is a monument to his industry and his genius. But while we would normally associate such things with arrogance, in Mr. Kelley you find just the opposite — modesty, simplicity, and a delightful sense of the absurd. As you enter his factory you see there a large model of a bee — with a man's head! That became the Kelley trademark, a bee with Mr. Kelley's head, and I can still remember seeing it in the bee journals more than forty years ago. Whatever may be the aesthetic merit of that outrageous picture, it was a stroke of genius as a trademark. And as I left Mr. Kelley that day he handed me a calling card of "The Bee Man", the bee with Mr. Kelley's head, once again. Next to the picture it reads: "Long ago I was told MAKE A FOOL OF YOURSELF AND PEOPLE WILL REMEMBER YOU. I did and they have. It was so nice meeting you." To be able to laugh is a precious quality. To be able to laugh at oneself is a virtue that is as rare as it is wonderful.

Mr. Kelley is eighty-three years old. He gets up, as always, at four each morning, opens up his factory and gets the steam boilers going so that everything will be ready when the work force arrives. That's the way he lives, with the casual self discipline that defies the threat of age. In his living room is a bicycle/exerciser, which he peddles every day, to keep in shape. And he is still a serious beekeeper. His book on beekeeping, in its tenth edition, has sold about half a million copies.

Walter T. Kelley

Year before last he raised cut comb honey, and from a single hive sold over $400 worth of honey.

Mr. Kelley, like so many others, got started with bees when a stray swarm arrived in his yard. He was only eleven. No one in his family had any interest in bees. Seventy-two years later his name is associated with beekeeping throughout the world. And he still has the 1908 copy of the *ABC & XYZ of Bee Culture* that his dear aunt gave him, the year he saw that stray swarm.

Mr. Kelley went off to college, in Michigan, where he had grown up, his head still filled with the lore of the honeybee, and when he finished there he headed for the warmer climate of Louisiana, to seek his fortune in bees. He produced and sold honey, but also got into raising queens, so that before long he was raising twenty-five to thirty thousand a year. He got twenty-five cents each for them — not much, by today's standards, but that was when corn brought only fifteen cents a bushel. So he was doing pretty well, for that day. I can remember buying queens from him three for a dollar. He got into manufacturing bee hives when one of his queen customers asked him to, in the early 'twenties, moving to Kentucky shortly thereafter to take up manufacturing in a serious way. His factory flourishes today, making virtually everything under the sun that beekeepers need, and nothing else.

Mr. Kelley drove me around, from building to building, in his pickup truck. I had to share the seat with Tiger, his lethargic old boxer dog. Tiger was not the least aggressive, but he knows that the car seat is his, and his defense of this right is to stay immoveably put. My only chance was to get into the seat before Tiger did, and hold my ground. It was a happy factory that I saw. Everyone there gets a nice bonus at Christmas, the size of which reflects the company's success over the year just ended. So naturally, they do what they can to contribute to that success. One machine was turning out queen

(Continued on page 46

The Honeybee and The Zoning Board

By MARY-ANN KARPEL, Ph.D.
Mount Kisco, NY

It is a sad day indeed when motherhood and fear are pitted against the honeybee. This summer, in a semi-rural town in Westchester, New York, a young mother became so fearful of living next door to a beekeeper that she persuaded the local town board to consider passing an ordinance banning the keeping of honeybees on lots smaller than one acre.

I first became aware of the problem when I was consulted by a town-retained consulting firm because I am an entomologist and they needed some background information on the honeybee. After giving them this general information I became so intrigued by the possible ramification of this ordinance that I attended the town board work session to follow its progress. All beekeepers should be aware of the possibility of becoming involved in a similar situation. Entomophobia (a general fear of insects) is present in a large portion of the population. Insects capable of stinging arouse even more exaggerated fears. A young mother with small children (or anyone else for that matter) can be extremely apprehensive and present a very convincing and heartrending case to town board members eager to please their constituents.

Homeowners do indeed have the right to enjoy their own properties and it would be hard to find fault with anyone indignant about being "harassed" and "threatened" by honeybees. Emotions ran high at the first board meeting with stories of how honeybees had chased the victim into the garage, attacked laundry drying on the line and made the yard uninhabitable by children.

Unfortunately, town board members are not necessarily well acquainted with the nature of the honeybee, and any beekeeper finding himself on the defensive will have to mount a massive campaign to educate board members.

The beekeeper very wisely invited board members to his property to observe the hives, the honeybees, and general honeybee behavior. Hives were placed on the properties of several board members so they could experience firsthand how innocuous and desirable the honeybee is as a neighbor.

Several board members remained unconvinced, however, and the final board meeting was tense. It was heartwarming to see many beekeepers and neighbors of the defendant turn out to attest to the good nature of the honeybee and the importance of allowing backyard hobbyists to continue their beekeeping activities. How impressive it was to hear from numerous contented neighbors of the honeybees and beekeeper. Never underestimate the importance of maintaining a good relationship with your neighbor!

The touchiest part of the meeting was dealing with specific allegations of misconduct on the part of the honeybees. Fortunately, beekeepers have the option of preventing or correcting such occurrences if they really do exist. Excessive swarming? Good hive management. Drowning in swimming pools? Make water source available. Flight path too low? Move hives from property line and/or elevate hives and/or erect barrier. These would be plausible complaints and should never be ignored by the beekeeper.

In this case, however, the complaints were more exotic, dramatic and irrational. All insects have fairly rigid behavior patterns, and, we would all agree, the honeybee's behavior revolves around the needs of the hive. With this in mind I was able to discredit testimony that "honeybees" (not professionally identified) were swarming over flowers known not to yield nectar or pollen, hovering in great numbers in a lawn devoid of blossoms, besieging rhodendrons that honeybee mouthparts are too short to take advantage of, and massing on laundry that did not have so much as a flower pattern on it to confuse a hard-working bee.

No one can convince a sincerely frightened parent that an insect can be truly enjoyable, but neither can we allow testimony to stand that flies in the face of entomological facts. Plain truths and documented facts about honeybee behavior helped convince (most) board members that the allegations of the plaintiff were highly suspect.

The resultant decision of the board to drop plans to write an ordinance banning honeybees on certain building lots was met with relief and great joy.

Entomophobia will always lurk among us. Education is our best defense when entomophobia turns against the honeybee.□

Kentucky Queen

Miss Sandy Angel is the queen of the Kentucky Dark Honey Producers Association of McKee, Kentucky. Roy Trincher, president of the association is on the left, Mrs. Trincher is on the right.

Questions and Answers

Q. What is the proper procedure for wintering bees in a cellar? M.H. MD.

A. Cellars usually have several serious disadvantages when used for wintering bees. Humidity control is usually a problem in unventilated cellars, as is the lack of circulation of fresh, warmed air. Temperature and humidity control is critical in indoor wintering. The bees must be kept at a rather constant and exact temperature. Carbon dioxide and water vapor, two products of respiration must be removed air circulation and fresh air drawn in to replace the exhausted air. The temperature must be maintained carefully, a balance between the heat generated by the bees and the variable outside temperatures. A rise in temperature inside the building or cellar can cause increased brood rearing too early, or extreme restlessness and excessive activity, resulting in a high rate of food use.

One of the severe problems in cellar wintering, according to older literature was the "spring dwindling", a condition which caused a decline in colonies when they were removed from cellars.

It may be possible to overwinter bees in cellars which are conditioned by temperature and humidity controls but whether this would be better than above ground buildings is questionable.

★★★★★★★★★★

Q. What are the commercial uses of propolis? M.H. MD.

A. Antibiotic, styptic and astringent properties are attributed to propolis which has led to its use in pharmaceutical preparations. In addition to the activity given to alcohol and aqueous extracts of propolis it has a limited application in commerce. It has been used in toilet lotions and skin creams.

★★★★★★★★★★

Q. Will a queen pass through a bee escape? G.R.

A. I have always assumed that a queen could do so but for those that use queen excluders the queen should never be trapped above in the honey supers when the escape is used. If a queen excluder is not used it is generally assumed that supers of honey will not be removed before the combs are filled with honey. Any brood in the honey storage supers will be displaced and the queen forced into the lower part of the hive by the incoming nectar.

Drones do not always find their way through the bee escapes. We would have to assume that their bulk is a hindrance but this may not be the only reason. Perhaps the communication receptors of the drones are inferior to those of worker bees, lessening their response to signals or stimuli which draws the workers in the honey supers down to the cluster below the escape board. In any event the queen may be in the same predicament as the drones when trapped in the honey supers.

A queen of medium or older age, swollen with eggs would certainly have more difficulty in passing through a bee escape than a younger queen, were it necessary.

★★★★★★★★★★

Q. When a weak colony is united with a strong colony do you kill the old queen and remove the excluder? G.R.

A. If both hives have excluders there are likely to be supers on them as well. Remove both supers and excluders. Combine the brood bodies, placing a single sheet of newspaper between the two colonies to be combined. The weak colony should be placed atop the stronger one. It is not necessary to remove one of the queens since it is probable that the stronger one will survive. If one queen in superior to the other (most likely the one in the stronger colony) then it may be advisable to destroy the queen in the weaker unit before uniting. Place one of the excluders over the brood nest and replace the supers. After the two colonies have united, in a week or two, the brood bodies may be consolidated to the usual two by gathering together all of the combs which contain brood.

★★★★★★★★★★

Q. Why do bees go to the compost pile, which is 100 feet from the hive, in the late fall and early spring, while there is 60 to 100 pounds of honey in their hives and water 25 feet from the hives? J.D. NY

A. A developing bee requires some micro-elements in its diet, mainly potassium, calcium and magnesium. It may be that these, or others, are lacking in the honey and pollen available at the time of brood rearing or when young adult bees need a nutritionally rich diet. Evidentally the bees find a mineral source in the compost moisture or perhaps the moisture is easier for the bee to obtain than from the water source. There is little likelihood of any contamination of honey from the material carried by the bees from the compost pile as it remains in the brood area.

Q. After liquefying granulated honey and storing it in the cellar where the temperature is 55 deg.F. to 60 deg.F. how long will it last before it granulates again? J.D. NY

A. This is a matter of conjecture on our part, since we do not know the origin of the honey. The rate of granulation depends upon the balance of the two principal sugars in honey and the water content, storage conditions, and the lack of, or presence of, starter crystals. For the sake of the preservation of the quality of the honey it is better to err in the direction of lower storage temperatures than high. Honey stored at a constant 57 degrees F. shows the most rapid rate of granulation. Storage above or below this temperature retards granulation but higher storage temperature may affect the quality.

★★★★★★★★★★

Q. Why does honey in the jars granulate quicker if placed in the cartons the jars come in, than if the jars are left on a shelf in the cellar at the same temperature? J.D. NY

A. This is a difference we are not aware of and no reference we have in the literature are available which clarify this distinction. There are warnings to avoid "stack heat" in newly bottled honey; where honey is bottled hot, placed in the carton and stacked closely without ventilation. This may be a factor in earliar granulation. The exposure to light of the honey on the open shelves may be related to the delayed granulation but there is nothing in my experience that can establish this as fact nor is there anything in our references that confirms this. This may be a well established fact but apparently not universally known. Our readers may have a better answer and are welcome to comment to **Questions and Answers** of *Gleanings*.

★★★★★★★★★★

Q. I made some creamed honey by the Dyce method. It is very smooth and creamy. Can I put a pint in the freezer and use it for seed next year? G.C. Kansas

A. Yes, storing your "seed" honey for next year's use in the freezer would be fine although any cool storage at about 57 degrees would likely be satisfactory. The important point is to be certain that the crystals of the starter are very fine and it is yeast free. This is accomplished by heating and by grinding the natural crystals. Eva Crane, in her book *Honey* says "It is im-

possible to pack high quality finely granulated honey year after year without regularly grinding the starter".

★★★★★★★★★★

Q. In late July and early August when I pulled my supers for extracting I left lots of honey on the hives. I use only full depth supers and I left one or more on each hive. When I went out to winterize them I found at least one-third of them without honey. I fed eight quarts of 1 to 1 sugar syrup to each hive. It is cool and some are taking it and some are not. What can I do to make them take syrup and keep them from starving? G.C. Kansas

A. As the brood hatches in late summer and in the early fall the bees will take honey from the supers and store it in the empty brood nest cells. This is particularly noticeable where there is no fall honeyflow. Feeding must begin in the middle of August in your area if the bees are to make up deficiencies of winter stores. No hesitency will be noted if feeding is done at this time and as combs become empty when brood rearing diminishes.

★★★★★★★★★★

Q. I moved two of my colonies to my summer camp in the Bear Lodge Mountains of Wyoming. Being a dry summer there were few flowers.

My neighbors, later this fall, became alarmed when they saw bees sucking their strawberries and raspberries, leaving only little dried up berries.

Bringing the hives back to town this fall I found only a part of a super on each hive filled with a dark red, fruit flavored honey, not particularly good tasting. Have you heard of this before?

A. Honeybees do not have mouth parts which are capable of piercing or chewing but of course they can remove the juices of fruit if the skin is broken from another cause. This is sometimes observed in grapes and other fruit which have ripened and softened. The fact that the bees were taking juices from the berries had little to do with the underdevelopment of the berries, I am sure. In all probability this was due to the dry weather.

★★★★★★★★★★

Q. This past summer I have been working as a volunteer with the native headquarters of the Tanana Chief out of Fairbanks, Alaska, placing bees on the Tundra. This past summer two colonies absconded and four swarmed. They were package bees. The past summer was the worst in years, cold, windy and a lot of rain. Package bees swarming in July and August is something that I have never heard of. Next year we would like to try pure Caucasion bees. E.P. Alaska

A. Your climatic conditions are no doubt the cause of the unusual behavior and that, combined with the unpredicatable foraging, may make gathering a honey crop difficult. Your conditions are difficult for us to imagine and your problems even harder to relate to.

Several west coast bee breeders sell Caucasion bees and advertise in *Gleanings*.

Chives As Nectar Sources

By FRANCIS O. HOLMES
Henniker, NH

Not many garden plants can boast of being perennial sources of (1) edible foliage, (2) summer and winter floral bouquets, and (3) nectar for honeybees. Garden chives (*Allium schoenoprasum L.*) have this enviable reputation and they thoroughly deserve it.

Our common garden chives are not natives of North America. They were introduced into our gardens from faraway Eurasia. A Siberian variety of this species, *Allium schoenoprasum L.* var. *sibiricum (L.) Hartm.*, is said, however, to have become established here in the wild, from Newfoundland to Alaska, and south to northern New England and the Great Lakes region.

Where chives are grown extensively they are regarded as an outstanding source of nectar (Vcelarstvi 21:82. 1968). Even where chives are not extensively cultivated, local beekeepers can grow them from seed, or by dividing clumps of bulbs. The chive leaves, freshly gathered, will be convenient additions to the family diet year after year. The rose-purple flowers will serve as attractive bouquets in early summer. Winter bouquets can be prepared from them by hanging the flowering stems upside down to dry while the blossoms are still fresh and beautiful. And honeybees will work on all the blossom clusters that are not picked for ornament, taking nectar from them throughout the first week or two of the month of June each year.

It is true that honeybees visit chive blossoms more eagerly in some years than in others, but it is not know whether the cause of this variation is comparable to the avoidance of the flowers of the closely related onion (*Allium cepa L.*) when their nectar is too concentrated (Waters, N.D. *American Bee Journal* 112 [6] 218-219. 1972). In the case of the onion, the honeybees apparently seek out individual flowers that are producing nectar of less than average concentration, neglecting flowers that are providing nectar about 12% less concentrated that this.

There seem to be no carefully documented studies of the quality of nectar provided by chive plants, or of the characteristics of chive honey when not appreciably mixed with honey from other sources. If any onion-like odor is ever associated with chive honey, it is probable that it would be lost when the honey has ripened fully, as is said to be the case with honey derived from onion flowers (*Honey Plants of Iowa 1930,* page 40).

Our cultivated garden chives seem to be uniform in respect to their rose-purple flower coloration, but some of their close relatives have white or partly white flowers. Chines chives (*Allium tuberosum*) have white flowers. Garlic chives (*Allium ramosum*) have white flowers with purple stripes on the petals. Wild garlic (*Allium canadense L.*) has aerial bulbs and also a few white or pink flowers.

Almost all deeply colored flowers have white variants occasionally. Hence we may expect the white-flowered variants of *Allium schoenorprausm* will be observed eventually. It will be interesting for beekeepers to select and propogate lines of such white-flowered variants if they find them, to learn whether these would support Smaragdova's theory that white-flowered varieties of blue, red, and yellow-flowered species tend to secrete more sugar in their nectar and attract more honeybees than the deeply pigmented lines, other factors being equal. If this proves to be the case in chives, we may be able to add chives to the list that now includes sweet clover, hyssop, dragonhead, Judas tree, snapdragon, poinsettia and some others (*Pchelovodstvo* 34:42; *Gleanings in Bee Culture* 97:486-488) as attracting honeybees more strongly to white flowers than to colored flowers of the same species.□

Research Review

By DR. ROGER A. MORSE
Research Editor of Gleanings
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Ithaca, New York 14853

Bee Substitutes for Propolis

Propolis is the name given the gums and resins which bees collect from trees for use in filling cracks, varnishing hives, embalming dead intruders, reducing the colony entrance, etc. When naturally occurring gums are not available honeybees will often lower their threshold of acceptance and accept and collect items which were unknown to them during the course of their evolution. Some of these odd items are listed in a recent paper.

In Australia a manufacturer of agricultural machinery reported that large numbers of bees were stripping fresh enamel paint from newly painted equipment. A paper from South Africa indicated that bees collected aluminum paint from a newly painted fence there. In other parts of the world bees have been observed collecting road tar, caulking compound, oil on beach sand from a wrecked tanker, and similar sticky substances.

Overall, quantities of these materials collected by bees are obviously quite low. However, a careful search through a beehive will sometimes reveal patches of "propolis" with an odd color and consistency, indicating where unusual propolis substitutes have been incorporated.

Lowe, D.G.
Propolis substitutes. Bee World 61:120-121. 1980.

Queen Cell Acceptance

Studies in California show that the type of wax used to make queen cups has a marked effect on how well they are accepted after grafting. Cups made from wax taken from old brood combs had the highest acceptance rate (86.6 per cent). Those made with fresh beeswax were next with an acceptance rate of 76.6 per cent. When the queen cups were made of capping wax, foundation or equal parts of old beeswax and paraffin, the acceptance rate was less (70 per cent).

Queen cups made of pure paraffin, into which young larvae had been grafted as above, were not accepted in any case.

Why all this is true is not clear, nor do the authors offer any precise answers. They suggest that either natural beehive odors make old wax more acceptable, or that foreign odors, which might be present in paraffin, may cause rejection. Both thoughts are logical.

There is no question that odors play important roles in honeybee biology. This paper testifies again that good beekeeping consists of putting into practice what we can learn about bee behavior. Although we know much about how social order is controlled in a hive, we still have much to learn. We can manipulate honeybees for our own gain, but there are limits to what we can and cannot do.

Ebadi, R. and N.E. Gary
Acceptance by honeybee colonies of larvae in artificial queen cells. Journal of Apicultural Research 19: 127-132. 1980.

Chemical Analysis of Penncap-M

Penncap-M, an insecticide manufactured by the Pennwalt Corporation of Pennsylvania, is generally considered by beekeepers to be the most difficult pesticide with which they must contend. The active ingredient, methyl parathion, can be identified fairly easily in a sample of contaminated pollen, freshly killed bees, etc. However, there is no good method of determining whether it comes from Penncap-M or some other source of methyl parathion. The Environmental Protection Agency has indicated to the Pennwalt Corporation they must develop such a method but the time set is in the distant future, and the people from Pennwalt continue to drag their feet.

Meanwhile, methods of analyzing for Penncap-M are being studied by several other researchers. One of the first methods has just been published. The author's methods are simple and direct. To determine the amount of Penncap-M (or other microencapsulated pesticide) present in a mixture one runs two analyses. The first is for the amount of free pesticide and the second for the total amount. When an insecticide is microencapsulated most of it is contained in a plastic capsule and only a small amount (the free insecticide) is on the outer surface of the capsule. The method is yet to be field tested.□

Arguaer, R.J.
Extent of microencapsulation in pesticide formulations of diazinon, methyl parathion and ethyl parathion. Journal of the Association of Official Chemists 63: 1003-1006. 1980.

Sherry Furr, Texas Honey Queen

Miss Sherry Furr was chosen 1980 Texas state honey queen at the 100th Anniversary meeting held in San Antonio, Texas November 7th & 8th. Miss Furr is the daughter of Mr. and Mrs. Ralph Furr of McKinney, Texas. She currently attends Grayson County college in Denison, Texas; majoring in accounting. To her many credits, Sherry is a member of the Honor Society, Phi Theta Kappa. Miss Furr will represent Texas at the upcoming American Beekeeping Federation meeting to be held in Seattle, WA.

The Bee Louse — An Unusual Bee Pest

"The bee louse remains a curious and rarely observed occupant of the bee hive."

By DEWEY M. CARON
Dept. of Entomology
University of Maryland

A variety of insects feed on the honeybee. One of the more unusual insect pests living in the bee hive is the bee louse *Braula coeca*. The bee louse is not a true louse but is actually a wingless fly. The adult bee louse fly rides around on the thorax or abdomen of worker, drone or queen honeybee adults, moving to the host's mouthparts to obtain a nectar feast when it gets hungry. The adult female lays eggs in the honeycomb cells just as they are being capped over. Upon hatching the larvae constructs a tunnel of wax 5 to 9 cm long which serves as a shelter for its pupal stage. The life cycle takes about 3 weeks — the same as its host.

The bee louse probably came to the United States with the settlers' first honeybees brought over the the U.S. from Europe in the early 1600's. Prior to laws prohibiting imporatation of live bees, the bee louse was also introduced on queens. The first reported record of its occurrence in the U.S. was 1911. Since then it has been found in 13 states, all east of the Mississippi River, except for the first reporting which was in Mankota, MN. Worldwide, the bee louse has been reported on bees in all continents — the most complete records are for Europe where bees in nearly every country have been found with bee lice. Undoubtedly, the bee louse is more widely distributed in the U.S. and worldwide than is presently known.

The relationship of fly to host bee is that of a commensalate. That is, it does not harm nor does it assist the bee. From the beekeepers standpoint, a bee louse's larval stage is the most serious since it results in cosmetic damage to capped honey. The bee louse scrapes the inner surfaces of wax cappings or cell walls and molds the separated fragments into a tunnel. Honey cappings take on the appearance of being intersected by fine fractures. Bee louse tunnels are distinct, extending in many directions for up to 9 cm.

The bee louse larvae move back and forth within their tunnels. They feed on honey and pollen grains and are thought to be capable of digesting beeswax. They remain in the larval stage for 7 to 11 days. Pupation occurs in the wax tunnels. The pupal stage can be as short as 3 days under favorable summer temperatures and as long as 8 days in length in winter.

Newly emerged bee louse adults are white. They gradually become reddish-brown over the first dozen hours. New adults quickly find a host bee — usually a worker. The bee louse can move freely on a bee and alos move from one bee to another. They may stay on the dorsal or ventral surface of the host with the top of the thorax a favored portion.

All caste members in the hive are used as hosts. Preference tests conducted in Maryland experiments revealed that young workers are preferred as hosts over older workers. Young drones were preferred over older drones. If offered a choice of drone or worker, there appeared to be no preference. Queens, especially mated queens, were preferred over workers and drones. Lice were 25 times more likely to be found on hive bees than on foraging bees.

Figure 1. A honeybee queen with a dozen bee lice — a natural population. Photo by I. Barton Smith.

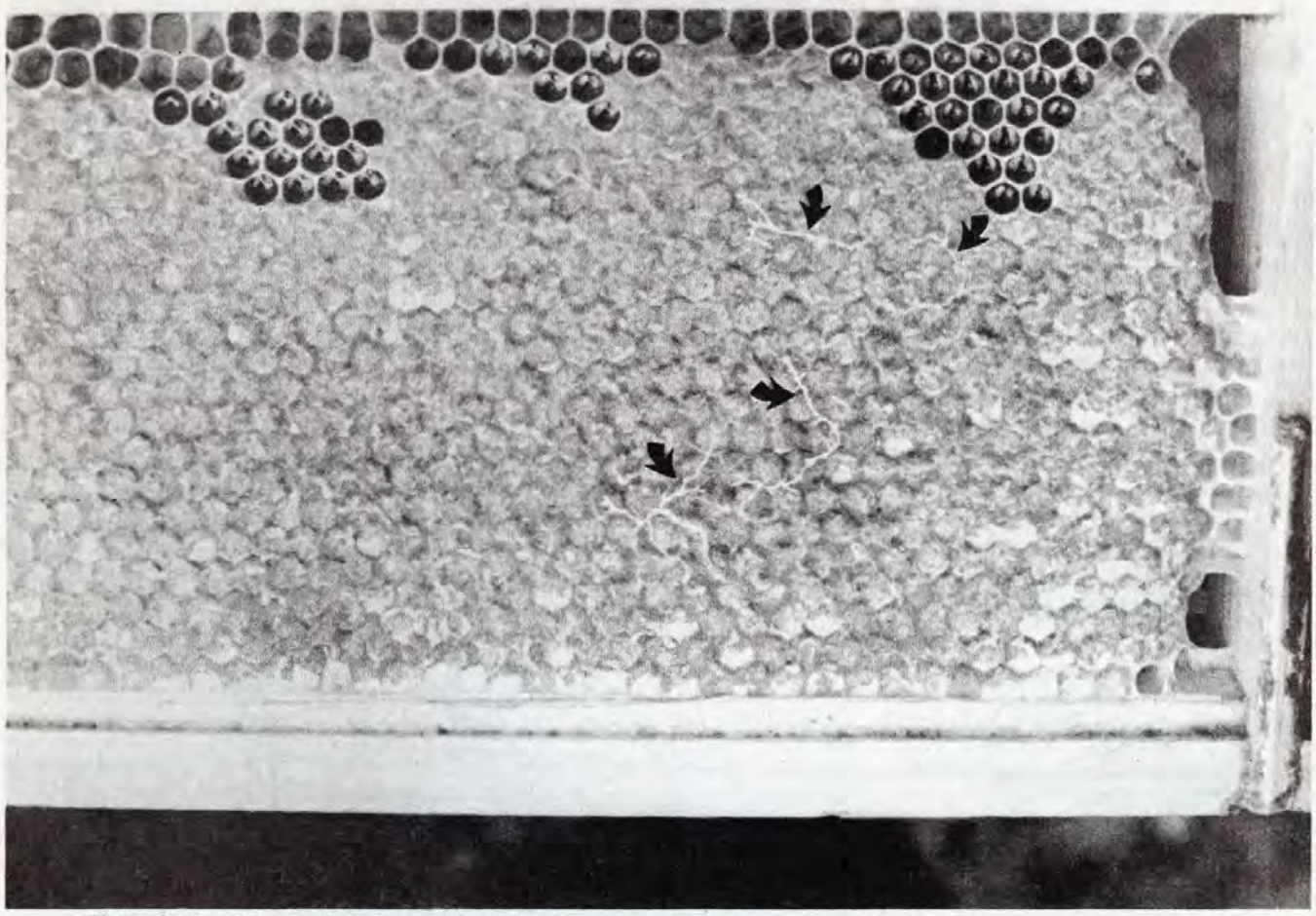


Figure 2. Bee louse larval tunnels (just in front of arrows) in a honey super frame. Photo by I. Barton Smith.

A bee louse usually selects an unoccupied host but multiple lice may be present on bees, especially on queens during the fall months. One hundred eighty seven bee lice were collected from one queen during the middle 1800's and as many as 35 lice have been collected from a queen in the U.S. In France, one scientist kept removing lice from a colony queen (up to 40 on some days) and collected a total of 371 from her. In Maryland we collected 29 lice from one queen. There were multiple lice on fewer than a dozen workers (1.4% total) in the same hive. Two workers had 3 lice and 1 drone had 2. In cage tests of host preference, as many as 9 lice were recovered on single worker bees.

It is not clear why young lice are found on queens during the fall months of the year. In following the yearly cycle of lice populations in Maryland bee colonies, we found the lowest number of lice in June. In the fall, nearly all the queens observed in our colony examinations had lice and louse populations were higher in the colony than during the spring and summer. Louse reproduction slows or may halt completely during the winter months.

Bee lice spread from one colony to another via robber bees, drifting of bees, in swarms and are inadvertently distributed by the beekeeper. In our Maryland experiments, we introduced 50 lice to over 40 4-frame nuc colonies. Survival was not good and in over ½ the nucs we could not detect lice at the end of the season. In a survey, we found that in apiaries that had lice, an average of 50% of the colonies were infested. Infestation in the apiary seems to persist from one year to another. Some colonies have fairly heavy infestation while most colonies have a much lower number of lice.

It is not clear how much damage the bee louse causes. If comb honey is being produced, the larval tunneling detracts from their value. Consuming honey or wax containing bee lice does not harm humans. Bee lice disturb host bees with their feeding but the damage is probably slight. The louse does not pierce or puncture its host. When the bee louse is hungry it goes to the head of the host bee and stimulates the antennal receptors of the bee in a manner similar to that by which one bee stimulates another to pass it nectar. The louse simply feeds on the droplet of food regurgitated by the stimulated host.

Heavy louse infestations on a queen may cause the bees to supersede her. It has also been suggested that the lice may cause queens to "perish from exhaustion". There is little evidence of either, however. It is interesting that although the queen is highly groomed by workers, there is no apparent effort by retinue workers to remove lice from a queen. The lice apparently make or obtain from the queen those chemicals that serve to identify her as a queen and the lice are treated in the same way as a queen.

Several different control methods have been attempted to achieve control of bee lice in colonies but none have proven effective. Fumigating a colony with tobacco smoke for 30 seconds was recommended from ancient times. Napthalene (moth balls) has also been recommended but beeswax comb absorbs this insecticide. Camphor phenothiazine and Folbex (chlorobenzilate) have all been tried but all have disadvantages.

The best bee louse control is mechanical. Capped honey should be removed and extracted during the time when the bee louse is most active (June-September). Ethylene oxide, now used on AFB, apparently also will successfully kill all stages of the bee louse.

The bee louse remains a curious and rarely observed occupant of the bee hive. It causes little damage which is fortunate since it is widespread and is not easily controlled. It is one of the bee hive's most unusual visitors.□

How One Alabama Apiarist Saved His Commercial Beekeeping Venture

"He found his answer in starting a second business..."

By JANIE C. HIXENBAUGH
APO New York

A love of honeybees can start you on a commercial beekeeping venture, but can a small income keep you going?

An Alabama beekeeper says yes. He faced this problem and solved it by finding a compatible sideline business to bring in additional income.

Harold Couch of Jasper, Ala., realized several years ago that his apiculture business was not going to provide him the income he needed to be self-employed. Unwilling to give up the pleasure of working with bees, he took a long, hard look at his options. He found his answer in starting a second business — a trailer court operation.

The combination of trailer court owner-operator and beekeeper proved a happy one for him. Today, honey and wax sales from his 300 bee colonies and rental of 13 trailers on his lakeside court allow him to live out his long-time dream of self-employment.

Still, things are very different from what the former construction worker had planned. "I started out to make a living on bees if it could be done," said Harold. "I was looking for a business of my own so I could quit construction work."

One day eight years ago, he and his wife, Belinda, were walking in the woods near their home. As Belinda said, "We smelled the hot, fresh smell of honey." Having cut his first bee tree and collected his first colony when he was 15, Harold had a long-time interest in bees. Finding the bee tree that day in 1972 gave him the idea of turning an on-again, off-again hobby into a serious venture that led eventually to self-employment.

"I lost money for five years," he said. The first year he built hive bodies and collected four more wild bee colonies, which had to be fed through the first winter. The second year he got about 20 wild bee colonies and bought another 20 or 30, he said, adding that from then on, "I got smart and started splitting bees."

The cost of equipment, honey machines, foundation comb, lumber to build hives and "hidden expenses" such as gasoline used to make the rounds of his yards meant he spent more than he made on honey for several years. Then gradually the work began to pay off.

"When I got up to 100 swarms, I broke even. The next year I had 200 swarms, and I made a little. I've come on up from that. For the last three years I've made money." This year he harvested about 8,000 pounds of honey.

But Harold said he realized after a few years that his efforts to earn money on beekeeping would be limited by how much work he physically could do and by the fact that he could make no income from renting his bees to farmers, since wild bees are so plentiful in north central Alabama.

So, four years ago, he bought his first rental mobile home to bring in more income. He paid for four mobile homes before he left his construction job two years ago. Since then, he has used his honey money for downpayments on others. He now rents out 13.

"The trailers finance my honey expenses all year, so I take money from the honey and put it on trailer downpayments." The trailers now bring in more income than the honey, although Harold considers the trailer court a sideline to his honey operation. The income and the time flexibility the trailer court gives him makes it a good choice for a sideline for a beekeeper, Harold noted. Maintenance and repair can normally be fitted into his beekeeping schedule.

Harold has increased his profits from honey and wax sales as he has learned from experience and from reading about bees. "I read a lot when I started — books like *How to Keep Bees and Sell Honey* (By Walter T. Kelley), and another one or two." He did a lot of experimenting. "For four or five years, I tried everything." He added a warning for beginning beekeepers: "Ninety percent of what people tell you who've got bees will be wrong...Most beekeepers will tell you what their grandpa told them, and it'll be wrong. Books will generally give accurate information," he said.

Of his experiences, Harold said, "I learned to put the bees in the hives and let nature take its course." He has developed some methods that have proved successful for him. He leaves the hive body and one super full of honey for each colony to winter on. "I don't give them anything until mid-February. Then I swap honey from other hives. After mid-April, they're on their own." If a colony dies during the winter before mid-February, he splits another colony during the last two weeks of March to fill the empty hive. This timing gives the bees a chance to build up a strong colony before the two-month-long honey flow begins in mid-April.

Harold medicates his bees in the spring and fall to keep down diseases. Throughout the year, except in the busier spring and fall periods, he makes the rounds of his bee yards every two weeks. That's a 150-mile circuit in Winston and Walker Counties. When he finds a weak colony with no young bees, he puts it with a strong swarm. If he finds something wrong with a colony, he burns it. So far, he has had no problems with disease.

He takes off the honey once a year at the end of July, and for the past few years he has sold it by the barrel to a Belleview, Florida, wholesaler. He also retails some of his honey, which is medium to dark red honey made from wild plants and trees. He sells wax for $1.80 a pound.

Harold takes a practical view of his beekeeping business. "The bees are really like a hobby for me. If you take out gasoline and my time at $3.00 an hour, I don't figure I make anything, and that doesn't count working weeks at a time in the winter building my own hives and racks.

"But I do make a little bit, and if you work for yourself, you'll work cheaper

and harder — most anybody will. I have no intention of quitting. I'm satisfied with what I'm making now. I don't believe there is more in it," he said, adding that he wants to keep about the same number of bee colonies as he has now.

He enjoys beekeeping. "You have to like it," he explained, or a person would not stay with it through the bad days, when the bees sting "from head to toe," or through the years when there's little honey. Belinda once put down on paper her husband's feelings about bees in a poem she called "Two Dollars a Quart and You Take the Jar."

Well, me and my wife, we had it so nice
And I decided to get me a hive of bees to fulfill my life
Well, the bees were too high and the hives weren't cheap
So I decided to find me a bee tree
I got about a mile down in them woods
Way down where the honeysuckle was in bloom
And right to my surprise, just above my eyes
I smelt the smell of hot, fresh honey
And there in a hole in a big old tree was my first bee hive
Well, I got that queen, and now my hives number 203

So I got plenty of honey, and if you want some
It's $2 a quart and you take the jar

Well, I'm getting old and my knees are getting weak
But I can still get honey, even if it is way up in a tree
And now I pray when you lay me down to sleep
Place two bee hives at my feet
Now the honey won't be for sale — it'll be for free
But be sure you just take five racks
And leave me three.

Harold Couch examines a comb during one of his twice-monthly inspections of his hives.

Memories of a Master Beekeeper in the Northwest

"Dad warned me that I would get stung," he recalled chuckling, "but I never did."

By ANITA CASSARINO
Pendleton, OR

Last spring the unpredictable volcanic activity of Mount St. Helens made the Pacific Northwest a major topic of conversation from coast to coast. I, too, was talking about the Pacific Northwest, but it was not about glowing lava, craters, or ash plumes. On an overcast morning shortly after that fateful eruption on May 18, I sat in the home of Fred Bade, just outside of Milton-Freewater, Oregon. The topic of conversation was the Northwest during the early years of this century. I enjoyed a glimpse of those times through the recollections of Mr. Bade, a master beekeeper in the Walla Walla Valley of southeast Washington and northeast Oregon.

Even after returning, Mr. Bade continues to keep bees in his home orchard. Photo by A. Cassarino.

A life-long resident of the Pacific Northwest, Fred Bade has been keeping bees for more than 60 years. During many of those years, he operated a very successful beekeeping business in the valley. Relaxing in his easy chair, the 75 year old Mr. Bade recounted his memories of beekeeping, punctuating his comments with jovial chuckles.

Mr. Bade's interest in keeping bees can be traced back to a very early age and to the influence of his family. He recalled that his father, who was born in Germany, wanted to become a teacher. But after completing his studies, he instead entered the German Navy. After discharge from the service, the older Bade immigrated to the United States where he settled in northeastern Oregon. Besides doing some gardening for residents of Walla Walla, Washington, he also purchased some land and began raising chickens and producing honey. The honey he produced was comb honey with major nectar sources back then being alfalfa, black locust, and clover hay, which was allowed to blossom before cutting.

Fred Bade's earliest recollection of his interest in beekeeping was when, at the age of six, he would lie on his stomach in front of his father's hives watching the bees go in and out.

"Dad warned me that I would get stung," he recalled chuckling, "but I never did."

At nine years of age, Mr. Bade began helping his father with the bees. By twelve years he had caught a swarm and started his first hive.

Once schooling was completed, Fred Bade really began developing his bee business. First he expanded it by catching swarms and dividing existing colonies. Later he began buying colonies from some of the established beekeepers in the area.

Although his father produced comb honey, young Fred Bade, when he started up his own operation, chose instead to produce extracted honey. He recalled buying his first extractor, a two-frame, hand-crank one.

"I'd get my little cousin to come and crank it. He didn't like it, but I would give him something for the help." There were times during those early years when Mr. Bade would have 400 hives to extract himself.

In his father's time, colonies were fixed in a bee yard and not moved from place to place. Mr. Bade, though, adopted the practice of moving his colonies, although he did not move them around as much then as beekeepers do today. Not having pallets or lift equipment at the time, he had to do it all by hand. He noted that in order to transport his colonies, he had to modify his Model T Ford into a pick-up.

Needless to say, there were times when an individual with less dedication might have thrown in the towel. While transporting his colonies one season more than 35 years ago, Mr. Bade suffered an injury after being pinned between his truck and another vehicle. Undaunted, he continued manipulating and moving his hives in spite of the crutches with which he was forced to finish out the season.

During the early years of his business, Mr. Bade was involved in queen rearing. He reported that one season he raised 400 queens for his apiaries. In selecting suitable strains, he looked for characteristics like gentleness and workers that began their activities early in the day. With the success of his business and more than 1,000 colonies to manage, he curtailed the queen rearing and, instead, obtained them from producers in California.

Mr. Bade recalled that several local area beekeepers served as sources of materials for his business. Sam Smith, a prominent name in beekeeping in the Walla Walla Valley during the thirties and forties, sold him some equipment.

"We were competitors. He had about 1500 colonies then, and if I moved my hives a little too close, well he would tell me about it," he noted with a grin.

George Allen was another major beekeeper in the area. In his later years, Mr. Allen had some trouble with disease in his colonies, especially with American foulbrood. Fred Bade helped him clean up those hives in exchange for some of the wax from them. In order to avoid spreading the disease, he had to process the wax in the winter.

In addition to being a successful beekeeper, Fred Bade demonstrates he is a master gardener, too. Photo by A. Cassarino.

Any hives or hive bodies from the diseased colonies that were worth salvaging were boiled in huge vats of lye water. Mr. Bade explained that eastern Oregon and eastern Washington have always had problems with American foulbrood and, to a lesser extent, European Foul Brood. He prefers boiling infected equipment rather than torching it because, he feels, it is a more thorough treatment.

During the peak of his beekeeping years, Mr. Bade had more bee yards in Washington than in Oregon. It was at this time that he became acquainted with a Washington State bee inspector named Mr. Christiansen.

"A lot of small beekeepers did not like him because he was real hard-boiled about inspection. If he found any disease, he would want the equipment burned." Mr. Bade recognized the need for keeping tight control of disease. In fact, for his own efforts in reducing bee diseases, Fred Bade was commended by the State of Washington.

Along with the satisfaction of having nurtured and developed their own beekeeping operation, Mr. Bade and his wife share pride in having successfully raised a family of eight on the receipts of that business. Two of the eight, sons Bill and Dan, each own and operate their own beekeeping businesses.

Although he has retired from his business, Fred Bade keeps active with a small home apiary and related interest. He maintains extensive flower beds around his home and takes pride in a large vegetable garden he plants each year. His half dozen or so colonies keep busy in the Bade home orchard.

From visiting with him, it is evident that Fred Bade has played an important role in the development of beekeeping in the Northwest. His knowledge, experience, and dedication have truly made him a master of his trade.□

Consulting Service Started

Beekeepers, crop pollinators, pesticide applicators, naturalists, teachers and others will now be able to call upon the educational programs and materials offered by a new, full time consulting service operated by Lawrence J. Connor.

Connor has operated BEEKEEPING EDUCATIONAL SERVICE since 1975 on a part time basis, and will expand the current slide/tape offerings to a full service consulting operation.

Upon completion of a Ph.D. in pollination research at Michigan State University in 1972, Connor served as Extension Bee Specialist at Ohio State University until 1976. While at OSU he developed several new programs, such as the Commercial Beekeeping Management Workshop, as well as expanded existing programs, such as the beekeeping correspondence course.

Since 1976 Connor has been President of Genetic Systems, Inc., of LaBelle, Florida, the first large scale queen instrumental insemination operation. As a result Connor will provide training in instrumental insemination techniques and advise in bee breeding matters.

"But the primary focus will be on educational programs, particularly with local, regional and state associations", Connor explains. "These organizations are the ideal place for new beekeepers to learn more about local bee conditions, or for a pesticide applicator to meet with beekeepers. But many of these groups are having trouble finding suitable programs for their meetings, and usable materials for their public educational goals", Connor adds. "I will attempt to meet these needs on a group by group basis, as well as provide multi-media materials. For example, some associations may wish to purchase a library of slide/tape sets, while another group might wish to sponsor a one or two day BEEKEEPER UPDATE SEMINAR where I would provide a tailor-made program which was worked out in advance with the association officers", Connor suggests.

Relocated in central Connecticut from Florida, Connor invites individuals and groups to write or phone for additional information. "I welcome any chance to correspond with interested beekeepers or non-beekeepers, and I will gladly explain my fees during the initial visit, if a fee is even necessary. Where materials already exist, the charges would be minimal," Connor states.

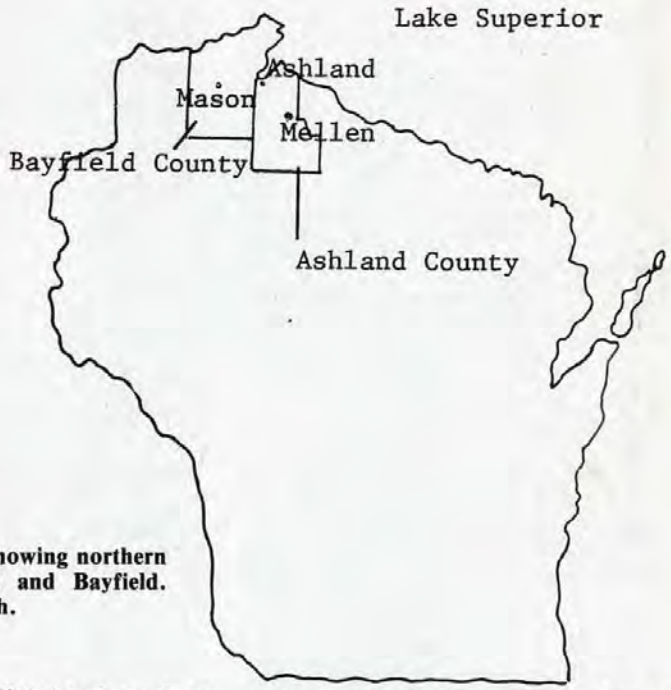
The mailing adress is: Beekeeping Education Service, P.O. Box 817, Cheshire, Connecticut 06410. The phone is area code 203 number 271-0155.□

Beekeeping: It's Here In Northern Wisconsin Too

By MARGARET McGRATH
Ashland, Wisc.

IN NORTHERN WISCONSIN ... downhill and cross-country skiers don brightly colored ski hats and warm mittens to escape the winter cold. In spring, Lake Superior swells with smelt and steelhead as travelers and residents alike ready rod and reel for the beginning of the popular fishing season. Summer comes with no "scorcher" days, just mild temperatures signaling a canoer's paradise. A hint of cold arrives with the red and orange hues of autumn, while the branches of apple trees lean heavy with fruit. Winter follows close behind, starting the northern Wisconsin sportsman or "outdoor hobbyist" cycle all over again.

Yet one northern Wisconsin hobby or activity that has frequently been overlooked is beekeeping. Beekeeping, long practiced throughout the state of Wisconsin, is now becoming more and more popular to northern residents in the Badger state, despite the cold temperatures.



Map of Wisconsin showing northern couties of Ashland and Bayfield. Photo by W. Griffith.

"Beekeeping can be done from the extreme northern climates to the tip of South America, except maybe in the deserts," quips Ashland, Wisconsin, bee enthusiast Wayne Griffiths. "Of course certain areas are better than others. California has the crops and the longer growing season, but even in the more northern states hobbyists can still supply themselves with enough honey and get much enjoyment from beekeeping. Climate should not be a prerequisite, interested people should get some hives and try it."

Griffiths, a native of Boston, Massachusetts, started beekeeping as a natural extension from his interest in biology. One of Griffiths' undergraduate professors had beehives that he wanted to sell, so Griffiths bought them. Since then he has been an avid beekeeper, eventually bringing his hobby to northern Wisconsin, near the shores of Lake Superior.

People in northern Wisconsin keep bees for the same reasons as people anywhere else. The enjoyment, profit, pollination and honey are all distinct advantages to beekeeping and many northern Wisconsin residents keep bees for one or more of these reasons.

For Griffiths it is just the "pure relaxation" with the hobby. Also, Griffiths feels that beekeeping is a good opportunity to meet all types of people.

A typical Ashland apiary. Photo by W. Griffiths.

"Beekeeping is just a fascination of mine. It exposes you to a lot of people from all over the country. While traveling, I can stop anywhere that I see that bees are being kept, and strike up a conversation. Beekeepers seem to have a very special personality."

Griffiths is typical of most northern Wisconsin beekeepers in that he is not a commercial beekeeper, but rather a hobbyist with a strong interest in bees and the enjoyment and fulfillment that can come with beekeeping. Griffiths also involves himself in bee related activities beyond the interest of the average hobbyist. Being most interested in apicultural teaching and research, Griffiths taught the first course in apiculture at Northland College in Ashland, Wisconsin, and at WITI*, the local technical school.

"I've had students from all walks of life and from all areas," says Griffiths. "There are many who are just fascinated by the subject of bees."

Besides full-time college students, doctors, school teachers, farmers, railroad men, and electricians have taken advantage of Griffiths' bee course, further confirming the increased popularity of beekeeping in northern Wisconsin.

Griffiths is glad that he had the opportunity to teach apiculture to northern Wisconsin residents for he feels that,

"Beekeeping can be very confusing for the beginner because there is a lot of termonology and different techniques to learn." Through actual experience and much reading, Griffiths has taught himself the hobby of beekeeping and his course is designed to ease any problems that a local resident may have if they are interested in beginning the hobby of keeping bees.

One person who has become quite interested in keeping bees since taking Griffiths' class in Northland biology Professor Lee Stadnyk. Stadnyk, whose father kept bees, has just started beekeeping and hopes to have 50 hives by next year.

Honey is the main reason why many northern Wisconsin residents keep bees, but this is not the major focus for Stadnyk. Stadnyk started to keep bees for the pollination benefits for his newly acquired 250 acre farm.

"I feel like there are lots of opportunities for bees in northern Wisconsin," Stadnyk says. " The apple orchards in Bayfield and the trefoil crops throughout Ashland and Bayfield are good."

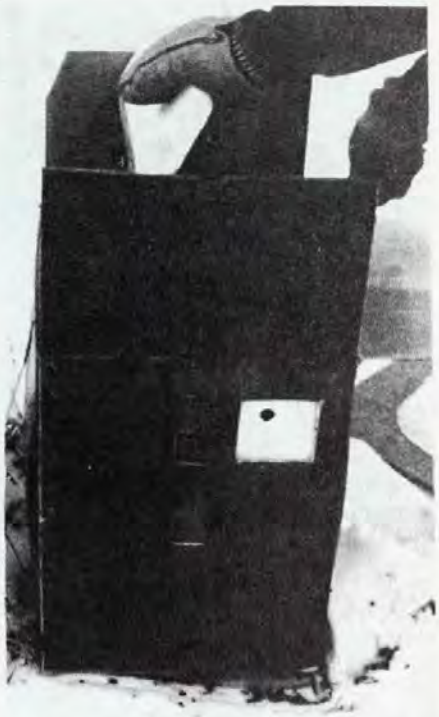
Stadnyk also cites the differences in crop make-up between the southern areas of Wisconsin and the northern sections of the state.

"The north has different kinds of crops than down south," explains Stadnyk. "In the south there are row crops that are treated with more chemicals and herbicides. In the north we have the forage areas. We have corn, some oats, trefoil, and most of the land is grown for hay which makes good bee forage. There is quite an abundant flow of nectar in the north."

There are a wide variety of plants that provide pollen and nectar throughout the spring and summer in northern Wisconsin. Plants of the willow family are the first to bloom in spring to initiate the season. The fruit blooms such as wild plum, wild cherry, and the apple blossoms come next, followed by dandelions and sweet clover. A long period follows where there are small amounts of alfalfa and large amounts of birdsfoot trefoil. In late summer and early fall there may be small amounts of basswood and of course, goldenrod which ends the season in October.

Birdsfoot trefoil and clover are the predominant crops in northern Wisconsin for bees. According to Duane Traeder, Ashland County Extension Agent, there are approximately 5,000 acres of trefoil in Ashland and Bayfield counties. The trefoil is grown for both seed and hay. Although one hive should be placed per acre of trefoil, this is rarely the case in northern Wisconsin because of the lack in commercial beekeepers.

Ashland bee enthusiast Wayne Griffith holding a swarm of bees. Photo by W. Griffiths.



Early spring inspection — snow still on ground, mittens still needed. During winter, black cardboard, the "winter sleeve" absorbs sunlight. This covering is also called a "winter pack" or "black sleeve". Photo by W. Griffiths.

Evidence of bear damage in northern Wisconsin. Photo by W. Griffiths.

Beekeeping is fun and interesting for Stadnyk, but more importantly he believes that his new hobby has made him more aware of the importance of insects in pollination.

"Beekeeping constantly reminds me of the important role that insects have in our world. Not just honeybees, but wild bees, ants, and other insects — they are all pollinating. Bees have made me more aware of a very important niche in our environment."

Both Griffiths and Stadnyk agree that interest in beekeeping is increasing throughout many northern counties in Wisconsin.

"It's an upcoming thing — it's the trend for more and more people," Griffiths says. "People want to get back to nature and back to the simple life, and honey is a good, safe product. Besides having their own gardens and burning their own wood, northerners are now keeping bees.

*Wisconsin-Indianhead Technical Institute

(Continued on page 47)

News and Events

Troy Fore (left) and Reg Wilbanks.

GEORGIA
Georgia Beekeepers Assn.

Troy Fore, left, was elected president of the Georgia Beekeepers Association at its annual fall meeting. Here, he accepts the "hive tool" of office from outgoing president Reg Wilbanks. Other officers include G.M. Ziegler, Jr., vice president; Cecil Sheppard, secretary; Louise Passmore, treasurer; and Bill Forbes, Dale Richter and Paul Harrison, directors. The association will hold its winter workshop meeting in Atlanta, Feb. 6-8. (Photo by Al Dietz.)

NEVADA
Apiary Inspectors of America 1981 Conference
Riviera Hotel, Las Vegas, Nevada

SUNDAY, JANUARY 11, 1981.

P.M.

6:00-9:00	Get Acquainted—Hospitality Room
7:00-9:00	Executive Board Meeting

MONDAY, JANUARY 12, 1981.

A.M.

8:00-8:45	Registration
8:45-9:45	Call to Order—Robert Hancock, Pledge of Allegiance Invocation—James Greene Welcome Address—Phillip C. Martinelli President's Address—Robert Hancock Sec-Treasurer's Report, Floyd Hilbig Announcement and Appointment of Committees
9:45-10:15	"A New Decade of Apiary Inspection" — Eugene Killion
10:15-10:30	BREAK
10:30-11:00	"How Florida Inspects Its 250,000 Colonies" — James C. Herndon
11:00-12:00	Panel Discussion of Apiary Inspection — Techniques and Goals California, Minnesota, Montana, and North Carolina
12:00- 1:30	LUNCH

P.M.

1:30- 2:00	"Extension and Regulatory Work — They Work Together!" Dr. M.T. Sanford
2:00- 3:00	Comparison of State ETO Programs — Moderator: Pat Powers
3:00- 3:15	BREAK
3:15- 3:45	Bee Research and Pollination Studies at Tucson Lab — Dr. L.N. Standifer
3:45- 4:30	Beekeeping Chemicals and Update of Beltsville Research; Dr. H. Shimanuki Report on Botulism — David A. Knox

TUESDAY, JANUARY 13, 1981.

A.M.

8:30- 9:00	"Bee Ordinances Both Rural and Urban" Dr. M.T. Sanford
9:00- 9:30	"Maryland and the Varroa Scare" I. Barton Smith
9:30-10:00	Reporting of Pesticides and Bee Kills — Dr. Charles W. Miller
10:00-10:15	BREAK
10:15-11:30	State Reports — Apiary Inspection Programs
12:00- 1:00	BANQUET LUNCH

P.M.

1:30	Lab Session — Dr. H. Shimanuki Honeybee Diseases, Mites, Indentification, Causes, Symptoms, Controls (Univ. of Nevada-Las Vegas)

WEDNESDAY, JANUARY 14, 1981.

A.M.

8:00	Importance To Ammend The Current Honeybee Act — Phillip J. Lima, APHIS Business Meeting Executive Board Meeting

Joe F. Maher (left) and Jim Robins.

MISSOURI
Missouri State Beekeepers Assn.

Mr. Joe F. Maher, President Emeritus, (left) presenting the 1980 "Beekeeper of the Year" award to Mr. Jim Robins (right) of Kennett, Missouri during the fall meeting of the Missouri State Beekeepers Association held at Lebanon, Missouri on October 25, 1980.

Dale Eschuk, New Jersey Honey Queen, presents Ray Kramer a gift of honey.

NEW JERSEY
EAS 1981

Dale Eschuk, 18, of Marlboro, the 1980-1981 New Jersey State Honey Queen smiles sweetly as she presents Ray Kramer, Director of the Board of Chosen Freeholders with a jar of honey after he proclaimed "Monmouth County Honey Week" in conjunction with National Honey Week, October 12-18, 1980. Prior to this, Governor Brendan Byrne of New Jersey had also proclaimed the week as New Jersey Honey Week.

WE'RE BRINGING OUR HONEY...PLEASE BRING YOURS... to the 27th Annual EAS Conference to be held on the campus of Rutgers University-Cook College, New Brunswick, NJ. August 5-8, 1981. Dale is looking forward to attending her first EAS Conference where she will be welcoming the registrants.

The New Jersey Committee planning details of the Conference extends a cordial invitation to each of the 16 eastern U.S. states and 2 provinces of Canada to send their representative **state** or **provincial** Honey Queens to be with us.

It will be up to each individual Honey Queen, (or if it is agreeable to) their representative **state** or **province**, to underwrite the Honey Queen's expenses.

If it is possible for your Honey Queen to make an appearance at the 1981 EAS

Conference August 5-8, 1981 in New Jersey, please send the Queen's name, address and age to: NJBA & EAS Secretary: Mrs. Liz Rodrigues, 157 Five Point Road, Colts Neck, NJ 07722, or telephone 201-462-4591.

NEW JERSEY
New Jersey Beekeepers Assn.

The New Jersey Beekeepers Association will hold its all day annual Winter State meeting from 9:00 a.m. to 4:00 p.m. on Saturday, January 31, 1981 in Room 202 E-W, Building 18, Student Activity Center at the Trenton State College, Route 31 in Trenton, New Jersey.

Reservations for the luncheon must be made in advance with Mrs. Liz Rodrigues, Sec-Treas., 157 Five Point Road, Colts Neck, NJ 07722, telephone 201-462-4591.

CALIFORNIA
Beekeeping Class

Introduction to beekeeping taught by Will Wade, instructor; designed to teach the practical art of beekeeping and honey production. Topics will include building hives, obtaining bees, laws and regulations, diseases, extracting, and management. Laboratory optional.

Wednesdays, 5:30 - 7:30 p.m. Jan. 14, 1981 — May 20, 1981. College of the Desert, Palm Desert, California 92260, telephone (714) 346-8041.

WISCONSIN
Educational Telephone Network

University of Wisconsin-Extension will present a statewide class on "Bees for Fun and Profit" this winter over the Educational Telephone Network (ETN).

Sessions will be held 8:30 to 10:20 p.m. on Jan. 21, 28 and Feb. 4.

ETN works like a statewide telephone partyline, with class sites in every county.

The course is aimed at new and experienced beekeepers. Instructor Walt Gojmerac, UW-Extension entomologist, said he will describe the life cycle of the honeybee, its behavior and its importance to man.

He also will give tips on bee colony management, including honey handling and disease control, and discuss the current insecticide controversy.

There will be time for questions.

Cost is $10, including course materials. To enroll, contact the UWEX Agricultural Conference Office, Jorns Hall, Madison, WI 53706; phone: 608-263-1672.

Missouri Beekeepers receive award from Gov. Teasdale.

MISSOURI

Governor Teasdale of Missouri commended the state's 900 beekeepers for providing a service to the agricultural community through pollination of fruits, vegetables and other crops. Governor Teasdale had proclaimed November as "Missouri Apiculture Month".

Director Jack Runyan of the Missouri Department of Agriculture presented the proclamation to representatives of the Missouri Beekeepers Association.

WISCONSIN
Wisconsin Honey Producers

Wisconsin Honey Producers Association officers for 1981 were elected at the Wisconsin state convention in Green Bay. Officers are, from left to right: Orrin Grotjahn, Alma, executive board member; Joyce Wolf, Baldwin, treasurer; Charles Knopf, Loganville, secretary; Robert Steinhorst, Baraboo, president; Harold Johns, Amery, 1st vice president; Dr. Oscar Carlson, Menomonie, 2nd vice president, and Janice Haack, Cottage Grove, executive board member.

MASSACHUSETTS
Hampshire County

Beekeepers and those interested in bees in and around Hampshire County will be glad to know a beekeepers association is in the process of being formed for Hampshire County. Work toward its formation has been in progress for a little over a year.

The new association, which should be very helpful to commercial beekeepers and pollinators as well, will be directed primarily toward beginners.

Beekeepers and non-beekeepers alike will be welcomed and are encouraged to participate. Many beekeepers have been reached by mail. Others interested, wanting to help organize or otherwise encourage this new association, should contact Frank Lagrant, Ware, MA 01082 (413) 967-5064, soon, so that an adequate meeting place can be acquired and prospective members notified of its location as well as the first meeting date.

MARYLAND
Maryland State Beekeepers Assn.

The 73rd Annual Meeting of the Maryland State Beekeepers Association will be held Saturday, January 17, 1981, at the Adult Education Center of the University of Maryland, College Park, Maryland. The meeting, as well as the annual Honey/Honey Cookery Show is free and open to all. For further information and for the Show Premium List, write: Ann Harman; 6511 Griffith Road, Laytonsville, MD 20760.

CALIFORNIA
California State Beekeepers Assn.

The California State Beekeepers Association, Inc. recently concluded its 91st Annual Convention at the Hilton Riviera Hotel in Palm Springs.

The coveted "Beekeeper of the Year" award was presented to Oliver Hill, of Willows, who C.S.B.A. President in 1979. Brian Ferguson, of Visalia, was named "Young Beekeeper of the Year", an award given to an outstanding person who has been in the bee business for 10 years or less.

Lifetime Memberships were given to the following beekeepers who have been members of the C.S.B.A. for forty years or more:

John Allred, Madera
Bill Huston, Corona
Homer Park, Palo Cedro
Clarence Wenner, Glenn

The newly elected officers of the California State Beekeepers Association, Inc. are:

President: Bruce Beekman, Turlock
Vice Pres: Richard Gannon, Redding
Sec-Treas: Frank Johnson, Riverside

GEORGIA
Georgia Beekeepers Assn.

Sixth Annual Award. Presented by L.M. Hubbard, (R), for the Georgia Beekeepers Association, to the Georgia Beekeeper of the Year, Jim Burch, (L), at Valdosta, Georgia, — October 18, 1980.

Apiotherapy Meeting

The North American Apiotherapy Society held a very successful symposium on November 8 and 9, 1980. The members, along with others interested in apiotherapy, spent the Saturday morning session hearing some of the historical aspects of venom research which made the problems yet to be studied even more intriguing. A buffet lunch gave the participants a chance to ask questions and talk informally with the speakers. One section of the Saturday afternoon session concerned current research on effects of bee venom in experimental animals and on methods of determining arthritic conditions in man. The afternoon concluded with clinical reports. A social hour was then enjoyed by all.

The next symposium will be held in November 1981.

The following is the status of the NAAS Proceedings:

Volume 1 (all symposia up to and including 1978) is out-of-print. Plans for reprinting are underway.

Volume 2 (for 1979) is now available for $11.00 Non-members from the Secretary: Harry Froehlich; 1201 Georgetown Drive; Bel Air, MD 21014.

Volume 3 (from 1980) in process.□

Obituaries

WALTER H. LEE

Walter H. Lee, Chief Apiary Inspector for the Arkansas State Plant Board, died Thursday, October 30, 1980.

He was a specialist in the field of beekeeping and had been in the bee business for three years prior to being hired as an Apiary Inspector for the State of Arkansas in 1968. He was a tireless worker in promoting the beekeeping industry.□

PHILEMON J. HEWITT, JR.

It was with deep shock and sorrow that the EAS Board of Directors learned of the untimely death of their fellow officer, Philemon J. Hewitt, Jr. 63 of Richards Road, in the Northfield section of Litchfield, Connecticut, on Saturday, October 4, 1980.

He was a Life member of the Eastern Apicultural Society of North America, a member of the American Beekeeping Federation for 31 consecutive years, a past president and member of the Connecticut Beekeepers Association and was the editor of the quarterly Connecticut Honeybee newsletter.

Phil was a past EAS Director from Connecticut, the society's Historian and editor of the bi-monthly EAS Journal, a member of Apimondia, International Beekeeping Federation and had traveled throughout Europe, Russia, Australia and most of the United States. He was author of several published books.□

LYNN P. ARNOLD

Mr. Lynn P. Arnold, who had been connected with the bee industry almost his entire life, died at Richmond, VA June 17, 1980. He became a full-time Bee Inspector for the Commonwealth of Virginia in 1944 and continued in that position for 25 years until his retirement. A charter member of both the Virginia State Beekeepers Association and the Richmond Beekeepers Association, he was active in each. He was well known and respected in beekeeping circles throughout the Northeast for his mastery of his craft. Survivors are his wife, Margaret, one daughter, and a sister, Mrs. Ruth Palmer of Syracuse, NY.□

IS RESEARCH IMPORTANT?

(Contineud from page 16)

ing experienced by the multitude of arthritis sufferers, its value should be scientifically demonstrated.

Here is a promising project for a medical research student to undertake. Many a beekeeper, including Charles Mraz, would be glad to be of assistance.

In conclusion let me say that we should be ever mindful of the benefits we enjoy today in the field of beekeeping because of the research efforts of countless individuals who have made our work more rewarding, both intellectually and financially. Through our organizations we should be aggressive in promoting and instigating further research in the fields which we recognize as needing it.□

Sources consulted:

Seeley, T.D. and Morse, R.A. 1976 *The Nest of the Honeybee.* Insectes Sociaux. Journal International pour L'Etude des Arthropodes Sociaux.

STRICTLY BACKLOT

(Continued from page 22)

"Where exactly does first base begin?" he wonders aloud. I am laughing again when...

"Hey! You kids! Get out of here. Get out or I call the police. You're ruining the field!" The voice comes from a Chevy parked on the road beyond left field. We scurry for our clothes, put them on and, beginning to shiver now, hustle toward the ESSO station. Bob yells to Bruce that he will be in touch, that we just have to have another game before school starts, maybe in Boalsburg this time where they aren't quite so touchy about their field.

We return home to Boalsburg the same way we left. Shifts of three exit the gas station and thumb rides. We are lucky. It's five o'clock and the traffic is heavy. I arrive at home and pop into a hot bath. I am feeling better about myself and my world than I would ever feel again. But I didn't think about it then. Not at all!

Somehow or other, then, the **game** was most important. Somehow we understood that if we wished the game to continue — or if we cared to play future games — a semblance of organization, of fairness was needed. Through trial and error **we** discovered that responsibility for playing the game rested on nobody's shoulders but our own. It was, I thought, a reasonably fair and happy metaphor for my life. Despite my 23 allergies.

Later, in junior league and high school, about the time the Brooklyn Dodgers moved to California, we traded the game and our innocence for fancy uniforms, coaches, managers, playing field maintenance crews, station wagons, and letter sweaters, for essentially — all the trapping of money and winning and losing.

Which is, as I said earlier, partly why I now keep bees.□

(Next month — Scene Two: The Second World War.)

BEE TALK

(Continued from page 29)

cages by the thousands. But Mr. Kelley found one that had dropped to the floor, examined it closely, decided there was nothing wrong with it, and added it to the pile. And no overhead lights were left burning to no purpose as we walked around, either. Mr. Kelley always turned them off, illustrating once more how he lives, frugally for himself, generously for everyone else. I suspect he has made an awful lot of money, and deservedly so, but he would be absolutely the last person in the world to give anyone that impression. His life is one of utter simplicity. He doesn't have to try to impress anyone.

HONEY FOR HEALTH

When I first expressed an interest in visiting him, Mr. Kelley assured me I would be welcome, but he couldn't imagine why I would want to. It was a good day and, unlike most days, I knew I had learned something by the end of it.□

HONEY GRADING SERVICE

(Continued from page 26)

honey grading will be maintained to assure accuracy in the grading process. The grade will apply only to the sample sent, as it is impossible for the Lab to take the samples for the fee charged. The purchaser must follow the procedure which is carefully outlined in a letter and form from the Marketing Division.

Any producer or packer interested in using this service is encouraged to contact the Nebraska Department of Agriculture Marketing Division, P.O. Box 94912, Lincoln, NE 68509. Honey samples will be accepted any time.□

NORTH CAROLINA BEE CALENDAR AGAIN AVAILABLE

(Continued from page 28)

5. On orders of five or more calendars, the price including postage is $2.00 per calendar.□

BEEKEEPING: IT'S HERE IN NORTHERN WISCONSIN TOO

(Continued from page 41)

Another Ashlander, Cliff Miron, is the local supplier of bee equipment. The recent popularity of beekeeping in the area has made his profits rise. Most northern beekeepers in Wisconsin buy their equipment, instead of trying to build their hives themselves. According to Miron, "It just isn't a paying proposition anymore". Most beekeepers in Ashland and Bayfield counties would agree with this statement.

Miron, another bee hobbyist who keeps 25 hives, also contends that the popularity of beekeeping in northern Wisconsin has increased.

"Many residents are becoming interested with bees," asserts Miron. "People are going more for the natural foods now, keeping bees just goes along with this trend."

One area resident who is definitely following the trend of beekeeping is Larry Bergmann of nearby Mellen. Bergmann, who keeps 300 hives, has the largest commercial beekeeping operation in the area. There are few commercial beekeepers in Ashland and Bayfield counties. Bergmann also supplies most of the local bee hobbyists with packages of bees. For the last three years, Bergmann has traveled south of Louisiana to purchase the packages of bees needed for northern Wisconsin bee enthusiasts. On his first trip, Bergmann brought back 150 bee packages. One year later, this number had increased to 250 packages and this year the number has risen to 500 packages of bees, again confirming the recent popularity of beekeeping in northern Wisconsin.

"Beekeeping has definitely increased in this area ... absoulutely," Bergmann says. Citing similar views to those of Miron's, Bergmann states, "I think it all has to do with the increased interest in gardening and natural foods here now."

Although commercial beekeeping is quite rare in the area, Bergmann seems quite content with his work.

"It's better than working in the veneer mill in Mellen," says Bergmann. Sometimes I hire help, but I really enjoy working by myself. My family and I just really like bees."

Sandy Hamm of Mason, is another commercial beekeeper in the area, and the only one who rears his own queens. Hamm first started beekeeping with two colonies and now, about four years later, his bee operation is 200 colonies strong, which like Bergmann's is one of the largest in northern Wisconsin.

Beekeeping and other bee related activities keep Hamm busy full-time. "I'm a commercial beekeeper beacause it is just that ... commercial," Hamm says. I keep bees for the honey and the pollination and also for the money involved. After I started with two colonies, it just grew and grew."

Hamm will start teaching apiculture at Northland College this fall when Griffiths and his family move south to Madison, the state capitol, where Griffiths will begin graduate work on sunflower pollination at the University of Wisconsin.

According to Hamm, most northern Wisconsin beekeepers have anywhere from 10 to 100 colonies, but there are also quite a few with one or two colonies. Hamm definitely believes that interest and popularity in beeekeeping as a hobby is increasing in northern Wisconsin, yet interest in commercial beekeeping, on the other hand, is not as noticeable mainly because of the time and work involved.

"There's not much interest in commercial beekeeping here," states Hamm. "I'm a commercial beekeeper but I can get as much enjoyment from two colonies as I do from 200, It's the work and time involved that cause many people to remain hobbyists."

Northern Wisconsin beekeeping does have its share of problems. The long, cold winters in this Lake Superior region make overwintering a constant concern. Most area beekeepers state that at least 90 to 100 pounds have to be kept in the hives during the winter months.

Black bears are another major problem for the northern Wisconsin beekeeper. Hamm says: "Bears are a big problem here, and extending into parts of Canada. That's why you see so many fields bordered with electric fences." Even with the electric fences, bears could still pose a problem to the northern beekeeper.

If the bears don't get at it first, marketing the honey is no problem. The commercial beekeepers keep their eyes on the trade magazines and can sell their honey to a local farmers market, a co-op food or grocery store, or to a variety of markets in southern Wisconsin or west into Minnesota. Northern Wisconsin hobbyists have little problems selling their honey to local residents and friends.

Beekeeping has long been popular throughout Wisconsin but in a way it has always had a bit of an "identity crisis" in the northern sections of the state. Using Ashland and Bayfield counties as indicators, the trends is definitely away from this identity problem. Bee hobbyists are content in northern Wisconsin and there's also room for the commercial beekeeper. While this Lake Superior country will always be known for its skiing in the winter and its fishing in the summer, it is nice to know that beekeeping has finally found its place up north.□

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