Gleanings in AUGUST 1980

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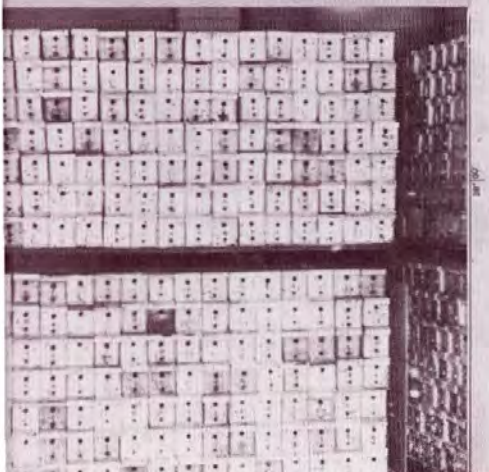

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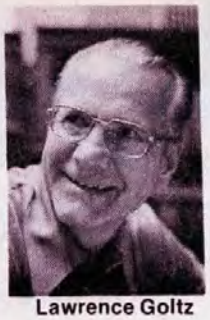

Lawrence Goltz

Gleanings in Bee Culture

August 1980 (ISSN 0017-114X) Vol. 108, No.8
Created to Help Beekeepers Succeed
107 Years Continuous Publication by the Same Organization

Lawrence Goltz, Editor
THE A.I. ROOT CO., PUBLISHERS
P.O. BOX 706
MEDINA, OHIO 44256

John Root, Associate Editor
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Rebecca Hall, Sub. Mgr.

Subscription Rates: United States subcribers, one year, $8.75; two years, $17.25. Single copy $1.10. Other countries including Canada, Pan American countries and Spain (U.S. Currency only), $1.50 per year additional for postage. Published monthly. Discontinuance: Subscription stopped on expiration. Change of Address: Give your old as well as the new and print the name to which the journal has heretofore been addressed. Remittance should be sent by post office money order, bank draft, express money order or check.

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

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

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

Advertising rates and conditions will be sent on request.

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COVER STORY

Some scenes of California beekeeping. Counter clockwise (from upper left) are: Sue Cobley of the Bee Biology Lab, U.C., Davis, CA.; queen rearing yard of C.F. Koehnen & Sons, Glenn; queen mating nucs stored at C.F. Koehnen & Sons; citrus grove east of Fresno; checking for queens and making nucs at Homer Park Apiaries, Palo Cedro; a bee cage and funnel used to bring bees in from outyards to stock mating nucs at C.F. Koehnen & Sons. See "California — Big In Bees" in this issue.

CONTENTS

Diary Of A Beekeeper

PART TWO

By A. SUMMERS
Roslyn, N.Y.

"... he said they probably wouldn't survive the winter."

Winter Manipulations

THIS PRESENTATION will deal with my number one colony. After acquiring 4 colonies of bees in double hive bodies, but no supers in mid spring of '78, I had no extra equipment at all when a swarm was found settled on a pear tree near the colonies. The only hives I could locate were a complete 8 frame set of 2 hive bodies, 2 shallow supers, top cover, bottom board, inner cover and queen excluder. These I grabbed and headed down where the swarm was still waiting and hived on foundation. My beekeeper friend looked at them a few times and in the fall he said they probably wouldn't survive the winter. Likewise with hive number four, mentioned in my previous article (July 1980).

THE DIARY

Feb. 1, 1979. — Gale winds.

Feb. 3 — Temperature 22°. #1 Hive shifted 1 inch between shallow super and bottom hive body. When I pushed them back together they felt rather light so I pulled off the covers and checked. NO honey at all. All bees were in shallow super, none in bottom — except for 2 handfuls dead on bottom board. As I had no shallow frames with honey, I decided to transfer into a full sized body. Temperature was now 25° — rear of pickup truck was work bench. About a 5 frame cluster in the shallow super. By the time I brushed them into the full sized super, the bed of the pickup had dozens of half frozen bees scattered all about. Borrowed 3 frames of capped honey from my nasties.

As another hive cover and cement block were on the ground, I decided perhaps it was not the wind after all so moved all 5 colonies up near the house. By this time temperature was up to 30°.

Feb. 23 — Temperature - 40°. Discovered #4 (tree colony) combined unsuccessfully with resident colony. So, used all honey from this colony to add to #1.

March 2 — 55°...all 4 hives flying.

March 21 — 55°..a few brood cells in a hive body (bottom). Queen present.

March 30 — 72°..all hives flying, # one weakest. Pollen coming in strong — clear yellow, willow; golden yellow, crocus; greenish-yellow, brown, elm.

April 21 — # one with brood top and bottom. Bottom cleats removed. Upper entrance removed.

April 29 — Added hive body with foundation under the two hive bodies, becoming bottom A. Added super also.

May 10 — 90° added 4 ¼ x 4 inch cleats to inner cover to provide upper ventilation.

May 20 — Lots of brood and honey. First sealed honey.

May 31 — About 2 dozen bees fanning air out. With the upper air vents provided May 10 no bees fanned air in for balance of year.

June 5 — Checked #1, no sign of swarms.
A: lowest body, average weight.
B: middle hive body, average weight.
C: upper hive body, full of honey. One super full, added 2nd super.

June 17 — Moved #1 a few feet into shade. Placed bee escape under super.

June 18 — First super almost capped. Seconds mostly empty. Over 1000 bees hanging on hive body and bottom boards. covered colony with evergreen branches for shade.

June 19 — Installed 8 inch landing ramp.

July 9 — Removed 1 comb, added another super (3rd).

July 16 — Lots of honey and brood in A hive body. Raised C hive body over bee escapes.

July 18 — Removed 1 comb, uncapped to drain. 3 days later hardly any drained. Looks like I will have to spin out. (Have no extractor)

July 21 — Bees still in elevated C hive body over bee escapes. Some unhatched drone cells. Removed 2 more frames of honey from super.

July 28 — Removed 5 frames from super to extract. Borrowed extractor. A few drones and drone brood left with about 50 bees in C hive body.

July 31 — Extracted C hive body placed back on top to lick out. Some combs weighed 9 lbs. each, others were 7 lbs. each.

August 5 — Lifted 3 supers over bee escape.

August 11 — Removed 2 supers. Bees still in supers, no brood, so I suppose old bee escapes are defective. Find they can be taken apart, cleaned and adjusted. Brushed bees off.

September 7 — Honey in old combs of super put on hive to be licked out. Bees sure go for old combs.

October 7 — B hive body ⅓ full of honey. No brood — other 5 units empty but loaded with bees. This is certainly different from my nasties, which are nailed to the ground. Looks like #1 will about starve again this winter.

October 11 — Add super of honey with some unhatched brood from #13.

November 1 — Removed shallow super added Oct. 11. Finally empty. Either used up or carried down. Bees up to hive cover in super. Guess they didn't read the book, they are supposed to be down where the honey is.

In any case, what appeared to be a lost hive with many dead bees(stuck in the combs back on Feb. 3rd) turned out to be a powerhouse and produced over 100 lbs. of honey.

This winter all of my 9 colonies are in full size hive bodies. So, if any need help I can always steal from my nasties a few combs to help out.

This year, other than the swarm from the bee tree, my bees doubled from 4 to 8. I still was able to spin out 375 lbs. of honey and I have over 25 lbs. in 9 frames in reserve to help out #1 or others if they need help. So, I could have done worse — maybe better — but for a first year beekeeper, I'm satisfied.....thanks to reading over ten years of *GLEANINGS*, at least four times each.□

Monthly HONEY Report

LAWRENCE GOLTZ

July 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	33.00	36.00	.	37.20	30.50	30.60	33.00
60 lbs. (per can) Amber	42.00	28.80	31.80	31.80	33.00	29.80	28.50	29.00	30.00
55 gal. drum (per lb.) White		.52	.55	.52			.50	.52	.55
55 gal. drum (per lb.) Amber		.48	.55				.45	.50	.50
1 lb. jar (case of 24)	24.50	22.40	23.50	20.65	33.60	21.75	21.85	22.10	24.50
2 lb. jar (case of 12)	24.00	21.15	20.25	19.75	33.00	20.75	21.40	19.75	22.75
5 lb. jar (case of 6)	29.00	25.25	24.25	18.90		25.00	21.50	21.50	26.20
Retail Honey Prices									
½ lb.	.90		.75	.72	.90	.70	.63	.73	.80
12 oz. Squeeze Bottle	1.35		1.15	1.11	1.45	1.05	1.29	1.15	1.25
1 lb.	1.35	1.30	1.40	1.20	1.65	1.22	1.20	1.15	1.45
2 lb.	2.55	2.39	2.75	2.09	3.00	2.40	2.35	2.10	2.55
2½ lb.	3.15				3.10	3.10		3.25	3.29
3 lb.	3.80				4.40	3.50	3.50	3.56	3.80
4 lb.	5.00	4.49		4.09	6.80	4.35	4.25		4.90
5 lb.	5.75		5.19		7.30	5.50	5.00	5.01	5.25
1 lb. Creamed			1.41					1.32	1.42
1 lb. Comb	1.75		2.00		1.75	1.70	1.80	1.50	2.25
Round Plastic Comb	1.50						1.55	1.29	
Beeswax (Light)	1.85	1.70	1.65		1.70		1.60	1.70	1.80
Beeswax (Dark)	1.85	1.60	1.60		1.60		1.55	1.65	1.75

Region 1

There were good nectar flows in May and early June, but dry weather from then on. Bees in good condition despite dry weather. More swarming than usual. Gypsy moth causing damage. Honey sales remain fair with good stocks on hand.

Region 2

No change in honey market. Bees in excellent condition and have stored above average honey to date. Swarming was a problem. Honey flow is promising for fall.

Region 3

Bees in good condition. Honey flow is variable. Rainfall showing local variations. Too much rain in Indiana, short in Illinois. Ohio and Wisconsin have about average rain. Clover abundant in Ohio, basswood had about average bloom. Beekeeping interest on the upswing with 300 new beekeepers registering in Illinois. Demand for honey up.

Region 4

Colonies reported in excellent condition in Minnesota, Many quite heavy from early spring flows. Having a dry spell in Minnesota and this may affect white clover and alfalfa. If basswood and alfalfa produce, there may be a good crop in Minnesota. The first three weeks in July is the critical period here. Honey sales are reported good in Minnesota and Nebraska but little movement at retail or wholesale in Iowa. Honey flow is good in Nebraska despite some severe weather. Honey flow from sweet clover good in Nebraska. Promise of good crop in southwest Iowa.

Region 5

Honey flow from tulip poplar was spotty in North Carolina due to areas of drought; a light flow in West Virginia. Drought continued through June in North Carolina, just about destroying flows from nectar plants. Basswood did not bloom in West Virginia.

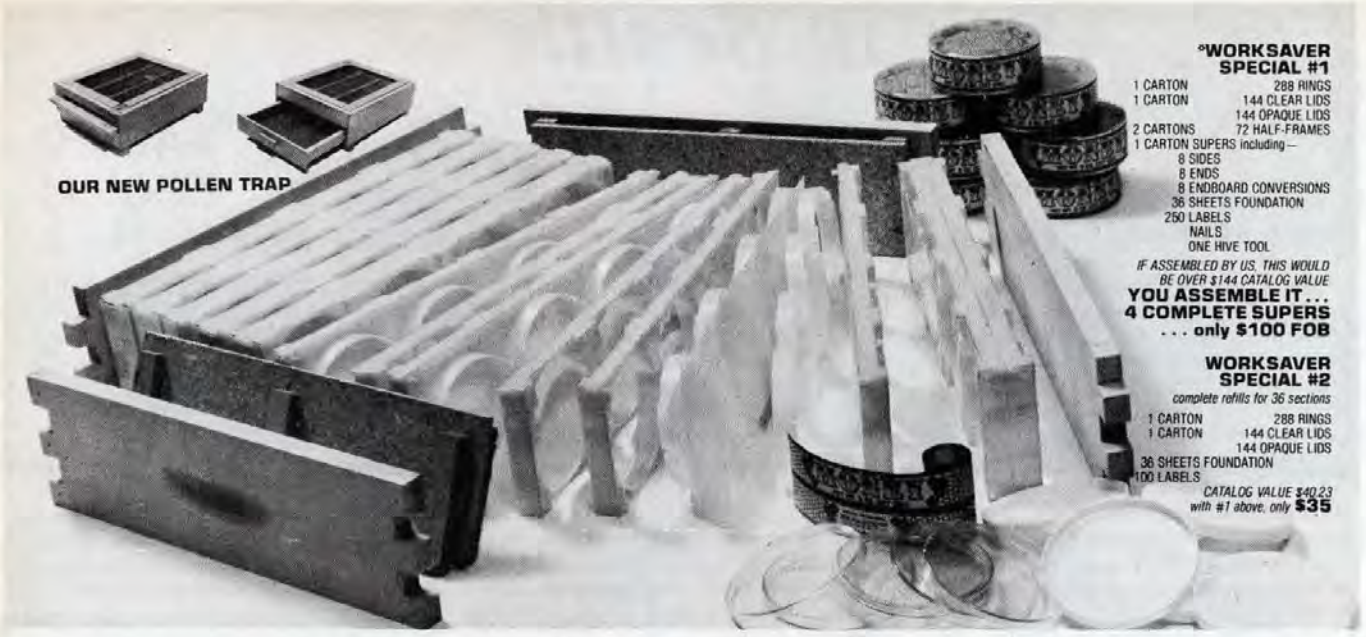
Region 6

June was dry in Kentucky until late in month. Amount of surplus honey on hive is below normal at end of June. A good July turnabout will be necessary to avoid a poor season in Kentucky. Best flow in several years in Tennessee and the quality is fine. Honey sales below last year in Kentucky.

Region 7

Due to dry weather, southeast Oklahoma will have poorest crop since 1968. In Arkansas holly, tupelo and rattan were non-existent and spring honey flow

continued on page 438



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Let's Meet in Seattle

"...sorry there has been no ash in Seattle..."

By P. F. THURBER
Kirkland, Washington

YOUR AMERICAN BEEKEEPING FEDERATION 1981 Convention Committee has news for you. We are still here and working in Seattle on convention plans and arrangements. Yes, we know the mayor of Chicago would not attend a meeting of mayors here, and yes, a mid-west radio station called a Seattle radio station asking the announcer to rush outside and get them a sack of ash. Well the absence of the Chicago mayor lady really wasn't noticed, and our radio station told the mid-west people "sorry there has been no ash in Seattle" and that the station manager was declaring himself a candidate for the U.S. Senate. I suppose neither was reported by the mid-west station.

All kidding aside. There has been no ash fall in Seattle or in the Puget Sound area. Vulcanologists and geologists tell us more activity is likely at Mt. St. Helens, but when the media interviews say a handful of experts, only the most dire predictions are quoted...Of course there was a classic goof: a major news magazine showed a picture of what they said was a Seattle police officer standing in ash directing traffic. Well, the policeman was from Yakima and he was directing traffic in Yakima. That city is across the mountains a good three hours away on the freeway. Mt. St. Helens itself is, I would guess, about two hundred and some miles away.

Now what is the situation with Mt. St. Helens, and how could activity affect your plans to come to the convention? First, the big blast blew off the top and made a huge hole. The second blast threw out only heavy ash, and now the volcano is venting only steam. There are signs that the type of activity is changing. Some experts think that lava will fill the hole and then build a new dome. Second, there could be other ash falls, but people who have lived in Seattle for a long time will tell you a wind from a most unusual direction would have to be blowing at the time of the ash activity for it to come to our area. The probability of the two occuring simultaneously seems rather remote. Third, the major highways of the State are already fully reopened, and while the State was hurt and hurt bad in some areas, Mt. St. Helens seems to be already becoming a tourist attraction. Incidentally, if somehow you get conned into buying some souvenir Mt. St. Helens ash, don't throw it away. It is a fine scouring powder, and mixed into melted beeswax would make a fine buffing compound. It is also good fertilizer.

Probably you have all read about people driving their vehicles or flying their planes in areas where there is ash. The reports of damaged or destroyed engines are true, but we are talking about a convention in the winter, which is our wet season and snowy in the Cascade Mountains and on the Eastern side of the State. By January rain, snow, plowing, and the extensive ash removal program should let you drive to Seattle with no worries if you so desire.

Now that I have, hopefully, restored your courage, let me tell you a little about Seattle. It is a pretty city of about 750,000 people with many tall, handsome buildings. The business district is fairly level and is surrounded by hills covered mostly with single family residences. Seattle is a major seaport which services big ships from all over the world and a large fishing fleet. Our buisiness district overlooks the waters of Puget Sound and many import shops and fine restaurants as well as specialty shops and good department stores are available to the shopper. On one side of Seattle is Puget Sound and on the other a magnificent lake where the hydroplane boats race each summer. Beautiful homes line the shores of all waterfront property whether it be salt or fresh water. Any idea you might have that Seattle is populated by only fisherman, lumberman and Indians is just plain not so. We have many light industries including electronics, many service industries, and in addition the airplane business. We build the best and by far the toughest airplanes in the world. To use a local expression Boeing planes are "hell for strong".

We have several art galleries, many museums, a science center, the University of Washington, Seattle University, several Community (Junior Colleges) Colleges, a ballet company, and an opera house. The Seattle symphony is well known in the musical circle, and we support several drama groups. We do not lack in the Arts.

In the Sports field, we have the Kingdome which features the games of the Supersonics (basketball), the Mariners (baseball), and the Seahawks (football). Also there is the Coleseum where ice hockey is played.

Really, Seattle is very nice except it is no place to get a summer tan. With a climate similar to Mid England the Puget Sound area is an "iffy" place to keep bees.□

HONEY REPORT

Continued from page 435

was down due to drought. Northern portion of Arkansas having rain. Soybean, goldenrod and spaninsh needle will need rain to produce. Soybeans will be late in Arkansas. Average honey sales. Very, very dry in Texas. Mesquite bloom average. Ligustrum and chinese tallow bloom was short, but good. Cotton bloom looks promising. Most stores report good honey sales.

Region 8

Most of Colorado is dry. Bees are heavy in population except in southeast part of Colorado where spray has caused heavy losses, especially in Arkansas River Valley. Abundant rain and cool temperatures in Idaho delayed beginning of honey flow from Alfalfa. Alfalfa has grown tall due to abundant moisture but is being cut before bloom forms. Eastern Montana has severe drought but remainder on a good nectar flow. Bees in western Montana suffered about 15% loss from Mt. St. Helens' eruption but colonies were strong and should recover well. In Montana it will be a bumper year for some beekeepers and a poor year for others depending upon location in relation to the drought line. Honey demand and sales are reported normal in Colorado with prices remaining firm.

Region 9

Wholesale honey prices up a little, but retail honey sales reported down some in state of Washington. Mt. St. Helens ash and cool, wet weather has cut honey production in North West, but honey crop in Eastern Washington could be good with plenty of sunshine. Extracting started late in Oregon. Orange honey crop was very good in California. Buchwheat and sage honey crop expected to be average to excellent. Soil moisture conditions above average. Alfalfa seed pollination rentals run $17.00 to $18.00 per colony. Average of 3 colonies per area used. Bee colony strength is generally good with most bee pasture in good condition.

California — Big In Bees

"The eruption was taking place on sunday morning..."

By LARRY GOLTZ
Medina, Ohio

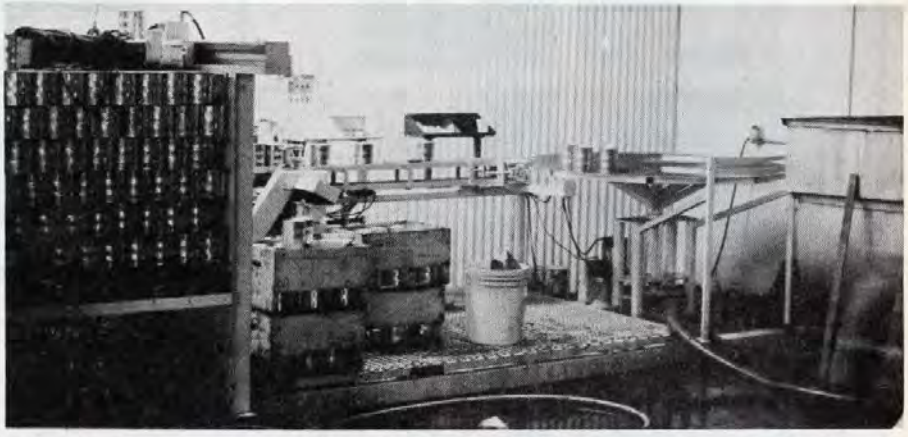
I WAS OFF to a good start. To begin my two weeks of taking a first hand look at Central California beekeeping, an early morning meeting with Dr. Norman Gary at the University of California, Davis campus, netted an invitation to join Dr. Eric Mussen, Dr. Lionel Goncalves and Dr. A.C. Stort on a full-day tour to the apiaries of two package and queen producers in the Sacramento Valley. Dr. Mussen is the extension apiculturist of California, with an office in Briggs Hall on U.C. Davis campus.

At the end of my two week tour, I visited Eric at his office on campus.

"I have a good view of the Pacific fronts moving in" said Eric as I peered out of his west window, eyeing the threatening stratus clouds rolling in from the Pacific. "A cold front means rain here" said Eric.

Sure enough, a light shower within the hour and heavier showers later in the afternoon proved him to be an accurate forecaster (the only rain I experienced during the two weeks of almost constant sun).

In the central valley of California, the Sacramento in northern California and the San Joaquin in central California, water is a prime requirement of all agriculture. Water is conveyed to the wide valley by aqueducts from the coastal and especially the Sierra Nevada Mountain ranges to the west and east. A complicated network of conduits carry melt water from the high Sierras across the great valley. Spring melt water rushing down the Sacramento, American, Merced, Stanislaus, San Joaquin and other west-flowing rivers are trapped for storage water circulated through the 65 mile wide valley which would otherwise have all of the characteristics of a full-blown desert. The system of canals carrying the irrigation water is extensive. The principal conduits are wide cement-lined channels carefully engineered and constructed to carry a maximum of water to thirsty farms of field crops, vineyards and orchards. Some of the ditches appear to be of an earlier period, banked of earth and covered with low growing vegetation and grass. Birds of aquatic habits and some fresh water marine life subsist in some of the "sloughs", I observed. A lone sandhill crane, attracted no doubt by the watery environment was feeding in a bordering cotton field as I was driven through the alfalfa seed producing area near San Joaquin by Ken Selzer.



Feeder cans to accompany package bees are filled with the correct amount of syrup on this conveyor at C.F. Koehnen & Sons.

Bill Koehnen in one of the workshops where equipment used for filling packages is stored.

My first day in California was an introduction to a phase of beekeeping practiced in the Sacramento Valley which was new to me: package and queen production. Unfortunately, I arrived too late in May to see the vast number of packages being prepared and shipped; but queens were still being caged and shipped to fill orders (mostly from Canada and the western states).

The first stop of our four-party tour was at the home of Clarence Wenner of Glenn. "Clarence is an innovator", I had several beekeepers tell me. "We owe the use of some of our improved methods and materials to the pioneering spirit of Clarence, who was not afraid to try and also adapt new things to improve beekeeping", they said. No doubt he is regarded as one of the 'deans' of present day beekeeping in the Valley. For example, he stimulates his colonies to maintain a high

(Continued on page 442)

CALIFORNIA — BIG IN BEES

Continued from page 440

population level by supplementary feeding of sugar and pollen supplements. Bags of torutein yeast and a more complex mixture for use as soon as natural pollen begins to drop off in the fall, or later in the summer, wherever his bees are located. Mr. Wenner has two capable sons who will someday have full management of the business.

The invitation to the Wenner residence allowed us to meet another gracious host, Mrs. Wenner, who had just baked a batch of cookies (with honey, of course) which was soon reduced to a fragment of the former number, with cool refreshments to accompany.

A novelty in the garden of the Wenners were several Kiwi vines which bear a fruit introduced to California from New Zealand, as was my understanding. They were in bloom. Oranges hung from a tree and tea-cup sized magnolia blossoms were drawing bees by the hundreds. The Wenner garden gave us our first look at the peculiar bottle bush, which was also swarming with bees, probing gingerly between the long bristle-like stamens. The flowers, red in color, bore a startling resemblence to a cylindrical bottle brush.

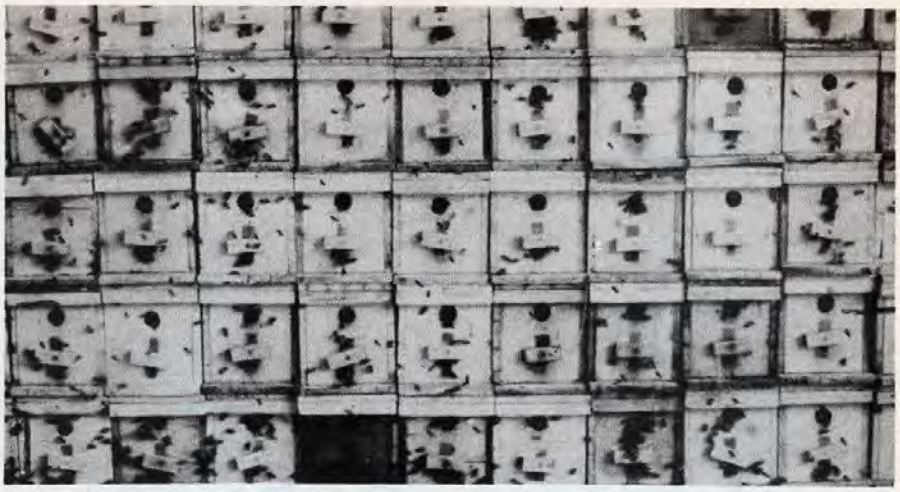
Mr. Wenner described his package bee and queen raising following the refreshments — which were a pleasant break after the one hudred plus mile ride from Sacramento. We saw cell starter and cell building colonies; colonies in top condition built up by careful attention prior to and during the queen rearing period. The packages are prepared and then held for shipment or customer pick-up in a large shed conditioned by cooling fans along one wall.

"Packages generate a large amount of heat" explained Darrell Wenner, one of two sons.

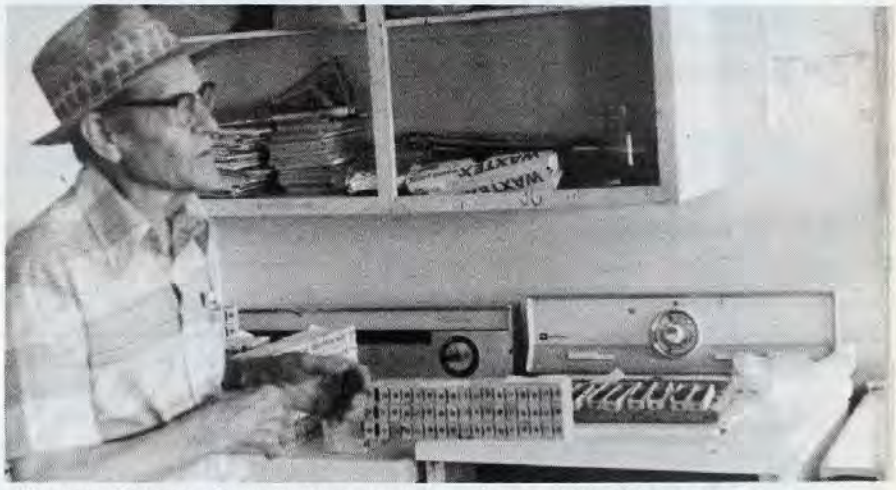
Out in the queen rearing yard, I was interested in taking a look at Clarence's Curneen blacks: a strain of bees which he has maintained (pure) by means of artificial insemination. The bees have an interesting history, dating back to the early years of the century when they were rescued from likely dilution by propogation at the Wenner's home bee yard.

"Just a moment while I get the smoker" said Clarence. We had been examining the comparitively quiet Italian bees while the smoker rested unused on a hive top. Opening the hives of the Curneen blacks was apparently another matter. They were on their good behavior. For some 50 years this strain had been propogated in the Redwood coastal area of California by Mike Curneen, especially

(Continued on page 444)



Queen mating nucs were being brought in from the field for storage. The bees were a maelstrom but they were in a confused rather than a stinging mood as the poured from the nucs being stacked for storage until next spring.



Clarence Wenner shows us how queens are prepared for shipment. ↑

Bees in the citrus orchards. These bees were probably ready to be moved. They were very testy, possibly having already been touched by the first sprays applied after the citrus has bloomed. ↓

CALIFORNIA — BIG IN BEES

Continued from page 442

adapted to gather good crops of honey under cool, moist weather conditions. (See *GLEANINGS*, 102 No.7, July 1974, Pg. 216-217 "Curneen Blacks".)

Bidding goodbye to the Wenners, we had lunch and then went down the road to the home and business-place of the C.F. Koehnen Sons. Orchards lined the road on each side. Eric pointed out the various nut trees as we passed. Almonds and English walnuts predominate in the valley, the English walnut trees are rather easy to identify by the prominent "graft line" where the English walnut scion is grafted to the black walnut root stock. Irrigation water is again the key element in producing fruit and nut crops. Another factor in producing almond nut crops is the very significant role of the honeybee, as a pollinator. Almond growers contract with beekeepers for thousands of colonies of bees to be moved into the almonds in the central valley, between January 15th and March 30th. The average rental fee has been $18.00 to $20.00 per colony.

Our next hosts, the Koehnens, are not only package and queen producers but also are growers of nut trees. This is a large operation, supervised by Bob and Bill Koehnen, brothers who have expanded the business inherited from their father. Cell starter, builder and breeder colonies were in neat rows among the numerous buildings used for the various activities which went on during the peak periods of package bees, queen preparation and nut harvest. The size of the operation permits specialized tasks to be assigned to many of the personnel. Two attractive girls were building wood shipping cages — for 1981 shipment of packages. A machine built to cut strips of specially milled wood stock into queen cages was housed on one building, thousands of partially finished queen cages were binned nearby for future use. A vehicle service and repair building dwarfs many city garages. A new truck was being fitted with a wooden bed when we walked through the modern service building.

If a customer's truck comes in for a load of package bees and brings along cages for filling, as is often the case when large quantities of packages are purchased each year, the cages are unloaded on a conveyer table where they are fit with filled syrup pails and checked for needed repairs. The packages are filled using specially designed metal funnels and "pots", holding exactly the right amount of bees to go into the cages. The "pots" are all the same weight and tared to weigh zero on the scales. A two, three or four pound counterweight is used to set the scale. Then bees are added to the pot until the needle goes back to zero. All of the "pots" have a capacity of six pounds of bees.

Homer Park apiaries at Palo Cedro, Breeder, cell starter and cell finishing colonies make up this group of hives.

Long before the Koehnens ship a single package or queen, preparations must begin to prepare the queen rearing colonies. They are prepared in the home yard, bees are added (if necessary) from colonies built up by feeding sugar syrup and pollen supplement, if natural forage is short. If the outyards are in locations which yield nectar and pollen — so much the better. Forming the mating nucs is an assembly line.

Becky Westerdahl stands beside a micro wave oven in which bees are placed to test their reactions to low levels of radiation.

"We evolved a system that seems to be working", said Bill Koehnen. "At first we had some hitches but, after some adjustments it worked smoothly. The small wooden nucs with the undersized frames are filled with two drawn combs, the queen cell added, the third frame inserted and the small feeder filled and put into place. A tinned meat can "dipper" measure of bees is added from a metal cage brought in filled with bees from outyards. The completed nucs are stacked on pallets and taken out to the mating yards.

Every detail takes on added importance in an operation of this size. Feed cans for the packages are filled from bulk tanks in a measured volume on a continuous flow conveyer. Bulk sugar syrup is stored in a row of tanks filled by tank trucks which deliver the ready mixed syrup to the package producers in the Sacramento Valley. Glenn County, where the Koehnens and Wenners are located was second to only Shasta County (at the northern end of the valley) in value of package bees and queens produced in 1979, in California. Pollination fees paid in Fresno County far exceeded any other county in 1979, as did the pollinated crop value.

Feeding the cell builder and finishing colonies varied in method from one producer to another, but one gallon rectangular cans with an approximately one inch diameter perforated cap inserted through a hole in the hive cover is a fairly universal method. The inside of the can is coated with a paraffin to prevent rusting.

Hives used in California, and elsewhere in the West, are different from ours used in the East and Mid-west. The dry

Continued on page 446

CALIFORNIA — BIG IN BEES

Continued from page 444

climates permit the use of wood covers. Entrances, approximately 3/8" deep are considerably reduced from the 7/8" commonly used in the East. Cleated bottoms and tops allow stacking on trucks for the considerable moving required in California commercial beekeeping. Placing bees on pallets has its advocates, though the practice is not universal. Loading booms handle individual hives in and out of pollinations sites when hives are not on pallets.

"It is not uncommon for some of our honey producers to move a bee yard five times during the season," said Ken Selzer; who operates about 800 colonies in the San Joaquin-Helms area in the San Joaquin Valley, west of Visalia. "Each nectar source has a distinct habitat and blooming time", said Ken.

L. to R., Dr. A.C. Stort, Brazil, S.A.; Dr. Norman Gary, University of California, Davis; Dr. Lionel Goncalves, Brazil, S.A.; Kenneth Lorenzen, University of California, Davis. Photo was taken at the U.C., Davis, Bee Biology Laboratory, Davis, California.

Some beekeepers begin their season by building up for almond pollination. If they can get the colonies into the foothills they can catch the early pollen plants. Others take their bees to the citrus orchards. As soon as the citrus is finished blooming and before the sprays are put on they move the bees out of the orchards into the holding yards where they are kept until the alfalfa hay fields begin to bloom or until they are needed for alfalfa seed crop pollination. A good quality citrus honey crop was gathered in California this spring. Extracting begins in early May.

Ken Selzer is in the middle of some of the most productive alfalfa seed areas.

"Other areas may produce a greater variety of seed", said Dr. Mussen," but the central San Joaquin, which Ken is in, is the most productive in terms of yield".

In alfalfa seed production in the Imperial Valley of California a seed crop is set in less than two weeks and harvested. The crop is about one-half the San Joaquin crop, but it doesn't tie up the fields very long from hay production. A new seeding of alfalfa (fields run to a hundred acres, often more) is clipped to increase the number of flower stalks. The earliest formed seed must be retained by the plant until the final seed is set and matured, weeks later. The skillful application of irrigation water is an important part of the strategy. A little yellowing at the base of the alfalfa plants showed up in a field that Ken and I passed during a tour in his pickup.

"He had better get some water in there soon", commented my host. At another field Ken checked, he pointed out the lack of blooms. "He isn't ready for bees yet" Ken remarked. The location we had first visited already had Ken's pollinating bees in place, the young alfalfa field had a fine bloom of bright blue and white blossoms. The field was well watered. "This seed yield could run to about 1000 pounds per acre", said Ken, who usually contracts to bring in several colonies per acre.

Ken was selected California Beekeeper of the Year in 1979.

We wound up my first day in California by dropping Goncalves and Stort off at their temporary residence near the Davis campus. Eric let me out at my motel. Even though it had threatened rain in the morning, the showers came no closer than the foothills to the west. It was the last "threat" until the day before leaving California. Every day was virtually cloudless and most days were in the 80 to 90 degree (F.) range. It is noticeably cooler at the higher altitudes in the mountains and along the coast of northern California and Oregon. Rainfall is considerably greater along the coast, on the west side of the coastal mountains, but, apparently, not as heavy as along the coastline of western Washington State and the Olympic Penninsula. The central valley of California has about 10" annual rainfall. A heavy snowfall in the Sierra Nevada mountains the past winter was pouring a good supply of spring melt water into the great valley as I traversed from northern to central California.

On my second day, I visited Dr. Norman Gary at the Bee Biology Laboratory. This facility is impressive. A couple miles from the U.C. Davis campus. it has a main building housing experimental labs, administrative offices and classroons. Behind the main building is one containing the project which is currently involving bees but not directly related to beekeeping. Bee behavior is being evaluated under the influence of microwave radiation. The Department of Energy funded project is designed to test the effect of solar power satellites on invertebrates near the energy receiving antennae at ground-based stations. Placing honeybees in cages and monitoring behavioral and physiological changes, if any, is the responsibility of the staff under Becky Westerdahl. Dr. Christine Peng, whom I did not meet, is doing research on bee nutrition and queen bee instrumental insemination.

I came away from the Bee Biology Lab, at Davis, impressed by the extent and diversity of the teaching and research work being done here. The graduate students in apiculture come from all over the U.S. and from around the world. General instruction in beekeeping is followed by the teaching of such special techniques as queen rearing. Drs. Goncalves and Stort from Brazil shared my morning visit with Dr. Gary at the laboratory.

Dr. Gary is a man of action. His innovative skills have led to several "firsts" in research methodology. A queen locating device whereby bees are removed from combs by brushing and suction, the queen and drones isolated in an excluder lined cage, promises a practical application. The metal tagging of workers in the field and a magnetic retrieval at the hive entrance allows much more accurate counting of returning foraging bees. Tags of a light metal bear several imprinted and color codes which can be selected to carry information when they are attached to the bee. Of particular interest to the visiting South Americans was the sting monitoring device designed by Dr. Gary. A motor driven wheel acts as a target for measuring the degree of agressiveness of a colony of bees. Conceivably, it would measure more accurately the number of stings delivered by an aroused colony than the felt ball

Continued on page 448

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Full 7/16" thick bottom bars.
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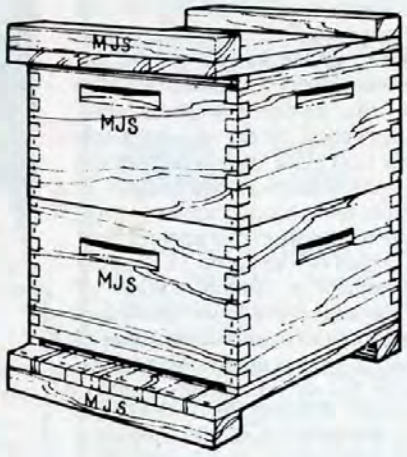
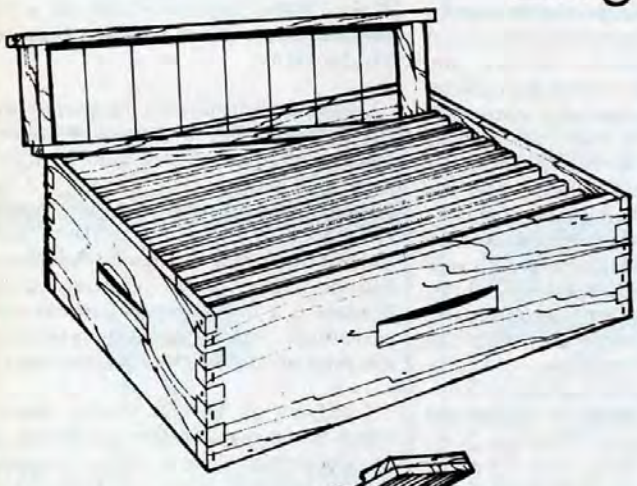
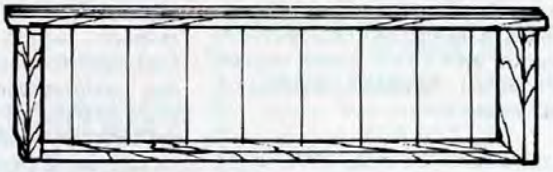
Wood Lids & Bottoms (migratory) ... per set $3.50

Pallets for bees made to order.



Custom Wood Cutting For Large Honey Producers





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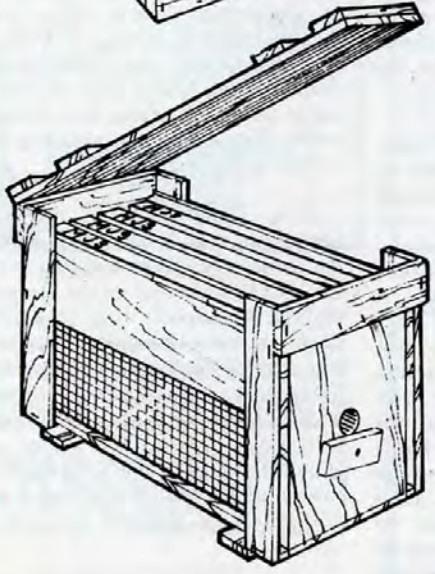

Dakota Nuc Boxes assembled ....ea. $10.00
not painted
knocked down .....ea. $8.00
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The kind Power's Apiaries use.
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CALIFORNIA — BIG IN BEES

(Continued from page 446)

and string device commonly used to measure the aggressiveness of the Brazilian bees.

"Last August, up in Dawson Creek, British Columbia you invited me to visit you in California," I laughingly told Homer Park; as he walked out of his garage at the Parks' Apiaries in Palo Cedro, in the northern end of the Sacramento Valley. Well, if you know Homer and Lois Park they are cool ones under most circumstances and a drop- in from Medina, Ohio hardly caused a ripple in the smooth flow of events around their large and efficient operation. I suppose producing almost a million pounds of honey in Canada and almost fifty thousand queens and thousands of packages of bees in Pale Cedro has taught them to surmount more that such problems as unexpected visitors. Winding up the day's activities, the Parks' extended an invitation to join them at the evening meal. This wonderful, friendly couple are a pleasure to know and one has only to visit their place of business to realize the neatness and efficiency that they and their organization maintain at Palo Cedro, near Redding. Magically, Lois Park served up a nice casserole dinner to their guests, which included a trainee for the California Bee Inspection Service, a young trainee from the Central American county of Belize and myself.

Out of fairness to the many other commercial queen and package bee producers in the Sacramento Valley and the many commercial honey producers and pollinating specialists in the lower valleys I must admit to visiting only a few apiaries. These which I visited apparently are representative of the general high level of development in California beekeeping. From all reports I have heard and read of California beekeeping, this is an expectation a visitor can look for throughout the State. Competition for sites, operating expenses due to high mobility, spray problems, marketing honey and working out pollination arrangements are problems and challenges that are not unknown in other parts of the commercial beekeeping world, but there are some very intensely competitive conditions in California that call for a degree of cooperation and skill that may be unique in the world of beekeeping.

"How do you get along with the aerial sprayers?" I asked Ken Selzer down in the San Joaquin Valley.

"Well, we're often times friends and neighbors, and at least business associates. They recognize our problems and we as beekeepers respect the necessity of their doing their job. I keep them informed of my locations and they strive to use sprays selectively and of low toxicity to bees wherever possible."

Ken Selzer looks over a comb of his 1980 crop of orange blossom honey.

Not Ken's exact words, but in essence this is the story of cooperation and mutual respect, which usually allows the beekeeper to maintain a working pollination service under the intensive spray program practiced in this field crop area of the valley. The small airfield I stopped at to take some pictures was home base for some very business-like looking planes — "armed" with trailing hoses and nozzles that could deliver pesticides at a high rate as we witnessed many times overhead, up and down the valley. These small planes, including some biplanes, also seed the ricefields and spread fertilizer.

Passing through Madera, I telephoned John Allred.

"Come on out", said John after Helen had called him to the telephone from his shop.

I drove several miles out to their comfortable California ranch style home on "Honeybee Lane". John produces queens for sale and also something rather unique: queen cells and virgin queens — for those who wish to purchase them for requeening instead of mated queens.

"I have only a percentage of the production cost of a mated queen invested in a virgin queen" said John, "and I price them accordingly." Queen cells go for correspondingly less. The virgins hatch out in wire cylindrical cages to protect the other cells on the cell bar from destruction by the first queen out. Cells must be handled skillfully; if not exactly delicate, they are highly sensitive to temperature and to humidity drops. A molded plastic carrier warmed by a thermos of hot water protects the cells until they reach the buyer. Some buyers call for the cells to pick them up while others have them shipped by plane.

John was finishing up his queen rearing for the year. For a couple of hours we talked about beekeeping and agriculture in general in his part of the valley. A form of honeydew is produced in the foothills. It is dark in color, has a flavor unlike floral honey and is favored by some in Europe. The grape growing around Madera is a highly specialized branch of agriculture. Again, irrigation is the key to the productivity of the vast vineyards.

I did not go beyond Visalia, south of which is the major honey producing area of California, I was told. Sometimes surplus honey is produced in conjunction with pollination, bees being taken to the citrus for the honey flow and later taken out to pollinate alfalfa seed fields, for example. Few queen and package producers try for a honey crop.

With some of the "business" of beekeeping out of the way, I drove across the coast range from Redding to Crescent City, California and up the Oregon coast. Outside Brandon I "met" my first swarm of the season — head on — on Route 101. The swarm flew on, a few dozen bees lighter after our collision. I turned inland at Reedsport, Oregon to visit Lee White who makes the "B Flat Scale" and sells Ross Rounds. Lee was working at an extra job so only a limited time was available to talk about his growing business and for visiting.

(Continued on page 450)

CALIFORNIA — BIG IN BEES

(Continued from page 448)

With the business of Mount St. Helen's erupting one hundred and fifty miles to the north I decided to continue my trip southward. The eruption was taking place on the sunday morning I was peering down into another volcanic crater — one now fortunately dead, Crater Lake. It must be one of the most marvelous sights of the western United States. The lake, over 1,900 feet in depth, is a deep blue which mirrors the evergreens growing on the crater rim and the white clouds passing overhead. Sixteen to eighteen feet drifts of snow remained around the lake(this is in the latter part of May).

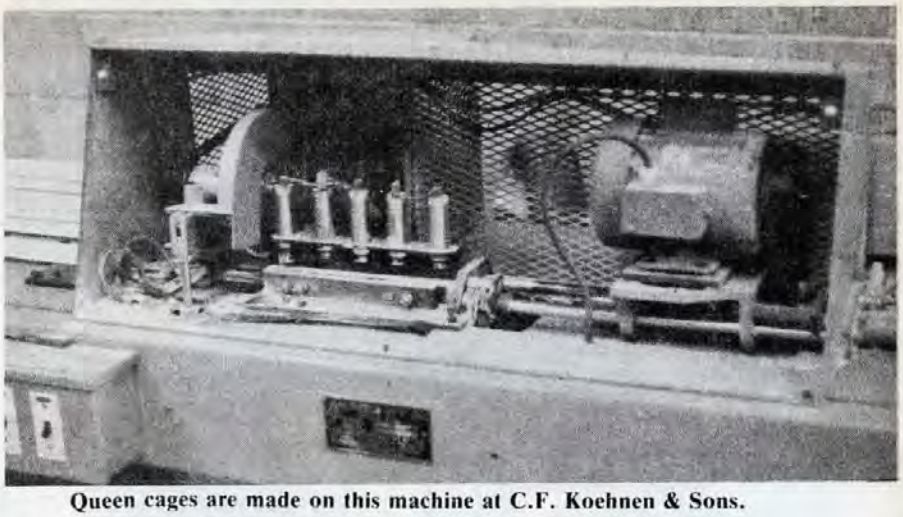
And so it went, southward into California to Lassen Volcanic National Park; it, too, with summits covered with a blanket of softening snow. The entrance roads were clear of snow. Only the routes to the upper reaches of the parks were closed. I eyed the bubbling hot springs on Mt. Lassen, trying to contemplate objectively the great volcanic forces beneath the thin rock surface on which I stood, almost alone, on this giant mountain.

South from beautiful Lake Tahoe, I passed through the historic region of the early gold discoveries in California. I had hoped to enter Yosemite National Park from the east side but (9,941 feet) Tioga Pass was still snow-blocked. Coming into Yosemite late in the afternoon did not allow for time to drive up the valley, which must be spectacular. The policy of limiting accomodations in our National Parks is intended as a measure to preserve their naturalness. For the day visitor, the casual tourist, this lack of park (and even nearby) accomodations must be taken into consideration when visiting many of the western parks in the United States and Canada.

Kings Canyon and Sequoia National Parks will be long remembered for the giant trees which rival the coastal redwoods for their height and girth.

The first time visitor to the central valley of California must certainly be impressed by the extent and high level of development of the agriculture. Here is the ultimate in agricultural specialization. Fruit and nut trees are grown in the central valley around Sacramento, rice in lower Sacramento Valley, field crops (wheat, cotton, sugar beets, alfalfa and the bristly safflower) in the upper San Joaquin Valley and citrus in the central and lower San Joaquin Valley. Other crops are hardly indentifiable as the young plants begin their early growth in May.

Large dairy herds are a common sight in central California. One, which I visited in the Visalia-Fresno area, contained several thousand head of Holstein milk cows.

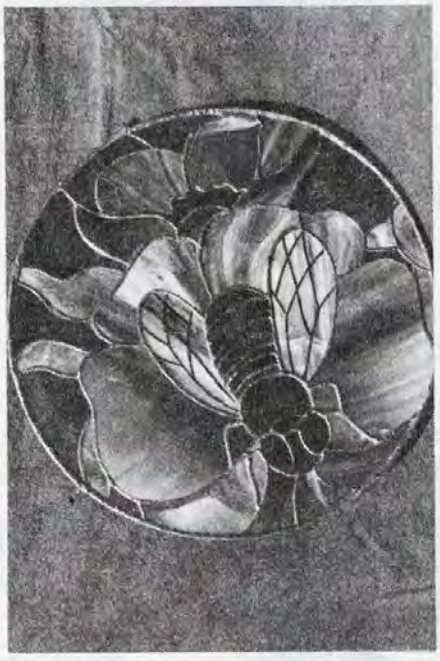


Queen cages are made on this machine at C.F. Koehnen & Sons.

Milking goes on around the clock, I was told. From what I could observe the cows are always confined to the feed lots. Quite different are the beef cattle ranches of northern California. In the lush green valleys of Northern California and lower Oregon the grazing cattle make a pretty picture, sometimes with snow covered mountain peaks in the background.

What makes California agriculture, especially the commercial beekeeping, different? I suppose it is the serious business of remaining competitive. Midwestern bees can adapt to the rather severe northern winters, the usual moderate losses can easily be replaced during a vigorous growth period in the spring, but the western bees appear to suffer a continuous stress from dearths of fresh nectar and pollen for long periods. The intensity of the agriculture in the central valley contributes to this imbalance, an alien climate for those honeybees which are not continuously moved to favorable new sites throughout the long growing season.

Some other areas of California, the San Francisco area and others in the southern portion of California, support hobby beekeeping — much of which takes advantage of the rather diverse nectar sources that California offers. I hope to see more of this on my next visit.□



THE STAINED GLASS BEE

This round 18" stained glass panel is owned by beekeeper Ron Speaker of Davie, Florida. The flowers are a vivid orange red with accents of yellow, blue, and green.

Other original design stained glass panels and lamps are designed by Elaine Mattmann of Kaleidescope Dimensions, 3111 S.W. 68th Ave., Miramar, Florida 33023.□

The Gist Of Our Reaction To The House Appropriations Committee Recommendations For An Experimental Indemnity Program

"...the program has been the butt of jokes and puns..."

By GLENN GIBSON
Minco, OK

ON JUNE 17, the House Appropriations Committee completed the mark up of the fiscal year 1981 Agricultural Appropriations Bill. The Beekeepers Indemnity Payment Program was discussed on pages 59 through 61 in the report which accompanies the bill. The Committee appropriated $1.5 million to fund an experimental indemnity program. After reading the report and talking with a number of beekeepers over the country, we felt that we should advise the Committee of out attitude toward the proposal.

The main points of the Experimental Indemnity Program are:

1. Funding $1.5 million for FY/81.

2. Register all colonies January 1.

3. Eliminates the moderate loss category.

4. Only 10 percent of bees registered will be eligible for payment.

5. Urges the Department of Agriculture to tighten the rules.

Recommending an experimental program indicates that the Committee does not want the program to die, but from a practical standpoint we feel that it will do very little on the long range problem of bee kills. In the following paragraphs I will outline our memo which was sent to the Committee. I hope we have disagreed without being disagreeable.

OUR BIG PROBLEM — ADVERSE PUBLICITY

From the beginning the indemnity program has been the butt of jokes and puns. These resulted in a rash of adverse publicity. One need only to read the Honorable Silvio Conte's remarks in the Congressional Record to get a grasp of this problem. We realize that indemnity programs are never popular beyond the recipient. This is one of the reasons we have never felt that the indemnity route was a solution. Regularly, our statements before the congressional committees stressed the need of a long range solution rather than a temporary "band-aid".

Recently we told the Secretary of Agriculture, "Even though the program is no more than a 'band-aid' and should be discontinued as quickly as possible, we will need it until some relief is forthcoming."

We feel that the main reason for uneasiness about the program in the halls of Congress was caused by the rash of adverse publicity which has appeared in the news these past 2 years. The style in which this news was written tells more about our problem than the factual quality of the releases. To defend the program invites Conte-like speeches garnished with pun and verse. Most of this adverse reporting was generated from statements made by personnel in the Department of Agriculture. For instance, technical information has been misinterpreted and rumors have become facts.

THE NEW YORKER gave bees some publicity in the April 9, 1979 issue. The article contains very few facts — quoting unnamed officials in the Department of Agriculture. I will quote SOME of the erroneous publicity in this article originated in the Department of Agriculture:

1. Unnamed federal officials are credited with saying :

...the program is subject to abuse, that it is not justified, that it discouraged beekeepers from looking after their bees...

Certainly the program is subject to abuse, but this would not happen if the Department of Agriculture's inspectors were honest and did their job right. It is difficult to imagine how the program would cause beekeepers to neglect their bees. If anything, it would cause beemen to give them more attention since the program would encourage them to stay in business.

2. Unnamed officials said —

...The inspector has to make a determination as to whether the damage fits in the category "moderate", "severe" or "destroyed". The objective basis for making a judgement on the extent of damage is crazy, and there has to be speculation about the cause, too....

In plain words this gentleman does not think much of the rules under which the program operates. This is puzzling to us. This same official who implies knowledge that he doesn't have must have participated in rule making. The rules are not perfect by any means, but I do know that they were adopted after a good many discussions, and they have been used for several years without much criticism.

3. Another unnamed official speaks off the top of his head —

...Since the enactment of the Beekeeper Indemnity Program no bee has died a natural death....

This is a ridiculous indictment of the Department of Agriculture and the honey industry. This statement, we feel, has hurt us the most. It is not difficult for knowledgeable people to determine the cause of a bee's death in the bee yard where the death occurred. Bee specialists in the Department will verify this. Experienced beemen can and do make this assessment routinely without any special equipment.

4. The following excerpt is a beautiful lie —

...The Honey Producers Association comes to Washington every other July and holds a reception in the Rayburn House Office Building and gives a case of honey to each congressional office. Its operation is not very elaborate as such things go. One Agriculture official says, "About three senators, eleven congressmen and eighty-eight assistants turn up at the reception and get their free booze...."

"One Agriculture" official quoted here is a liar. We have had four receptions in the last eight years. The average attendance has been between seven and eight hundred. This includes congressmen, their staff, and officials from the bureaus. We have never served liquor at these receptions, and we have no plans to include this in future receptions.

PAID VERSUS FREE POLLINATION

The committee report gives recognition to the value of honeybees to the agricultural economy, but leaves the impression that renting bees for cash is the major part of our income. Over the years we have never made a distinction between free and paid pollination. No figures are available that will give us the slightest hint of the volume of paid honeybee pollination. Our guess is that 95 percent of the bees in the entire U.S. pollinate free. And, in a number of cases beekeepers rent bees because they are in the neighborhood, not because it is a money maker. The pollination of almonds in California is a good example of incidental contracting. In the winter months Western beemen move their bees from the colder climates to the warm areas in California, Nevada and Arizona so they can produce bees for the coming season. The small rental received for almond pollination would hardly pay for their lodging and fuel. Honeybee pollination in Washington state would hardly be possible if the beekeeper depended mainly on rentals. He has to produce honey to make money and he loses his bees while his bees are pollinating free — NOT WHILE HIS BEES ARE RENTED FOR CASH!

Figures are solely needed that will tell us how many bees are used for paid pollination. If possible, we need to clear up this point once and for all time. If this isn't done, negative publicity will continue to dominate the news about the beekeeping industry.

JANUARY REGISTRATION

In the experimental program recommended by the Committe, registration of the bees will be mandatory on January 1. This poses a number of problems. Northern beekeepers reduce their colony count in the winter and replace them with bees for the south. Some kill their entire stock and buy package bees from a southern shipper. Others kill most and haul some "seed bees" south and make their increase themselves. If conditions are right, they MAY rent their bees to a seed producer, thereby lessening the shock of high expenses. "South" in this case means the entire tier of southern states.

10 PERCENT ELIGIBILITY

The Committee recommends that only 10 percent of the registered bees be eligible for payment for severe damage or complete loss. This terminated the "moderately damaged" category and automatically eliminates more than 50 percent of the beekeeper participation. The "10 percent eligibility" clause further reduces the number who can participate. Spot checking our members who have participated in the program reveals a "forget it" attitude. They said that the compliance will be too expensive. Only the larger operators indicated that they MIGHT participate. If these attitudes prevail, we will have a program for a few big operators. I am guessing that this was one thing the Committee wanted to eliminate.

NO HELP AVAILABLE

We have asked the Department of Agriculture for help. They have proposed that the Beekeepers Indemnity Payment Program be terminated, but have not made a workable recommendation as an alternative. We are also working with the Environmental Protection Agency on ways and means to lessen our pesticide losses. Like the USDA they have no workable solutions. We are firmly convinced that a long range solution, if at all, will come from these agencies. This "no alternative" syndrome has caused our "temporary" indemnity program to become a perennial affair.

GENERAL COMMENT

We certainly agree with the following sentence in the Committee's report:

"The beekeeping industry, as a commercial enterprise, cannot survive unless we keep the bee-pesticide problems within reasonable bounds."

In the recommendations the Committee states:

"...the Committee has concluded that some type of indemnity program is essential if we are to maintain a viable beekeeping industry."

Hopefully, it would have the endorsement of the Department of Agriculture.

We were pleased to see the following sentence as a part of the Committee's report:

"If problems of similar magnitude were being faced by any other industry, there would undoubtedly be widespread repercussions and drastic action to solve the problems."

If we are left on our own in the bee-pesticide problem some drastic action from the environmentalists will probably develop. Heretofore, our organization has never felt that we should go that route, but we have begun to hear murmurings.

OUR RECOMMENDATIONS

We have some recommendations that we would like for the Committee to consider. They are:

1. Continue full funding of the Beekeepers Indemnity Payment Program until a workable alternative can be implemented.

2. Fund a position of an Extension Apiarist at the Washington level. At the moment very little information is available through Extension Service for use by the farmer who is considering a contract for honeybee pollination. Information on fertilizers, pesticide use and good harvesting methods are readily available. Why ignore the most important step in fruit production? The Apiarist could serve as a consultant for the Administration and the Congress on matters pertaining to the bee industry.

3. Fund a study of bee pesticide losses.

4. Fund a study to determine the number of bees used in paid pollination versus free pollination.

5. Fund a stepped-up "save the bees" research program.

6. Award the farmer who participated in the Integrated Pest Management program with some guarantees against loss.

We realize that some or all of these can be implemented administratively, but in most cases the Administration has said, "No."

Also, we have been wondering about whether the 1979 and 1980 claims would be paid? The Department of Agriculture has been silent on this.

All congressional action on the Appropriations Bill will probably be completed by September 1. Mr. Beekeeper, we need your help.□

SKUNK PREVENTION

Karl Koeing of Hamilton, New York found an answer to his problem of skunks invading his bee yard. He explained as follows: "I finally hit upon a solution to foil the culprits. Some years ago we had some wall-to-wall carpeting put on floors. Realizing the enormity of the job of putting nails through a board (and being lazy) I cut some lengths of the strips — already provided with nails upside down — and stapled or tacked this border on the entrance and around the front and sides, thus making further invasions by the skunks virtually impossible. Damage had been so great that one hive did not make it through the winter."□

The Collector's Corner

by DARL and IVA STOLLER

By ATZE DYKSTRA, IMKER
Kampingerhof 6
Oosterwolde (Fr.) Netherlands

"...masks to ward off or banish honey thieves and evil ghosts..."

FROM TIME TO TIME we receive letters from other collectors and we recently received one from Holland. We have written and asked him to send us photographs of some of his collection. Following is his letter. I am sure he would be interested in hearing from some of our American collectors.

Dear Bee Friends:

I read *Gleanings In Bee Culture* and also "The Collectors Corner". Permit me to introduce myself: I am a 40 year old beekeeper and live in a small village in Friesland or Frisia, in the north of the Netherlands. At home we speak Dutch, German, and a little English. I have learned my German and English out of bee books and magazines, not at school.

I keep bees and am a teacher of beekeeping. In Friesland we have fruit trees, rape, dandelion, lime trees, clover and heather for honey.

I am a collector of bee books, bee postcards, bee posters, bee pictures, bee postage stamps, bee buttons, bee pins, catalogs of bee supplies, honey labels, luxury honey pots, honey pamphlets, old beekeeping tools, bee smokers, old style bee skeps and bee hives.

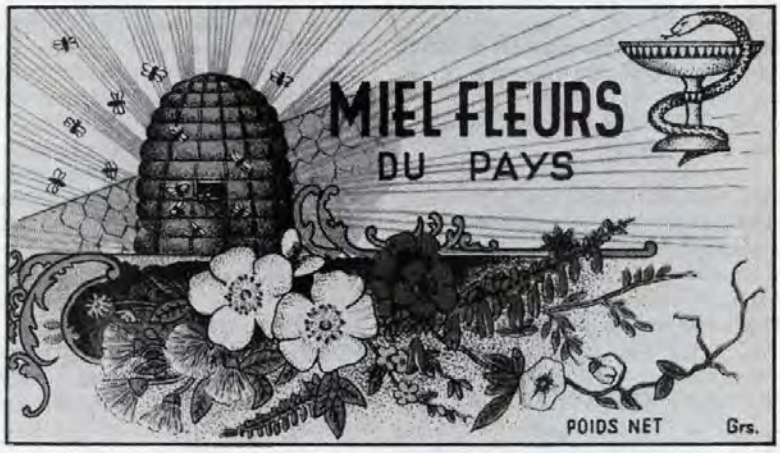
I have visited the bee museums in Amsterdam and Arhem in the Netherlands, Celle in Germany Ober-Weimar in the D.D.R., Swarzeds in Poland, Radovljica (Radmannsdorf) in Yugoslavia, Kalmthout in Belguim, Spital in Austria as well as smaller collections in Biberach, Osnabruck, Wilsede, Egesdorf, Schoonoord, Skofja Loka and Locowicz.

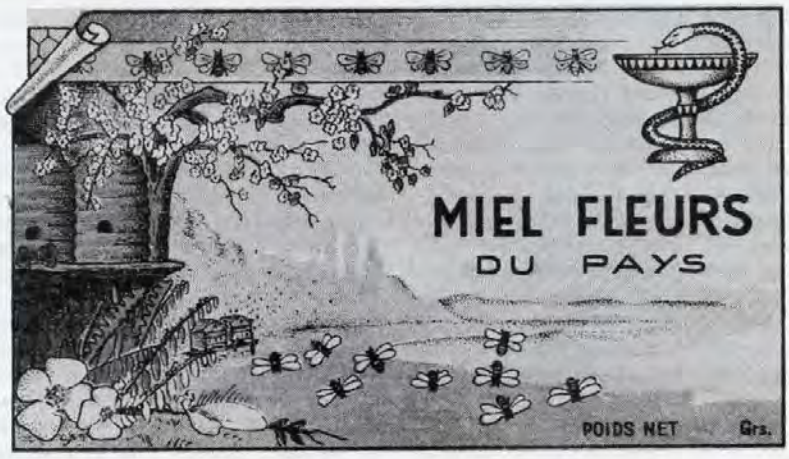
In my collections I have 36 different bee skeps made of wicker and straw. Five ("Bannkorben") straw skeps have masks to ward off or banish honey thieves and evil ghosts from the apiary. I have 38 skep and comb knives, 300 bee books, 72 bee postage stamps, 49 bee pins and buttons, 1,400 different honey labels from 40 countries, including 284 from the United States.

I'll exchange bee items with you. I am able to offer European items such as skeps, smokers, bee pipes, skep knives, bee posters, honey pots, bee photographs and prints, bee pins, bee photograph books, catalogs and beautiful honey labels from Europe (some for the 19th century), many illustrated with straw skeps.*

I hope to hear from you.□

* Illustrated are honey labels from Belgium.





Surplus Honey

"But my husband is dying," she said urgently, "He needs honey. Just a few pounds will see him through. Please?"

By TAEDE W. VISSERMAN
Hazelton, B.C.

SO YOU HAVE surplus honey, eh? Not a bit...or some...but, if the truth be told, LOTS! Seeming tons of the imperishable stuff. Here it is, what(?) — six months since extracting and the product of all that work....that final, tangible reward *sits*. It sits on temporary shelves, sagging from the crowd of jars upon them. Every plastic ice-cream bucket and gallon jug you could lay your hands on is filled to the brim and oozing onto the basement floor. There they sit: silent testimony to something almost awful, turning into concrete sweets. And, this, after you've pestered every friend and relative to take 'some'! Even Uncle Scrooge (who never gave you a thing) has turned down the fourth jar you offered him.

I know the feeling — that sort of lump beyond the comfortable margin of plenty. It's the curse of the beginner and haunts every beekeeper in a glut season. A problem.

So you think (rightly) that you have a real problem. Now consider this:

I had an average year. Well, to be more precise, the *bees* produced an average crop. But there were less hives. I had some heavy losses last winter; so instead of more bees and more honey, I had less. However, I had more customers. Or, to be more precise again, more potential customers. No, I'm still not getting to the gist of my problem. The fact is I had "lots" of angry, would-be customers. Have you ever seen a hive being robbed? How aggressive, assertive the robbers are? How angry the critters get? Well that's closer, to be precise!

Let me explain.

There is a problem, eh, with word-of-mouth advertising. *You can't take the ad out of circulation easily.* Can't phone the newspaper and have them print "Sold" on the ad the next day. And all my advertising was word-of-mouth!! There was no stopping it.

The first years I kept bees, I sold a bit of honey and year by year it got more popular. Very popular, in fact, and already, early on, I was having problems.

Say, for example, there was somebody who'd bought the year before coming to the gate and wanting "my 30 pounds".

I'd shrug and say, "Yeah, I'm sorry but there's none left."

They often left with an air about them like they figured I was a callous, money-grubbing shyster, indifferent to their needs.

You see, that's something else about honey customers — the true ones, the die-hards. They're fanatics! They don't want a reasonable price so much....or a fancy container...not even honey — as much as they want YOUR honey. They want it because....well, who knows? It's local, slightly mystical, untouched by mechanical hands....that sort of thing. I try very hard to oblige. After all, I figure, being able to sell honey is an important part of beekeeping. Because they're friends. Or friends of friends, who told their friends. A big, happy, friendly jungle — all intertwined and growing together.

.....All of which was alright at the beginning:

I kept over a few extra hives each fall which kept my jungle out there in a sweet state, so to speak. Or, to be more precise, kept most of them friendly. A friend of a friend of a friend is, I have found, not necessarily a friend! Such a person could get a little hostile when I had none (even though so-and-so had told them I would save them some).

I didn't realize then that there's a certain law of mathematics which says 2 people telling 2 more people equals 4. However, these 4 telling 2 friends apiece gives you 12 customers. Also, it gets a lot bigger, a lot faster when those (12) do their word-of-mouth advertising for you! I don't expect you to understand this law (either) but, I can assure you there's a certain mathematical truth to it.

By the fall of '78, the pressure was getting intense. Intense enough that I even sold all 50 pounds we'd set aside for ourselves (and then had to hear grumblings at the table all year for having put the customers first!).

Okay, what else could I do? Stand there and say I had no honey on the place when I had 50 pounds stashed for myself? Heck, the word would get around. Things could get nasty. Listen, you ever watched robber bees when you lock up the hive they were after? Seen how they poke and pry at every crack? I have this theory, eh, about honey freaks....no, I won't get into that. Anyway, the solution, obviously, was to keep over a lot more hives.

But, as I was saying, I had some heavy winter losses. I don't know if there really was any connection; but I have this guilty feeling there is some connection between those die-outs and a deep dislike I have for getting big. In short, expansion went against my instincts. I was more or less forced into it. Of course, the severe winter didn't help either.

The summer, though, was bliss. Just the right number of hives, many warm days, a good honey flow, the apiary managed with a leisurely but professional touch. No swarms and plenty of supers. Even that nasty business of extracting went nice. A person seems to learn every year and, for a few smug months, I lulled in the idea I knew everything. The reward was 500 (and more) pounds of honey — in barrels, awaiting customers.

At first I didn't advertise, breathed not a word. They would, I figured, be coming around sooner or later. I felt good, too, because this time I'd promised nobody a single pound. As I'd reported over and over to orders: "I'll guarantee you the honey if you guarantee the bees and the flowers and the weather". (Now isn't that nice? Reasonable?) By the end of 10 days though, I was a little anxious. Nobody came. (Was the jungle angry, perhaps? Boycotting me for past failings?) Casually I let it out that I had "a bit" of honey for sale.

Then came the rush. Three or four customers the first day, as many more the second. That night I robbed 50 pounds for myself and hid it on the road allowance, under the hydro right-of-way. That way, I figured, I could honestly say, "Gee, I'm sorry but I haven't a pound on the place". By the end of the third day I'd scraped out the last barrel and politely turned away a potential customer who, to my relief, left — merely disappointed.

"I'll try again next year", she said with forced cheerfulness. I hadn't the heart to tell her not to bother.

Within the week though, the phone

rang. It seemed extra loud, demanding. It was late at night.

"Hello?" It was an elderly lady's voice. "Are you the 'honey man'? Oh. Well, do you have some for us?"

"I'm sorry ma'am, but I haven't a pound.." I started to say.

"But my husband is dying", she said urgently. "He needs honey. Just a few pounds will see him through. Please?"

I told her I'd see what I could do and (sighing) stole 10 pounds from my cache.

The lady and her very sick husband came quite early the next morning and, once she'd latched onto the pail, latched onto my ear and told me how apple cider and honey was keeping her man alive. Even his eyes lit up. I felt it was worth the loss. I mean, how often can you save lives? And with so little effort?

Just a day or two later, a fellow drove into the yard. He looked official, a sheriff maybe. Frankly, I was nervous.

"I see you have bees", he said and launched into a critical silence for the longest time.

I nodded respectfully and wondered just whom they'd offended to bring him here. I was just about to start making vague apologies for them when he said he wanted 15 pounds of honey. All flustered, I said that I had that, of course!

"Don't you think that's a dumb place to keep it" he asked, as he walked away from my cache?

I said yes and went back to take them home. Of course, he was right.

When later that day a good friend came and begged for "just 10 pounds" I was so relieved I let him get away with 15. (With less than 10 pounds for myself, I clearly had NO more honey to sell...period.)

Of course, I was overlooking human ingenuity.

On the weekend, Joe and Sharon came a full 90 miles and wanted their "usual" 50 pounds. They wouldn't take no for an answer. I smirked and showed them the miserly 10 pounds I had left. Then, grandly, I said they could look over the place for the rest and have any they found.

"Well", said Joe, "in that case, why not extract some from the hives overwintering? Feed them sugar."

I hesitated.

"You promised", said Joe. Then, to soothe it a bit added, "I'll pay you extra for the fuss". Sharon added a hurt puppy look and I caved in.

I must say, we had a pleasant afternoon extracting, much as I hate to rob bees and feed sugar. I'd forgotten Joe was an armchair beekeeper who reads the literature to dream of self-sufficiency. They even helped me clean up — though they stood a respectful distance, while I took the honey off the hives.

It also gave me, I assured myself, the chance to have a nice big cache for myself.

However, in the week that followed, more people came. The same story. I grew reckless and gave them all they wanted — and more. There's no use lying, I figured, good honey customers are just like bees: they can smell it for miles. And think of the good will I got when I told them my hard-luck story. So what if I was reduced to a couple of pails to lick out?

It meant I had to feed a lot of sugar this last fall and — like the bees — I'm eating sugar this winter, too. Of course, I won't get caught like this next year, eh?

I have a scheme see, something up my sleeve. But, no, I'm not going to tell you about it!!

Meantime, as you admire all that surplus honey, consider yourself lucky!□

Book Review

Bees, Beekeeping, Honey and Pollination, by Walter L. Gojmerac, AVI Publishing Company, Inc., PO Box 831, Connecticut 06880. 1980. 208 pages, hardback. U.S. and Canada $19.00, other countries $21.00.

Periodically a book on the subject of general beekeeping is published which can be recommended without reservation to everyone whether they be non-beekeepers, hobbyists or professional beekeepers. Such a book is **Bees, Beekeeping, Honey and Pollination.**

This book contains 15 chapters, is prefaced by the author and contains a glossary and an index. The practical minded beekeeper will find information about beekeeping equipment, colony manipulation, specialized operations (trapping pollen and queen rearing, for example), pollination, honey handling, bee diseases and much more;. For the student of the science of apiculture there are chapters on colony behavior and bee activities, nutrition, queen production, hive products other than honey (beeswax, propolis, royal jelly) and trapping pollen. These are just a few among the many subjects covered in a highly professional manner by the author.

If the coverage of subject matter has one flaw it may possibly be the lack of information about the honey plants associated with nectar secretion and pollen dispersal. Nectar and honeydew are, however, discussed in the chapter on honey. Somewhat less than what would be expected is said about the extraction and processing of the honey crop, though the important points are covered in the chapter on essential operations.

Information not usually available to the casual reader of beekeeping literature is presented by the author in a manner which throws light on complex subjects without the reader having to draw inferences from interminable references to technical writing on the subject.

This reviewer was fascinated by the history of the African-Brazilian honeybees in the chapter Problems and Challenges Confronting the Beekeeper.

The author is Professor of Entomology at the University of Wisconsin, Madison, Wisconsin. His book **All About Bees, Beekeeping and Honey** was published in 1977.

Bees, Beekeeping, Honey and Pollination can be used as a guide for beekeeping, as a basic text for agriculture and biology classes and as supplementary reading or handy reference for both students and researchers.

The book contains many excellent line drawings and a limited number of photographs. L. Goltz

Strictly Backlot

" I am reminded of the room divider observation hive..."

By CARL CALLENBACH
Elizabethtown, PA 17022

CHIC PETS BOTHER ME. My younger brother, who resides in nearby Gettysburg, had a three-foot iguana in the playroom. His name was Edgar, and he tended to attract everybody's attention. Especially during the annual pet parade when Edgar, on a fancy leash, drew raves and a blue ribbon.

My older brother, who has a cat and lives in the Bay Area, sent me a newspaper clipping from the **San Francisco Chronicle** ("People," May 26, 1980, p. 13) describing an observation hive created by a house painter and inventive beekeeper, not to mention a bit of an entrepreneur, by the name of Don Simoni. The article labels honeybees as perhaps "perfectly designed creatures for urban existence" — bees, it says, may be the perfect apartment pet. Whatever happened to pet rocks?

What makes Simoni's observation hive unique? It is the only hive, he believes, "where you can harvest the honey without having to handle the bees as part of the process." Filled with six frames, his hive is approximately 30 inches by 23 inches and is constructed of wood and Plexiglas. It retails for $180. Plans are available for $12; key components and plans for $35.

My brother who has the cat wonders whether this isn't a luxury market! I suspect it is. I suspect, too, that in contrast to the standard hive body or observation hive, this unique hive is, like Edgar, a chic pet. I am reminded of the room divider observation hive I tried to construct six or seven years ago, the demise of which I treated in an earlier column. I cannot tell a lie: my major concerns with the room divider hive were EFFECT and NOT getting stung by the bees — not necessarily in that order! But I digress....

There would appear to be a couple of problems with the hive. Other than the price and the fact that a beekeeper ought to take a sting every now and then. Edgar COULD bruise you with his tail. First, because the frames appear to be hung, at least in part, beside each other, the brood chamber would normally be hidden from the observer; the queen, egg laying, and brood raising would not always or likely be visible. In a three-frame observation hive with frames hanging parallel to each other, I found the interesting going-on were never on the outside frames. Second, swarming would be difficult to control without actually handling the bees. Central Park needs swarms of bees like it needs more muggers. Third, because the pet owner could not inspect all faces of the frames, the health and vigor of the hive could not be thoroughly acertained.

The "key components", however, entice me, and I'm guessing these include the trapping devices that permit the removal of capped-over honey without handling the bees. I have trouble with trapping devices.

This spring I built another observation hive (Photo 1), my fourth since the pet room divider fiasco. I continue to look for a simple contraption to trap and/or secure bees in or out of the various parts of the hive. Propolis and poor engineering have limited my success.

What I tried to do was construct three interchangable observation supers. Each single-frame super is built so that when four strips of galvanized metal are slid between the connecting holes of that super and adjoining super(s), the super may be removed for study, teaching, and demonstration (Photo 2); or, for reducing the population of the hive by removing a crowded frame (without queen) and replacing it with an empty frame. (The removed frame of bees can be easily and quickly added to a weak nuc by spraying that frame of bees and the frames of bees in the nuc with a solution of very diluted eucalyptus oil.)

But there is propolis and comb to break through with the metal strips. There are screws to fasten the strips into place. Messy and too time consuming! Somewhere out there a reader has designed a simple and functional trapping-coupling-separating gadget which is placed between supers and PRESTO....I'd appreciate any suggestions.□

Photo #1

Photo #2

Siftings

"If it proves to be toxic to the brood of the bees, it may prove to be also harmful to human brood, our children."

By CHARLES MRAZ
Box 127
Middlebury, VT 05753

In June, 1980 *Gleanings* I commented about the Gov. of Wisconsin, making a statement about his wife, that she did not eat honey because she thought it was "bee poop". I personally feel it shows utter ignorance by anyone that makes such an unfounded statement to the news media. How they love to play up "sensational stories" like this, and I said so, in my June article.

And now in July *Gleanings*, page 380 in an article by Evy Peterson Nerbonne, I see I am not the only one that objected to the governor's remarks about "bee poop". According to this article, the governor not only made these remarks about honey but also added remarks not complimentary to the beef and pork industry. Cattle may not be efficient protein converters and Jews and Moslems traditionally shun pork for religious and perhaps other reasons. Yet, to many of us, beef and pork are a good food, eaten by man for thousands of years. These remarks are also uncalled for on the part of the governor. I am glad to see I am not alone in feeling that the governor was "sarcastic and insulting during the encounter." He certainly must have been. Any apologies, I feel, must first come from the governor.

In a recent bee magazine I saw an advertisement for the sale of isomerized corn syrup, apparently to beekeepers. Why would beekeepers want to buy isomerized high fructose corn syrup? To feed their bees? To adulterate their honey? What other use would there be for this syrup to the beekeepers? On page 382 in July *Gleanings*, Richard Adee and Glenn Gibson are carrying on the fight against adulteration of honey with high fructose corn syrup. Why should we fight against such adulteration? If we are to believe the simple test for fructose, it is the same as fructose in honey. But is it? Fructose is being sold in health food stores as an "ideal sweet", the same sugar found in honey. Experiments have been carried out with artificial fructose showing adverse carbohydrate metabolism in the body and has been used to "prove" honey is no better than ordinary sugar in the diet. To establish the fact that there is a great metabolic difference between honey and ordinary sugar in the diet, we need only read "Honey and Your Health", by Bodog F. Beck, M.D. and "Folk Medicine" by D.C. Jarvis, M.D. I knew both of these doctors personally and of their personal interest and experience with honey in the diet. If honey is no better than isomerized corn syrup, and if it is the same thing, we would really have no reason to object to it being mixed with honey.

I personally feel they are not the same thing, even if certain tests are similar in a test tube. To date I have seen no real experiments on feeding tests to find what metabolic differences there may be. I have heard rumors of this before, but do not know of any long range tests to verify it. A friend of mine in Florida, where they have to do a lot of feeding to carry bees through long periods of no honey flow, told me of feeding a long line of bees with regular sucrose (sugar) syrup, and another row, at the same time in the same yard, with isomerized corn syrup. He said in about two weeks dead brood started showing up in the hives fed isomerized syrup, which the bees were removing. This ended his feeding isomerized syrup. Have any other beekeepers observed this? This test I feel, should be followed through. If after two weeks of feeding, isomerized corn syrup will kill the brood, it sure is not the same as honey, no matter what the test tube says.

I have read where a popular soft drink is now adding up to 50 percent isomerized corn syrup sweetening. Have any tests been made to see what "toxic" effects this syrup may have on children that drink lots of soft drinks? If it proves to be toxic to the brood of the bees, it may prove to be also harmful to human brood, our children. I really believe this has never been tested and certainly should be before millions of children are exposed to such a wide spread possible hazard. We do indeed have every reason to fight the adulteration of honey with anything, and as the article says, we should all help fight this sinister threat to our industry.

Judging by both letters and articles that I read, with the large increase of hobby beekeepers, more people that keep bees on a small scale are becoming more allergic to bee stings. The letter by A.B., North Carolina, page 411, July 1980 *Gleanings* is typical. Having been a beekeeper for over 60 years, a commercial beekeeper for 55 years, and active in bee venom therapy for rheumatic diseases for 45 years, I do have considerable experience in this field of sting allergy. Also, I have known Dr. Mary H. Loveless for some 20 years who is the pioneer for the past 30 years in the use of pure venoms for the treatment of allergy to stinging insects. It is only in the past year or so, her pure venom method has finally been adapted by the medical profession with excellent results.

I have written and spoken on this subject many times, but apparently few have heard or seen it. A beekeeper, small of large, is in a different category than a person not normally exposed to bee stings. A beekeeper, large or small, MUST EXPECT TO GET STUNG! Wearing "space suits" is no guarantee he will not get stung. In fact, to avoid getting stung may be the worse thing a beekeeper can do.

A person that starts keeping bees should immediately start getting "desensitized" to bee stings. If this is done at the beginning, it may avoid most problems later. A basic rule that seems to be an established fact from research at Walter Reed Army Institute of Research, is that if a person is stung more than once a week, they will in time develop "immunity" to honeybee venom. That means they will no longer swell, after getting stung, depending on how often they get stung. If stung every day, two to four weeks will do it. If stung less often, it may take longer. Also everyone differs in how long it takes to develop immunity. There may be a rare person that can never develop immunity, but it is extremely rare. A sting will always hurt, no one ever gets immune to this, so you do have to keep up your favorite vocabulary when you get a real shellacking.

Problems with bee sting allergy usually happen when a beekeeper gets stung only on rare occasions, say once a month or only 5 to 10 times a year. Then reactions can increase and get worse each time they are stung, and protection is needed with anti-histimine pills and adrenalin injection.

However, it is usually possible for a beekeeper to avoid getting into this state. Another rule to remember is that if a person gets an allergic reaction from a sting; hives over the body, eyes and lips swell, scalp and palms itch, etc., but no anaphylactic shock (unconciousness and drop in pulse and blood pressure) then if

(Continued on page 469)

Bee Talk

"Between these two extremes we find exactly what Dr. Jaycox says we will find, common sense."

By RICHARD TAYLOR
Trumansburg, NY

RECENTLY I CAME ACROSS Dr. Elbert Jaycox's article "American Foulbrood and Common Sense," in his monthly newsletter, **Bees and Honey**. I'm a faithful reader of that good newsletter, but missed this article because I was out of the country when it came, and got way behind in my reading. Then Troy Fore picked it up for his **Speedy Bee**, and that's how it finally came to my attention.

Here is an article every beekeeper should read, especially beginners, and it should be required in every course in beekeeping. It is only two pages long, and is packed with common sense, as its title suggests. Dr. Jaycox is a professor of apiculture at the University of Illinois, and the author of **Beekeeping in the Midwest** — which is, incidentally, about as good a basic beekeeping text as you can find.

Thinking about American Foulbrood has changed a lot over the years, as the author notes, and in the process opinions have become polarized into two extremes. On the one hand you have beekeepers who imagine that any case of AFB can be cleaned up in a wink by a generous application of drugs. But at the other extreme you have the equally irresponsible attitude that the mere presence of AFB spores in a colony of bees is going to result in disease, as if this were some sort of virulent plague. Dr. Jaycox commented, in a note to me, that he was in fact induced to write his article by "wild eyed beekeepers talking about how a single drop of honey will spread disease everywhere." Between these two extremes we find exactly what Dr. Jaycox says we will find, common sense. Bee inspectors and teachers of apiculture, he notes, have probably overstated their case concerning the dangers of AFB, in an attempt to get the attention of beekeepers. I'm sure this is true, and natural enough. When we perceive a danger, we are apt to exaggerate it, in the effort to sharpen the awareness of others. But unfortunately, I have seen bee inspectors who themselves seemed to believe these exaggerated claims.

The presence of AFB spores in a hive of bees, or on the bodies of worker bees, or even in the honey sacs of the workers, does not automatically result in a diseased colony. The spores attack only the very young larvae, and to do that, they must get into the larval food. And this is no simple process. In fact the spores are mostly removed in the honey sacs of the workers before they even get near the larvae. Moreover, even if some of the larvae do become infected, many colonies will clean them out before the disease spreads to other larvae. Apparently some colonies do this with greater efficiency than others, which is why some bees are correctly considered "resistant" to the disease. It is not that they are tougher; they are just better housekeepers. Colonies have even been fed sugar syrup infected with AFB spores without causing disease, and routine inspections of apiaries having infected colonies in them does not normally cause a spread of the disease. Consideration such as these lead Dr. Jaycox to conclude, with Drs. Gochnauer, Furgala and Shimanuki, whom he quotes, that "the honeybee colony is not readily infected by *B. larvae* under normal conditions."

Dr. Jaycox makes all these points and, I think, very wisely. My own views on the matter, based on long experience and considerable reading, coincide exactly with his, so far as I can tell. Certainly the idea that beekeepers, or bee inspectors, are likey to carry AFB from one colony to another on their clothes or hive tools is exaggerated. I personally think that a beekeeper should never try to CURE a heavily diseased colony. He should burn it, or get a bee inspector to burn it. But on the other hand, he should manage his bees in such a way as not to GET diseased colonies in the first place. This is simply a matter of having equipment that is, as nearly as possible, free from disease, and then PREVENTING the outbreak of it by the judicious use of terramycin. By "judicious use" I mean (1) not introducing this or any other antibiotic into a colony that has supers on it; (2) not using it as a cure for heavy infection; but (3) treating every colony with a minute dose each fall, after supers have been removed, and then, even more important, early in the spring, before supers have gone on. If every beekeeper would do that, then there would be almost no disease problem at all, except in the cases of some of the large commercial beekeepers whose equipment may have become so loaded with spores that the disease is bound to break out periodically. Terramycin does not render a colony IMMUNE to AFB. By no means! What it will do is nip in the bud any AFB in its early stage. The bees themselves, if well managed and in clean equipment, will do the rest.

There are, I think, certain other implications to Dr. Jaycox's, and my, views on this. For instance, a colony need not be burned if there are only a few infected larvae.* Instead, the supers should be removed, and the colony treated with terramycin. This is permitted by the inspection services in some states, though others have been slow to go along. A heavy infection, on the other hand, indicates the presence of spores in such abundance that burning is the only sensible answer. Even then, however, there is no need to burn the supers, if they contain no brood. The possible presence of spores there, which cannot be taken for granted anyway, does not by itself pose a serious threat to other colonies. The honey in the supers can be extracted without any real danger, or the super, if not yet filled, can be put on another colony. Of course there are beekeepers who think that this will spread the disease, but I know from experience that this is not the case, and Dr. Jaycox's observations seem to bear this out.

Whenever I address meetings of beekeepers, I am almost invariably asked about bee diseases. What I recommend, specifically, is this: Mix terramycin and powdered (not granulated) sugar in the ratio of two cups sugar to eight teaspoons terra. For a larger mix use a pound of powdered sugar to eight tablespoons of terra. In the spring, before supering, toss about a tablespoon of this mix onto the top bars of the brood frames of each hive, and the same again in the fall. As you can see, that is a minute quantity of terra. But you will almost never see disease in your bees if you do this.

As Dr. Jaycox notes, controversy over the use of antibiotics is no longer WHETHER to use them, but HOW. My own views on this are somewhat conservative, but it does seem to me a part of common sense here, as elsewhere, that a bit of prevention is worth more than a great deal of cure.□

*This is my opinion. I do not know whether it is shared by Dr. Jaycox.

Research Review

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

The Best Honey Producing Areas

BEEKEEPERS DO NOT plant crops for their bees; they move to those areas where honey plants abound. We have long known that the world's best honey producing area is Western Australia. Rob Smith, a commercial beekeeper from that part of the world, set out to establish a world's record for honey production and in the 1953-1954 season harvested an average of 784 pounds of honey per colony from 450 colonies. The chief honey plant in the area is *Eucalyptus diversicolour* which is the most important honey producer in the so-called karri forest. Many species of *Eucalyptus* are good honey producers. These plants have been transported to every part of the world. Of course, it is not just the plant which is important. One must also have the right soil and the necessary rainfall.

The second best honey producing area is probably the Peace River District of the Canadian Province of Alberta. Yields of 200 to 400 pounds per colony are frequent. The important sources of nectar in this area are rape and various clovers.

Other well-known honey producing areas are the Argentine Pampas, the Yucatan Peninsula of Mexico, and the states of Montana and North and South Dakota. Yields are not uniform within any one of these areas and seeking out the best locations, as well as determining the number of colonies one should keep in an apiary, are important aspects of modern beekeeping.

The chief point I wish to make is that honey production is not a haphazard affair. Information on where the good locations may be found is available in our libraries. One of the facts which is disturbing is that some beekeepers fail to recognize that the territory over which any beekeeper's bees forage extends far outward from the property he owns or uses as an apiary site. In recent years I have heard too many complaints about individuals who did not respect another beekeeper's territory but indiscriminately established apiaries in territories which were already saturated with bees. No one benefits when this is done.

How Long to Market an Idea?

Dr. Allen W. Benton, Professor of Apiculture at Pennsylvania State University, wrote his first paper on collecting honeybee venom in August, 1963. Today his company, Vespa Laboratories Inc., is marketing venom from honeybees and from various wasp species for use in medically supervised desensitization programs for people with allergies to stinging insects. This sounds simple enough but in fact it has been a long, hard struggle to take the ideas he had in the early 1960's and see them brought to fruition today.

Vespa Laboratories is still growing; a third addition is now being added to accomodate more personnel and to improve the efficiency of the operation. Still, venom is being marketed in North America and Europe only. The rest of the world is without the benefit of our recent knowledge that desensitization can be brought about only through the use of pure venom. Even in North America many physicians are still using whole insect body extracts, which the latest research, especially at John Hopkins University in Maryland, has shown is not effective.

There is not a big market for honeybee venom. All of the bee venom which is being sold today is harvested by only one beekeeper. It is much easier to collect honeybee venom that it is the venoms of the wasps.

Vespa Laboratories has about 500 people across the United States who are collecting wasps and hornets, especially yellowjackets. Many of these people are beekeepers who know and understand stinging insects. The instructions for collectors must be followed closely. The entire operation is under close scrutiny by the Pure Food and Drug Administration. No insecticides may be used when collecting wasps. Those collected venoms must be kept frozen at a very low temperature until they are processed by Vespa Laboratories.

One of the problems in collecting wasps is that populations fluctuate from year to year and from place to place. The final product delivered to physicians is a carefully balanced mixture of several venoms; it must include venom from the appropriate species even in years when wasps of that species are relatively scarce.

There is no great need for wasp collectors today, although there may well be as the operation grows; it could be a profitable avocation. The prices paid for insects delivered in good condition to Vespa vary from a few to several hundred dollars a pound, depending on the species. The company has been advertising for collectors in several of the entomological and bee journals. Interested persons may write Vespa Laboratories Inc., R.D. #1, Spring Mills, Pennsylvania 16875.

BEE STATIONERY

S.W. Mahaffey
Route 1, Box 20-B
Wilson, La. 70789
504/629-4791

Another recreation of bees and unique letterhead was sent to us by S.W. Mahaffey of Wilson, LA. His oldest son is a commercial artist and created the design with the cooperation from his youngest son. The youngest son drew the comb. It was printed in Monroe, LA.

Mr. Mahaffey is the owner of two acres of land which he calls Kracked Pot Plantation, after hanging an old time wash pot with a big crack in one side in front of his place. He plans to change the named to Kracked Pot Apiaries some time in the future when his letterhead stationery is used up.

Beekeeping Technology

By DR. JAMES TEW
Wooster, Ohio

"Burma's basic reason for training beekeepers..."

THE BURMESE BEEKEEPING PROJECT AT THE AGRICULTURAL TECHNICAL INSTITUTE

THE AGRICULTURAL Technical Institure has recently had the priviledge of working with the Government of Burma and the U.S. Department of State. A six month instructional program was initiated in March, 1980, that was designed to instruct Burman students in fundamental and advanced aspects of Apiculture. The basic instructional program consists of classwork, practical applications and tours of selected bee operations in the midwestern and southern parts of the U.S. The Burmese government is actively attempting to develop the nation's natural resources in many respects; one of which is beekeeping.

Burma is part of the Golden Triangle, (Burma, Thailand, and Laos). This is an area that is considered to be a major producer of opium which permeates many nations including the United States. Since the early 1970's, the Burmese Government has been engaged in efforts to supress illicit drug traffic in its portion of the "triangle". Under the terms of a 1974 agreement, the United States has provided the Burmese Government over $30 million in anti-narcotics equipment (primarily helicopters and fixed-winged aircraft). Because much of the "Golden Triangle" opium is smuggled into the United States as heroin, Burmese use of this equipment in narcotics suppression is of direct benefit to the United States. Surprisingly, the opium poppy producer is not really very well paid for his efforts. The per capita income of Burma is $100.00. If a producer could be given any other means of earning a livelihood, poppy production would decline. This is Burma's basic reason for training beekeepers along with many other educational programs presently underway.

Since the beekeeping instructional program is unique in the United States, several Burman dignitaries visited the Wooster campus during June 1980. They were accompanied by Mr. George Sherry, Deputy Chief of Mission of the United States Embassy, Rangoon, and Mr. John Lyle, United States Department of State. U Ohn Kyi, Deputy Minister of Home and Religious Affairs, is the highest Burmese official ever received by the United States. The Burman students, under the watchful eye of three different television cameras, as well as reporters, "worked" bees for the Burma guests. Other beekeeping tours and demonstrations were also conducted.

The entire visit was a rewarding experience for the bee program. The Burmese student program has gone very well at ATI. It is hoped that training received by the Burmese students will play a part in the ultimate development of a strong, productive beekeeping industry in Burma.□

Dr. James Tew talks with U Ohn Kyi, Deputy Minister of Home and Religious Affairs. (Burma)

Questions and Answers

Q. I operate 20-30 hives which I rented for apple blossom pollination for the first time during May 1979. During the following summer I encountered unexplainable queen loss without supersedure in 5 hives. Six hives were lost over the following winter, some of them appearing to be very strong in the preceeding fall. I have never had losses similar to this before, and I wonder if orchard pesticide spraying could account for this? If so, would you know what kind of spray in particular, used in Eastern U.S. apple orchards, could be responsible? R.C. West Virginia

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A.It is possible that pesticides used in spraying orchards may contribute to loss of queens and perhaps the colony during the winter if they are carelessly applied. Whether the colonies were damaged would have depended upon what chemicals were used, the rate and time of application and the degree of exposure the bees received. No orchardist who expects to receive the benefits of pollination from honeybees placed in his orchard will apply pesticides to his apple trees after the pink, or pre-bloom stage and before petal drop. Not being exposed to a pesticide during the bloom would normally protect your bees if they are moved in and out for pollinating during the bloom period. It was still possible for damage to have occured either before bloom or after petal fall if the bees are in or near the orchard and they are working on nectar plants such as dandelion or clover on which pesticides have fallen.

The following may help you to determine if pesticides were used which may have damaged your colonies:

Pesticides highly toxic to bees:

Carbaryl (Sevin)
lead arsenate
parathion (ethyl)
parathion (methyl)
diazinon
Cygon, Rogor
Imidan
azinphosmethyl (Guthion)
malathion
Phosdrin

Pesticides moderately toxic to bees:

Trithion
Carzol
Thiodan
Zolone
Perthane
DDT
Chlordane

Insecticides relatively non-toxic to bees:

methoxychlor
ethion
Fundal
Most miticides
Most fungicides
Most herbicides

You did not indicate if you observed dead bees or brood in front of the hives. This would be an indication of the severity if damage did occur. Irrespective of the evidence of poisoned bees in front of the hives some damage to the queen and brood may have occured, even after the removal of the bees, due to having come into contact with encapsulated pesticides during the time they were used for pollination. The returning field bees carry the capsules into the hive in the manner of bringing in pollen, feed to developing larvae and cause continued poisoning.

Pesticide exposure sometimes leads to attempted queen supersedure and damage to the colony and may cause failure of the colony to raise a new queen.

Of course, other causes could have been responsible for the abnormal loss of queens and winter losses of colonies but it would be wise for you to investigate the possibility of pesticide loss before you again place bees in that particular orchard.

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Q. I have a hive of bees I have had on my porch about 3 years and all of a sudden they started to sting everything that moved in the yard and on the porch. I have another hive beside them that is doing all right. They both have been there all the time. I had to move this one hive to another location, but now when I go around them they come out in numbers and start stinging even if you just walk within 20 feet of the hive. I have read that in Canada the Beekeepers gas the bees in fall and then replace them in spring. This hive has lots of honey in it and if they don't get better I am going to have to kill them and would like to know what kind of gas to use that will not hurt the honey. I would appreciate this information.W.A. North Carolina

A. It is not necessary to kill the colony to change their temperment. Requeening will usually do this but of course requeening a strong, cross colony is not easy task. Cyanide gas is used to kill colonies in the fall in Canada but it is not authorized for this purpose in the United States. Actually no chemical is presently available to kill bees that can safely be used around combs of honey.

The reasons for a colony of bees being cross are sometimes of a temporary nature. A colony may often become cross during queen supersedure, when disturbed by livestock or vandals, for example. Pesticide damage to bees will often cause bees to become very cross. Keeping colonies in deep shade may cause a colony to be touchy. Some colonies are very sensitive to changes in weather such as when they are driven into the hive by rain. A sudden stoppage of the nectar flow has the same effect. Near starvation may cause a colony to become cross. Nearly any life-threatening situation in which the colony finds itself involved can cause a colony of honeybees to undergo a change in behavior for the worse, if sometimes only temporarily. Unfortunately some honeybees inherit a tendency to viciousness and only a new generation of bees raised from a new queen will correct this difficulty.

We suggest keeping bees of the caucasion race if gentle bees are desired.

To be reasonably certain that a new queen will be accepted in your problem hive we suggest you introduce the new queen to a nucleus made up of a couple of frames from the other hive. After she has become established and begun laying, combine the nucleus with the cross colony immediately after destroying the queen in the hive which you are requeening. Place a single sheet of newspaper between the two units to insure gradual mixing of the bees. It may be necessary to brush the bees from the combs of the cross colony and force them to pass through a queen excluder in order to find the old queen. Use plenty of smoke before attempting to do this and continue smoking the bees to keep them under control.

★★★★★

Q. We follow your excellent articles on honey plants and hope you will continue writing on the subject. This spring our bees worked a grass along the river. The local people call it swamp or water grass. I don't know the correct name. The grass appears to have nectar or a form of sweet sap that attracts bees. It would be interesting to know if other beekeepers have observed bees working the grass. Pellett mentioned it in his book, but briefly. R.N. Oklahoma

A. I cannot give you the name of the forage plant on which you have seen your

bees working. It is very unusual for the grasses to exude any form of nectar or sap for the bees. What may be referred to as a "grass" may in reality be a member of another plant family which has many of the charactertics of the grass family — *(Gramineae)*. The grasses, one of the most important plant families to man (it includes the grains, or cereals) is of little value to the beekeeper.

★★★★★

Q. I have been unable to find any information on Buckfast bees. Is this a separate race or just another Italian strain? What are the characteristics and what climate are they suited for? D.T. California

A. The Buckfast strain of bees was developed in England under the direction of Brother Adam, OBE who has had charge of beekeeping at Buckfast Abbey since 1919. Buckfast bees have evolved from a cross between the leather-colored Italian bees and an old native English variety. The original cross was formed 60 plus years ago, before the native bees of England were eradicated by the Isle of Wight disease epidemic. The dark, leather-colored Italian bees available at the time differed in many ways to the strains now imported to England from Italy. In color the Buckfast bee closely resembles the classic leather-colored Italian of the Ligurian Alps but at no time were bred for uniformity in external characteristics for such an aim can only be attained at the cost of performance, according to Brother Adam.

The Buckfast bee has a reputation for unusual honey gathering ability, is little disposed to swarm and other favorable characteristics according to Brother Adam.

Though the pure buckfast bee has a claim to an unusual honey gathering ability Brother Adam places reliance on crossbred stock for maximum honey production. The pure Buckfast strain forms the basis, mostly on the paternal side, of nearly every cross tested by Brother Adam to create a better bee.

Buckfast bees are available in the United States. Breeders raising this strain advertise in the bee journals.

The Buckfast bee may be better adapted to some of the cooler, damp climates than some of the other strains of Italian bees.

The most obvious characteristic you will observe in using Buckfast bees is their compact nest.

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Notes from the Straw Skep

By BESS CLARKE
Canton, PA

LAST MONTH I told you about the arrival of a family of refugees in our small community and now I'm going to continue the story. You'll be hearing more over the next few months, too, because I'm on the sponsoring committee and spend time almost every day with them.

Our family, the Raksasouks, are Laotians of Chinese descent who spent three years at the Ubon Refugee Camp in Thailand before they came to us through Church World Service. There are eight of them; father, mother, daughter, and five sons, ranging in age from 26 to 8. The girl, Pithsompong, is 12 years old. She and the two youngest boys entered our school system for the last two weeks before the summer vacation and were able to make some friends.

We have arranged for tutors for all the children and our committee chairman is working with the parents. Language is the major problem facing the family. They HAVE to learn English, the sooner the better, and they are trying. All of them can read and write some English but speaking and understanding the spoken word is a different and much more complicated matter.

Xith Raksasouk, the father of a Laotian family of refugees, demonstrates the use of a steamer they brought with them. Eight year old Khymsy is in the foreground.

We are using the Laubach method of tutoring. You may be familiar with its slogan, "Each one teach one."

Communication is difficult, frustrating, and often funny. We had a problem with the money they received from CWS when they arrived. They were afraid to put it in a bank for fear they'd never see it again. I volunteered to take three of them (all my little car will accomodate) to visit a family of their countrymen who has been here for a longer time. The hundred mile round trip was well worth the effort.

An interpreter spent the day with us, and some members of a third family came too, with their sponsor, so we were a large and noisy group. Our family asked lots of questions of Mr. Ly, the head of the family we visited. He answered them and told the translator what had been said. She, in turn, told me. We got lots of things straightened out, including information about government forms which I am still trying to complete. Mr. Ly convinced them that the bank was an accepted custom so when we got home they opened a checking account.

Incidentally, one of the sons, Khamsouk, is acting head of the family. We don't know why. He is the third son, and he doesn't speak English any better than the others.

The staple of their diet is rice and we've located a place where they can get 50 lb. sacks of it. They cook mixtures of meat and vegetables to serve with the rice; and they like fresh fruit. They don't eat sweets. (I did take them a 5 lb. jar of honey as a welcome gift.) Every guest at their home is offered a cup of tea.

We asked the community to donate bicycles for transportation and they were given five. They use them to go to the grocery store and to their tutors, as well as to explore the town.

Job hunting is almost impossible. A local plastics factory, which had offered jobs when the church began the sponsorship program, has now laid off forty of its employees and will have to rehire them before they can expand their work force again. Another area factory has offered one job as soon as they reopen after their summer vacation, so we are hoping.

Meanwhile the days go by and we move from one crisis to another. This morning the second hand refrigerator we bought for them has stopped — in the middle of a heat wave. We'll probably have to buy another one and our money is running short. But we've been able to meet the emergencies as they have arisen and we'll meet this one too. Hang in there and I'll tell you more another time.□

RECIPE

I've heard that there's a bumper crop of sour red cherries this year and that it has already been harvested in some parts of the country. Mid-July is the time in our part of Pennsylvania. We had a cherry pie for dinner tonight; a delicacy which I try to make about once a year. Last year there were no cherries locally and the price of a 2 lb. can at the store was around $1.50 so we skipped it.

I use honey to sweeten my pie. The combination of fruit and honey is so good.

FRESH CHERRY PIE:

1 unbaked pastry shell, 1 qt. fresh sour cherries, ¼ cup cold water, 3 tablespoons corn starch, about ¾ cup honey, ½ teaspoon cinnamon, 1 tablespoon butter. Mix water and cornstarch in a glass measuring cup, fill to 1 cup level with honey; add cinnamon and blend well. Seed cherries; add honey mix, blend, and let stand 15 minutes. Preheat oven to 425°, pour fruit mix into pie shell, dot with butter, and bake 20 minutes at 425; then lower temperature to 350° and bake for 30 more minutes. Let cool before cutting. A lattice crust may be used on the top but I think there are fewer calories in a single crust pie, and besides, it's easier.□

Gleanings Mail Box

Dear Editor:

Mr. Lord's article about comb honey in round sections (July issue) makes an important point, but in a way that is seriously misleading.

The point to be made is that comb honey does not sell well in the South. That has always been the case, whether it be round or square sections. One should not generalize from this that round section comb honey does not sell.

I have been producing round sections since the mid 'fifties, when they were first introduced. I now raise about three thousand of them each summer and manage to sell them without much difficulty, for the most part without even leaving my house.

Comb honey, of whatever shape, sells very well in the midwest, especially up around Minnesota and Wisconsin. It sells fairly well here, by my experience, and not so well in New England.

I have lots of customers come to my door for nothing else, some of them wanting to buy all the comb honey I can sell them, and I raise nothing but round sections. Dr. Richard Taylor.

Dear Editor:

An article by Dr. Francis Holmes in the June 1980 issue of *Gleanings* indicated that many beekeepers are interested in better sources of nectar throughout the growing season, and at the same time he predicted that some day we may see nectar farms containing improved selections of our native and introduced nectar sources. This prophecy, I believe, is gradually becoming true. For instance, Professor Gordon Townsend has introduced several exceptional nectar sources into parts of Africa. He also established two black locust nectar groves at the University of Guelph, Ontario, Canada, containing clones and progeny from high yielding black locust selections growing in Central Europe, England, Russia and the United States. At the same time he inspired and co-operated with the Ontario Forest Research Centre and the Wingham District, Ministry of Natural Resources, to locate, evaluate and establish a wide range of native and exotic nectar trees and shrubs. To date we have collected 45 heavy nectar producing trees and shrubs which can grow in one or more of the 9 climatic zones in Ontario. A total of 35 of these species each containing from 1-12 selections have been planted on 24 acres, 16 miles east of Lake Huron, near the town of Clinton, in the Hullett Game Management Area.

For effects on growth, half the farm is being chemically weeded and the other half mechanically weeded. This culture is generally necessary up to three years after planting.

A great deal of information should be available in the near future for beekeepers in our province regarding flowering dates and methods of establishment as well as the soil classes, type of drainage and the climatic zones preferred by each species.

We would be happy to hear from anyone interested in such a project.
H. Cedric Larsson
Regional Research Forester
Ontario Forest Research Centre
Maple, Ontario LOJ IEO Canada

History of Beekeeping

A Review Of Its Development In America — And Before

"...man recognized the desirablility of honey as food..."

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

MANY STUDENTS of early man believe that he stopped being a hunter and gatherer quite a number of thousands of years ago and became an agriculturist and herder.

There are many reasons to think that he has cultivated honeybees as long as that. It is logical to believe that long before man left any written record of his food-getting activities, he had carried home honeybee colonies from the forest — where they were lodged in various types of containers, chiefly hollow logs or limbs of trees. He may even have learned at such an early date that a swarm could be transported on the branch of a bush.

Paintings on the walls of caves in Spain and France, believed to date back to about 7000 B.C., give concrete evidence that man at that time recognized the desirability of honey as food; as he hunted it in the wild.

The materials out of which early hives were made varied in different parts of the world. Hollow logs may have provided the earliest and most readily available containers, as they still do among the natives today, in many parts of Africa. In Egypt straw-mud hives were employed, probably because they were light in weight and afforded rather ready access to the honey. They were cheap, too, because reed grew in abundance in the Egyptian lowlands. In Greece and in the Fertile Crescent, clay containers are believed to have been in common use. Other materials such as bark were also used.

EARLY BEES IN AMERICA

Just when the first colony of honeybees was introduced into North America is moot. But the date is believed to have been an early one, and coincident with the introduction of many comfort-giving items to their several colonies from European sponsors. The date is probably no later than 1638 when John Josslyn, residing in New England, made written note of the fact.

This first bee was black and smaller than our present Italian bee, and it remained as such until a rather late date. Non-commercial beekeepers, such as my paternal grandfather, harbored black bees in New York State as late as the early 1900's.

Pellett (1938) records that stocks of bees were not cheap in the market. In January 1641 the value of one stock was set at the equivalent of *15 days labor.* (That is a very significant sum in any man's economy, inflated or not!)

After 1670 the purchase price of a stock of bees declined — induced, it is believed, by the incidence of American foulbrood. This valuation standard tended to prevail for the next 30 years.

RACES OF BEES

After a group of honeybee colonies had prevailed in a given area for centuries, they tended to develop characteristics somewhat different from those of the bees in other areas.

Thus, in the European and Western Asia territories there developed — through adaptation and natural selection — three predominant races: the Italian, Caucasian, and Carniolan.

It is interesting to ponder on the development of what is now the Italian bee. This development was doubtless markedly influenced by the fact that the Roman merchantman and trader tended over a period to dominate the commerce of the Mediterranean Sea.

There is every reason to believe that these Roman traders, as well as those of other nationalities, brought honeybee queens and nuclei to Italy from other lands. These may have included such diverse honeybee races as the Caucasians from southern Russia, the Carniolans from Yugoslavia, the bee from Cyprus, the Syrian bee, the Macedonian bee, even the black bee from England and Germany.

So, the bee that predominates in America today, having been imported from Italy, was doubtless hybridized over the centuries from the best offerings of other lands. Even in Italy, at least two different strains developed: one in the lowlands (the bright, light colored bee), and one in the more elevated areas where it tended to acquire a leathern tinge and slightly different traits. Not all of the Italian bee's qualities are the best; but it is probably the best of all the races for general use in this country, and is generally so regarded.

LANGSTROTH'S DISCOVERY

Up to the year 1851 when L.L. Langstroth discovered the principle of bee space and advertized it to the world, beekeeping remained extremely primitive.

Before the principle was made known to the world's beekeepers, they had made little progress over the thousands of years that they had "kept" bees. Colonies had been maintained in small nests so that they would be encouraged to swarm. Aside from the production of comb honey in glass jars and other types of receptacles placed in a super above the brood nest, beekeepers were pretty much forced to kill the bees of a colony in order to get its honey for personal use or for sale.

Langstroth learned that honeybees will respect a space between all parts of the furniture of the hive of approximately 3/8 inches, except at the point where the comb is, of necessity, attached to the ceiling. This last obstacle he overcame by producing movable frames.

THE HONEY EXTRACTOR, QUEEN EXCLUDER, AND BEE ESCAPE

Fourteen years after Langstroth discovered the significance of bee space, and the use of a movable frame, an Austrian, Major F. Hruschka, invented the centrifugal honey extractor.

The year of the invention of the extractor (1865) saw the perfection of the queen excluder by Abbe' Collin, in France. This device, as we know, prevents the queen from passing through it and thus enables the beekeeper to keep the extracting frames free from the queen and brood. This is especially important to the beekeeper who wishes to extract the yield from any one particular nectar flow as soon as the honey is ripe enough to process. Even when extracting supers are left on the hive over an extended period, an occasional queen will persist in producing brood in the midst of the extracting frames. This happens often enough to induce some operators to employ the regualar use of queen excluders.

Close on the heels of these last two inventions, came the discovery of the bee excape in 1891, by E.C. Porter of the United States. The escape is a small metal device that can be inserted into the escape

hole of an inner cover. It provides two passageways of egress from the super above, and thus normally empties the extracting super area of bees in approximately 24 hours.

Thus we see the 25 year period between 1850 and 1875 as one of vast significance in the development of beekeeping in the United States and in the world. What the beekeeper of one nation knows one day, those of other nations have available the next day. In many ways, we have one world in all fields of endeavor, if we will but bestir ourselves to keep informed.

Obviously, the single greatest discovery during the period was by Langstroth; of the significance of bee space. Once this principle is known and followed, a hive or box of almost any dimensions may be made to accomodate bees rather satisfactorily. It was this fact that made it substantially impossible for Langstroth to capitalize financially on his tremendous discovery.

COMB HONEY

I had always thought that the production of comb honey preceeded Langstroth's discovery in 1851. But it seems that such was not the case. It was not until December 25, 1857 that J.S. Harbison of California originated the comb honey section. And it was, naturally, far from being the satisfactory device that we have today — a section made of long fiber basswood, usually 4¼ by 4¼ by 1 & 7/8ths; or 5 by 4. Harbison's section was larger, and nailed at the corners.

Comb honey and the problems associated with its production dominated the commercial honey market from about 1875 to 1910. Prior to 1851 the immobility of the combs in the hive had made successful production of comb honey on a profitable scale substantially impossible. It was not until about 1910 that the introduction into use of the extractor was extensive enough to demonstrate to commercial beekeepers that liquid honey was more profitable to produce than comb honey.

Every creation has its day, its opportunity to flourish. Comb honey, including the cobana and round sections, is now largely on its way out, yielding to cut comb honey which can be produced in greater volume with the same effort. The use of shallow frames in its production makes its manufacture almost as easy as that of liquid honey.

HIVE SIZE

Ever since the first colony was housed within a box made of boards, there has been controversy about optimum hive size.

The Dadant hive had its advocates. The Langstroth dimensions are preferred by most. But I predict we have not heard the last argument on the subject. I suggest that the degree to which commercial operations become almost totally mechanized will determine the next popular dimensions. Even the comparitively small full-depth Langstroth hive when full of honey is a bit heavy for many operators to lift manually.

Then, too, I'm not certain that we have finally determined how many frames a hive ought (ideally) to accomodate. Research may yield the answer. Human opinion is too fallible and personal to do so.

THE WAX MOTH

The wax moth has been known to beekeepers since the days of Aristotle (300 years B.C.) and before.

It prevails in all parts of the United States except in the higher altitudes. Even the relatively low altitudes of the Catskill Mountains in New York State (averaging 1500 feet in their valleys) are sufficient barrier to its prevalence.

Beginners find the wax moth a very destructive agent. Experienced beekeepers either keep their combs on the hives where strong colonies will protect them, or store them under the protection of some agent such as paradichlorobenzene.

THE BEE SMOKER

Beekeepers learned fairly early in their practice of the virtues of smoke as a partial means of control of honey bees. But, it was not until 1875 that the first mechanical smoker was developed as a practical instrument by Moses Quinby.

Prior to that time, operators employed various devices for applying smoke to bees, varying from blowing a mouthful of tobacco smoke upon them, to maintaining a small fire on a metal shovel, and blowing its smoke upon the bees. Today the smoker is the beekeeper's best friend and constant companion.

WAX FOUNDATION

One invention leads to the necessity for another. The movable frame was of only moderate value without foundation; since bees would not always build full size combs, nor combs in which worker cells predominated.

Johannes Mehring in 1857 introduced the first foundation machine. It made impressions in wax common to the bottoms of cells but with no projections for walls.

In 1876, under the direction of *A.I. Root,* the first practical foundation was produced. Many people continued to struggle with the problem until a process was (at last) arrived at which has proven satisfactory. Today, we have wired foundation, another detail over which many struggled. Manufacturers now offer foundation with cells of different sizes, and in several different weights.

QUEEN REARING

Every year thousands of queens are raised in the southern part of the United States and shipped to the North, and to Canada.

Beekeepers today are quite aware of the fact that a colony headed by a queen less than a year old is much less likely to swarm than one with an older queen. But many shy away from the expense, work and hazards of replacing old queens. Many operators hope that the bees will take care of the matter through supersedure.

Lately, a goodly number of operators are raising their own queens, or cooperating with one or more other operators in maintaining a queen breeder. There are several good books available on this subject. Many of the younger operators are trying their hand at it.

Controlled mating through mechanical insemination is practiced on a limited scale. The process is probably not so far advanced nor so successful, in all details, as when applied to larger animals.

MIGRATORY BEEKEEPING

Although there are few locations in the United States that will not support a few colonies of bees, sites for apiaries that will yield a profitable surplus are limited. Commercial beekeepers are compelled to find and operate in such localities.

In order to increase revenues from a given number of colonies, a fairly large number of commercial beekeepers are practicing migratory beekeeping, i.e., are moving their bees to new locations to secure a second or third crop.

Quite a number maintain outfits both in Florida and in some northern State, or even in Canada. Many of these operators specialize in the production during the winter in Florida of nuclei which they truck north in the spring.

Others offer pollination services for growers of fruit such as apples, pears, peaches, cherries; berries, such as blueberries and cranberries. For a few beekeepers, this source becomes the largest part of their operation.

PESTS, PREDATORS, AND DISEASES

Today's beekeeper finds his bees the

object of most, if not all, of the threats that plagued the business down through history. Periodically he discovers new threats.

For example: among the diseases, nosema is perhaps just becoming recognized as a serious one — being perhaps, the the most widespread of the adult bee diseases. The disease is particularly damaging because it influences the winter losses, and queen supersedure. Beekeepers need to study methods of combatting it, which include keeping colonies strong.

American foulbrood remains an ever present threat to every beekeeper's success. One reason is that it is so contagious, and strikes without warning. A second is that it is so devastatingly destructful to the colonies that are afflicted.

What can a beekeeper do to cambat this threat? Most beekeepers can trace a widespread affliction of the disease among their colonies to the fact that they do not make adequate nor sufficiently frequent inspections to detect its presence. In this connection, I cannot forget the statement by the chief apiary inspector of New York State to the effect that approximately 85 percent of the hives owned by amateurs and inspected by his workmen showed no evidence of having had the inner covers taken off in the past year by their owners.

Many who do find the disease present do not take sufficiently drastic measure to eradicate it. Finally, if a beekeeper believes in attempting to control the disease by medical treatment, let him be certain that he understands thoroughly what to use, how to use it, and whether the medications proposed for use has the approval of State and Federal authorities.

In these days of relatively high density of colony populations, what one operator does or fails to do becomes the proper concern of others who may be diversely affected.

Pesticides are perhaps the beekeepers' most insidious threats today because of the trend in the United States to plant large concentrated acerages of many crops on which heavy applications of pesticides are being made without much, if any, consideration of their effect upon the insect populations of the area. Adequate biological controls have not yet been devised.

Some pests, particularly bears, continue to be the dangerous enemy of the beekeeper in many areas. It is very difficult and also expensive to try to control these vandals.

BEEKEEPERS' ORGANIZATIONS

Beekeepers today are probably no more gregarious, nor more socially inclined, than in the past. But many are progressively learning that joining others is their best route to staying alert to significant developments in the occupation. It is also their best defense against such periodic outbreaks as thievery, adulteration of honey, and false advertising.

BEE JOURNALS AND OTHER PUBLICATIONS

Most successful beekeepers in the past have been faithful readers of the current literature associated with the industry. This practice continues today as the circulation figures of our leading bee magazines and new books reveal.

THE SIGNIFICANCE OF RESEARCH

Our Federal Government recognizes the significance of beekeeping to the public welfare by maintaining research centers in various parts of the country. Also, it subsidizes studies by research students in a number of our prominent colleges and universities that specialize in agriculture.

These same colleges and universities carry on an extensive and persistent program of research. What does the average beekeeper get out of such research? Space does not allow our adequate listing. Here are some of the areas that have been emphasized and are currently being pursued:

An analysis of honey. Adulteration of honey. Value of pollen. The use of pollen substitutes. The incidence of bee diseases and their potential control. Queen rearing. Instrumental insemination of honeybee queens. The nature and causes of swarming and appropriate controls. Wintering problems. Apiary locations. Hive placement. Queen introduction. Control of diseases, pests and predators. Relative value of various nectar sources. Packaging. Selling. Accounting. Bee behavior, as evidenced by bee activity in the wild.

TODAY'S CONVENIENCES

Beekeepers today may scarcely be aware of the very recent additions to their equipment that make operations much easier and more efficient.

Take, for example, the very recently introduced bee blower. Contrast it with a bee brush. I once saw a commercial operator pull a handful of hay that was still green and use it as a brush. In fact, I have done the same thing myself. Or compare today's several efficient uncappers with the old steel knife, or even the electric one.

Consider the contrast in labor that used to confront the beekeeper at the end of the day when he had to lift off from the truck each super with its killing weight of 60 lbs. or more, with the ease with which many modern beekeepers operate a hoist and pallets.

Contrast the efficiency of the modern honey filter with that of two thicknesses of cheesecloth.

Beekeeping has a long history, much of it recorded. It is just beginning to learn how to operate efficiently. We hope that as it becomes more and more efficient it does not lose its romance.□

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Root, A.I. **ABC & XYZ of Bee Culture.** Medina, Ohio. 37th edition 1978.

Pellet, Frank C. **History of American Beekeeping.** Collegiate Press Inc. Ames, Iowa 1938.

Bees Detect Minerals

F.N. Crowder of Black Creek, B.C. Canada sent the following news item to Gleanings: Honeybee pollen collected in pollen traps is being analyzed for trace elements. "I think we've got a very useful method that may add to the various methods used by geologists to discover minerals," said Harry V. Warren, professor emeritus, University of British Columbia, Canada.

In the latest study on pollen he received the cooperation of the B.C. ministry of agriculture, and more specifically that of Douglas M. McCutcheon, Provincial apiarist. The various beekeeping associations aided in the study. About 25 sampling areas were selected in B.C. The pollen is analyzed to detect traces of copper, zinc, lead, cadmium, iron and manganese.□

One Less Sting

"Stop! Before you blame a bee —
Make sure it's not a wasp you see!

By SAMANTHA RUSKIN
Medina, Ohio

"THE HONEYBEE gets blamed for all sorts of stings".

That was the message at the bottom of an order that passed my desk at the A.I. Root Company some weeks ago. One of the many orders to pass my desk — this one caught my eye. As I keyed it into the computer, I smiled at the writer's wit for having come up with such an effective and meaningful pun. It had really gotten my attention.

However, I must have thought more about the message than I realized because it soon began to wear on my conscience. Did we really blame the honeybee for "all sorts of stings"? Were stings being unjustly credited to the honeybee account, so to speak? Had I helped make this injustice possible by carrying an unfair grudge all these years?

Pain, you see, is not one of my strong points. In fact, if it hurts, I want no part of it whatsoever! And just in case you have not had the opportunity to find out for yourself, let me be the one to tell you about bees' stings: THEY HURT!!

I have never forgotten my first sting....

.....It was a beautiful spring morning with only the slightest hint of a breeze. The sky was powdery blue with spun cotton clouds. The flowers were opening and the birds were singing some sort of secret melody, known only to themselves. Squirrels scampered from tree to tree in game-like fashion. It was a glorious day all around.

This was the perfect day, I thought, to try out my newfound ability: shinnying. Yep, this was definitely the day and I knew just the right place to start, too.

"Holddddd iitttt!!!" There was that familiar voice again — mother was getting ready to hang out laundry and had zeroed right in on my plans. "Don't even think about it young lady. Do not, I repeat, do not (she did that a lot and it was most aggravating), under any circumstances climb my laundry poles!!!"

Oh darn. My once triumphantly squared shoulders dropped. "Aw, mom. I wasn't gonna hurt the pole. Alls I wanna do is see if I can shinny and the trees are all too fat! C'mon, can't I — please?"

"NO! Now, I said no and I meant no. You're gonna break that little independent neck of yours someday with all this climbing on everything in sight. Why can't you just go inside and play with the doll we got you for Christmas?"

"The string busted and she don't talk anymore. She's boring. Mom, I won't break my neck...okay?" Off I went without awaiting her reply — which, of course, had not changed.

At that young age of six or seven, there really wasn't much of me to shinny up a tree (or anything else, for that matter), but it made hiding easy. As quick as she went back to her laundry, I headed for the poles she wasn't using. They were the T-type and not really all that big — but, like I said, neither was I.

It was a lot of work getting up that pole. I had on shorts and my legs were being rubbed both raw and black. Still, there was my determination to reach the top of that pole. It was my plan (I always loved theatrics), once at the top, to hang by one hand and call out to my mother to see that I had not broken my neck, after all. So, when I could see the top bar just above my head I took in a deep breath. In one final burst of energy, I jumped for it and grabbed the top of the laundry pole.

There was an awful shrieking sound and I dropped to the ground. Tears burst forth from everywhere and nowhere. Pain had thrown me to the ground. There, in the palm of my small right hand, lay the cause of the agony: dead. A colorful speck of crushed wings and guts. Whatever it was, it had been little but it had packed a whallop. What could be worse? It had left it's behind - behind. It had stung me!

Good ol' mom, though. She was full of compassion and sympathy:

"Climbed it anyway, didn't you? Got hurt too, I see. Bee sting, huh? Well, I'll just bet you won't do that again."

(It would seem that mothers are always, or, at least, nearly always right. You know what? She was.....I didn't do that again!)

Well, from that day forward, I carried the memory with a grudge and in great detail. I hated bees and to me if it flew and made a buzzing noise there was evidence enough: it was a bee. It's ancestor had wounded me and I wanted no part of it.

Recently, I learned the mass of wings and guts in my young hand had been (I'm so ashamed) not a bee at all, but a WASP. Certainly not a honeybee. I had committed a terrible crime of injustice. I had dealt an injustice to an entire species, nearly. I had joined with other uninformed cowards and assisted numerous science fiction writers in giving bees a bad name.

So, it's true: The honeybee DOES get blamed for "all sorts of stings" and it ISN'T fair! Well, this is one less sting on their record. Maybe there are others out there who would feel differently if they only gave the little critters a chance. Why not share this story with them? Perhaps you could include this catchy little reminder:

Stop! Before you blame a bee —
Make sure it's not a wasp you see!

What do you say, gang? Let's give bees a break. As for wasps.....FORGET IT!!!□

Book Review

Insects We Need, by John Free. Twenty six pages, hardback, A&C Black, Ltd., publishers., 35 Bedford Row, London, England WC1R4JH (1980) 2.50 English pounds.

This book gives a short, clear description and has several outstanding color photographs of each of nine different kinds of insects. All of the insects described are useful to our environment and to man.

This book is written for children. It is part of a series called Nature in Close-Up, Insects We Need. L. Goltz

NEWS and EVENTS

EAS ANNUAL CONFERENCE
August 13 - 16, 1980.
UNIVERSITY OF VERMONT
at BURLINGTON
PROGRAM

Wednesday, August 13, 1980.

P.M.

1:30-4:30	REGISTRATION
5:00-6:30	Dinner
7:00-8:00	Delegates Meeting —

Thursday, August 14, 1980.

A.M.

7:00-8:00	Breakfast
8:45	Call to Order - John J. Tardie, President, EAS Invocation -Rev. Charles M. Porinton, Jr. Welcome -Richard Snelling -Governor of Vermont Welcome -William Darrow -Vermont Department of Agriculture Welcome -Robert O. Sinclair -Dean of University of Vermont College of Agriculture and Director of University of Vermont Agricultural Experiment Station Welcome -Grace Hill, President Vermont Beekeepers Association
9:30-10:00	"Production of Superior Quality Queens by the Hobby Beekeeper"- Dr. Dewey M. Caron, University of Maryland Apiculture Department
10:00-10:30	Coffee Break
10:30-11:00	"Beekeeping Folklore Thru the Ages"- Roberta Glatz, Teacher, Feura Bush, NY
11:00	Professional Apiculturists Meeting
11:00	Ladies Luncheon - Leave by Bus
11:45-12:45	Lunch All afternoon and evening programs to be held at Shelbourne Farms, on the shore of beautiful Lake Champlain and the home of world-famous Shelbourne Museum

P . M .

1:30-4:30	Workshops: 1. "Mead Making" -Dr. Dewey M. Caron 2. "Major Honeybee Diseases" -Jack Matthenius 3. "Opening Colonies of Bees" -To Be Announced
1:30	Buses leave for Tour of Shelbourne Museum
2:30-3:30	Board of Directors Meeting
3:30-4:30	Apitherapy Meeting
5:00-6:00	Cash Bar
6:00-7:30	Roast Beef Barbeque
8:00	Square Dance

Friday, August 15, 1980.

A . M .

7:00-8:00	Breakfast
9:00-9:30	"Electricity and the Honeybee" -Dr. Eric Erickson, University of Wisconsin
9:30-10:00	"Honey Adulteration" -Ralph Gamber, Dutch Gold Honey Co., Lancaster, PA
10:00-10:30	Coffee Break
10:30-11:00	"Bee Venom Therapy Research to Date" -Major Jurgen Von Bredow
11:00-12:00	Business Meeting -Presiding: John J. Tardie

P . M .

12:00-1:00	Lunch
1:30-2:00	"Production & Marketing of Propolis, Pollen & Royal Jelly" -Mr. Hal Neiman, Green Grown Products, Inc., Santa Monica, California
2:00-2:30	"The Varroa Mite" -Dr. Koininger
2:30-5:30	Workshops: 1. "Honey Cookery" -Bess Clarke, Canton, PA 2. "Preparing Honey for Show" -Dr. Roger A. Morse, Cornell University, Ithaca, NY 3. "Beeswax Uses" -Dr. Robert Berthold, Delaware Valley College, Doylestown, PA 4. "Batik & Ukranian Easter Egg Decorating" -Joanne Wojcik, Lambertville, NJ
7:00	Banquet
9:00	Ballroom Dance

Saturday, August 16, 1980

A . M .

7:00-8:00	Breakfast
9:00-9:30	"Retiring to Hobby Beekeeping" -Ed Weiss, Author of "The Queen & I", Wilton, CT.
9:30-10:00	J.I. Hambleton Award Recipient -Dr. Jonathan W. White, President, Honey Tech, Inc., Navasota, TX
10:00-10:30	Coffee Break
10:30-11:00	"Treatment of Allergies to Insect Stings" -Dr. Mary Lovelace
11:00-11:30	EAS Student Apiculture Award Recipient -Richard A. Nunamaker, University of Wyoming, "Iselectric Focusing as a Means of Identifying Races of Honeybees"
11:30-12:00	Topic to be announced -Dr. Roger A. Morse, Professor of Apiculture, Cornell University, Ithaca, NY

P . M .

12:00-1:00	Lunch - Goodbye until August 5-8, 1981 in New Jersey

EAS Short Course, by Dewey Caron
Monday, August 11, 1980

A . M .

9:00-10:30	Registration
10:30-12:00	Introduction into Beekeeping

P . M .

1:30-5:00	Programming
6:00 -	Films and Discussions

Tuesday, August 12, 1980.

A . M .

9:00-12:00	Programming

P . M .

1:00-4:30	Installing Package Bees Working Established Hives
5:30 -	Free

Wednesday, August 13, 1980.

A . M .

9:00-10:30	Programming
10:30-12:00	Working Established Hives

P . M .

1:30 -	(Time Permitting)Working Established Hives

Registration Fee - $35.00 per person (This is in addition to EAS Conference Registration).

Meals - On a cash basis in UVM cafeteria.

Lodging - For short course only, Monday and Tuesday nights, Single $26.25; double $43.50 — in addition to regular EAS conference attendance. This would be five nights (Monday through Friday). Total lodging for five nights -single $62.50; double $102.50. If attending Short Course and EAS Conference your lodging for short course is single $24.00, double $39.00.

ALABAMA
Mobile County Beekeepers Assoc.

The Mobile County Beekeepers Association is sponsoring the Alabama Beekeepers' Annual Convention August 1st and 2nd, 1980, at the Mobile Hilton Hotel in Mobile, AL.

There will be several outstanding speakers on the subject of how to get more honey out of this beekeeping enterprise.

Anyone keeping bees or interested in getting into a very "sweet business"

should plan to attend. For reservations write or call: John A. McArthur, Suite 117, 572 Azalea Road, Mobile, AL. 36609, Phone 666-2827 or John R. Roberts, Phone 342-6300.

MAINE
Maine State Beekeeping Association

Maine State Beekeeping Association, Inc. will hold its Annual Picnic at the New Glovester Opportunity Farm starting at 9:00 a.m., August 3rd, 1980. Displays and a Honey Show will be under the direction of William King. Program Chairman, MSBA, Inc.

TEXAS
100TH Anniversary of Texas Bee Assoc.

On Friday and Saturday, November 7 and 8, 1980, Texas Beekeepers will meet at the El Tropicano Hotel in San Antonio to celebrate 100 years of organized beekeeping in the Lone Star State. Speakers from all over the country will be on hand to participate in an outstanding program that will feature, among other things, movies, demonstrations, and a beekeeping school for beginners. Plan to attend.

CANADA
Third Annual WAS Conference

The Western Apiculture Society will meet in Victoria, B.C. Canada at the University of Victoria. The 1980 conference program will open on Monday, August 18th with registration beginning at 10:00 a.m. and activities continuing through an 8:30 p.m. social period.

There will be a full program of speakers and events on Tuesday, August 19th and an evening program beginning with a social hour at 5:30 p.m., a salmon barbeque at 6:30 and entertainment at 8:00 p.m.

A full program is scheduled for Wednesday, August 20th beginning at 9:00 a.m. and ending at 4:15 p.m. Special tours will be available at 1:15 and 6:30 p.m.

The Thursday, August 21 events will fill the program from 9:00 p.m. to noon. In the afternoon a tour of Babe's Honey is scheduled at 1:15. There will be a social hour at 6:00 p.m. and an awards banquets at 7:00 followed by dancing.

Many outstanding speakers, tours and activities are scheduled for the four day conference.

The pre-registration deadline is August 1st. Register at the conference after that date. U.S. registrants are requested to pay in Canadian funds. Non-members are welcome.

You may request pre-registration forms for D.M. McCutcheon, 17720 57th Ave., Surrey, B.C. V3S 4P9 Canada. Conference costs will be listed in the pre-registration forms.

FLORIDA
Florida State Beekeepers

Florida beekeepers will meet in November 6, 7, & 8 at the Causeway Inn Beach Resort, Courtney-Campbell Causeway, in Tampa, Florida for the 1980 Annual Convention of the Florida State Beekeepers Association, announced Bill Shearman, president of the association, recently.

The theme of this convention will be "Practical Beekeeping in Florida" Shearman said after meeting with other state officials and Tampa Bay Beekeepers Association officials, who are to be the hosts for this year.

Beekeepers wishing to attend can obtain information from local secretaries and State Executive Secretary Ed Hancock, 7410 Hancock St., Riverview, Fl. 33569 — Telephone (813) 677-9364, who is the registrar for the convention.

MASSACHUSETTS
Middlesex County Beekeepers' Assoc.

The regular monthly meeting of the Middlesex County Beekeepers' Association will be held Saturday, July 26, 1980 at 2 p.m. at the home of Mr. and Mrs. Charles Pechulis, 18 Cathy Road, Chelmsford, MA. 01824, Phone: 617-663-2269.

Obituaries

FRANK B. MEACHAM

Mr. Meacham was born on October 20, 1897 in Biltmore, North Carolina. He attended North Carolina State College where he received a B.S. in 1922 and a Master's Degree in 1924. He married the former Pearl Parker and they had two children, Frank Parker Meacham of Greensboro and Mrs. J.M. McAllister (Joann) of Raleigh and five grandchildren.

He began his career as a teacher at North Carolina State College.

His grandfather taught him beekeeping as a child, creating what blossomed into a lifetime interest in the honeybee. Frank became a commercial beekeeper, served as President of the North Carolina State Beekeepers Association, Secretary-Treasurer of the Association for over twenty years and was awarded with a life membership in the Association.

He was superintendent of the Bee and Honey Department, North Carolina State Fair thoughout his career and was named Superintendent Emeritus in 1975. At that time the North Carolina State Fair saluted Frank for his more than 50 years of service to North Carolina agriculture, and especially the beekeeping industry.

In 1941, Frank became curator of zoology at the North Carolina State Museum where he served until retirement at age 65. After a two year rest, he returned as bee specialist to North Carolina State University where he served until his second retirement in 1974, at age 77.

His ability to capture and hold the interest of student groups visiting the North Carolina State Museum was outstanding. He will be remembered by his friends for his pleasant sense of humor that was characterized by clever, original anecdotes.

FRANK B. MEACHAM

ALLAN P. COOK

Allan P. Cook, a prominent Florida beekeeper, died April 28, 1980, at the age of 69 of a sudden heart attack. He was a second generation beekeeper and helped his father, Mr. C.C. Cook keep bees with a ox cart as early as 1916. The family business grew into a large operation at LaBelle, Florida in the early twenties. Allan started his own honey business at Avon Park, Florida in 1950. He was a lifetime member of the Polk County Beekeepers Association. In his lifetime he helped many young and hobby beekeepers, giving them advice and with his workshop he made material for many. His son, Norman R. Cook, will carry on the business.

BEEKEEPER TECHNICIAN PROGRAM

A unique program, designed to teach the basics of the beekeeping industry, is in its second year at Fairview College in Fairview, Alberta, Canada. The Beekeeper Technician Program was developed in response to the industry's chronic shortage of skilled workers. It was planned by an Advisory Committee made up of successful commercial beekeepers and government apicultural specialists who worked closely with Fairview College program development staff.

The location of the program is very suitable as the College is located in the agricultural area of the Peace River Region which spans northern portions of the provinces of Alberta and British Columbia. This region accounts for a significant portion of Canada's honey production. Proper management techniques and the long summer days combine to give the Peace country potential for "phenomenal" honey crops.

It is the objective of the program to provide experienced skilled workers for the beekeeping industry. While some of those who enroll intend to become independent operators in the future, they are encouraged to "apprentice" themselves to commercial operators for at least three years before starting apiaries of their own.

Of the first group of students, 19 of the 20 are making their living wholly or partially from beekeeping. Some have gone into a permanent or seasonal arrangement with their past summer field placement employer or with another beekeeper. One has been hired as a technician's assistant in the Alberta bee breeding program and another has gone into partnership with his employer. Employers, recognizing the value of skilled help, have offered bonuses and crop sharing arrangements.

In the first group, a few of the students had their own apiaries and did their field placements at home. None of these successfully completed the program because the knowledge and experience which they were able to gain over the summer were not commensurate with what they would have received from a commercial beekeeper.

The program is divided into three sessions, commencing in February. The first six weeks consist of classroom theory, field trips, building and familiarizing students with beekeeping equipment.

In April, with the arrival of packaged bees and the start of a new beekeeping season, each student embarks upon a work experience phase. By working with a successful commercial beekeeper in Western Canada, students have a chance to expand upon the theories they have learned. Over the summer, the instructor visits each student on several occasions spending the full day working with him or her in the bee yards to observe performance.

The emphasis in the program is on the summer field placement in recognition of the necessity to put into practice the theory learned in the classroom. Also, it is expected that the students will be exposed to a wide variety of methods which will increase their overall competency.

In October, the students return for two weeks of class to integrate and share the knowledge they gained during the summer.

To apply to the Program, one must be at least 18 years of age, be in good general health, have a vehicle license, and have literacy skills equivalent to the Alberta Grade Ten level. Preference is given to applicants who agree to employment with an approved commercial beekeeper for the summer work experience session of the program.

Foreign students are welcome to apply but their numbers in the program will be limited.

To date, the beekeeper students have been drawn from most of the Canadian provinces, Scotland, England, Trinidad and the United States.

The program has a future because it brings together people in industry who need help and those who are seeking a career in beekeeping. Consequently, it has received excellent and enthusiastic support from commercial operators and government apiculture specialists. It is planned to have the Beekeeper Technician Program become an ongoing part of the College's agricultural studies offerings.

For further information, please contact: The Coordinator, The Beekeeping Program, Fairview College, Box 3000, Fairview, Alberta, Canada, TOH 1LO, (403) 835-2213.□

SIFTINGS

Continued from page 458

they are stung again the next day, there usually will not be another allergic reaction, since the first sting will raise the cortisol level of the body to a high level for several days. That protects the body against the allergic reaction. Then continue taking a sting every day on different parts of the body until you no longer swell. You will then be immune for quite a long period. Occasional stings will keep up the immunity.

However, if there is an anaphylactic shock, unconscious, difficulty in breathing, then that is a serious matter. Desensitization must then be handled by an experienced allergist with the pure venom allergin.

It is always a good idea where there are any problems with allergy or hypersensitivity to have a sting kit handy, equipped with anti-histimine and adrenalin, just to be sure, even if you may never need it.

Also, it is a good plan for all beekeepers to learn not to always avoid getting stung. Learn to work without gloves so you get stung on the hands occasionally. Then when "old age" creeps up on you and should you get those "aches and pains" of rheumatism, you will then be prepared to do something about it. Far as we know bee stings will not hurt you; many beekeepers take thousands of stings a year for 50, 60 years or more, as I have. Teach yourself to believe they are good for you, then they won't hurt nearly as much, we hope. When young fellows that work for me get a good stinging on occasion, I cheer them up by telling them, "They'll make a man out of you!"□

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THE INTERNATIONAL BEE RESEARCH ASSOCIATION regularly publishes new information on bees, beekeeping, and hive products, for beekeepers and scientists all over the world. Mail inquiries from USA: H. Kolb, P.O. Box 183,, 737 West Main, Edmond, OK 73034. IBRA PUBLISHES: **Bee World,** a quarterly journal for the progressive beekeeper. **Apicultural Abstracts,** a survey of scientific literature from all languages. **Journal of Apiculture Research,** for original bee research papers. Books and pamphlets on all beekeeping topics. Catalogues of publications and details of journals and membership $1. Specimen copy of **Bee World** $1.50; **Journal of Apicultural Research** $1.50; **Apicultural Abstracts** $2.00, from INTERNATIONAL BEE RESEARCH ASSOCIATION, Hill House, Gerrards Cross, Bucks. SL9 ONR, England.

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