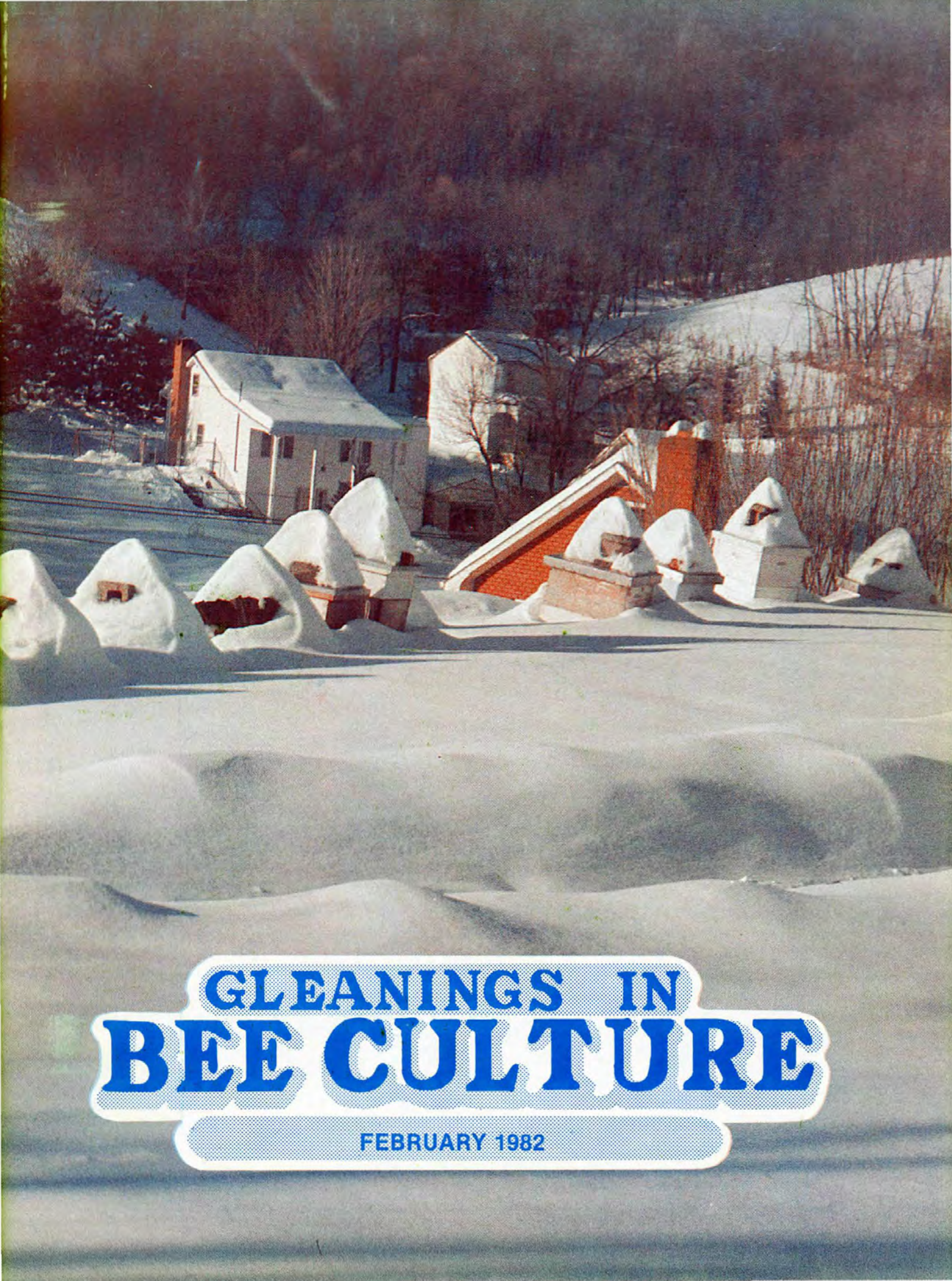

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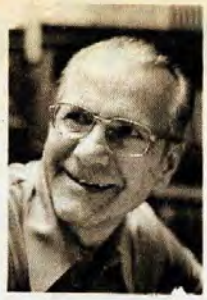

Lawrence Goltz

FEBRUARY

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COVER STORY

These hives, nearly buried by a heavy snowfall, are in the home apiary of Harry Mallow of Cumberland, Maryland.

CONTENTS

By ALLEN FREEBURNE
Central Point, OR

Queen Rearing

WHAT ANY SERIOUS beekeeper needs is a good method for keeping good queens in his or her hives. There are many reasons for this. For example, honey production cannot be maximized nor can swarming be controlled unless all queens are in top-flight condition. Beekeepers also need to work efficiently with their bees. At least those who depend on bees for a living do. Every trip to the beeyard must be useful what with the cost of fuel these days. Costs must be kept down and yet production needs to go up. Reliability of queens must be assured.

Is there then an easy method for rearing queens which meets all these criteria? Well, I am happy to say that there is. This is certainly not a new method and undoubtedly it has been used for years by certain beekeepers. Its main advantage is that it lets the bees do most of the work. So what about this method and how does it work?

The method has a number of advantages. First of all, it is inexpensive. It makes use of equipment you probably already have. You may need to make a temporary modification to some of your hive bodies or bottom boards, but nothing that is going to cost much. Best of all, there is no more buying of commercially-reared queens unless you want to change the type of bees you have now.

Secondly, this method is very labor efficient. There are no problems involving introduction of queens or fooling around with queen cells or cages. In fact, you will never have to look for queens again. As everybody knows, looking for queens is an incredibly time-wasting process. The fewer frames you have to handle, so much the better both for your bees and for your back.

What about reliablity and productivity of these queens you are going to raise? Since you are always rearing queens from only your best hives, you are always selecting for bees which are superior. Not only are they just superior, but they are superior in your locality, an important consideration. Everybody knows too about the reliability of queens that get bumped around in the mail. Sometimes they look great for a month, only to be superceded later.

How about the criticism that raising your own queens interrupts brood cycles and can cause losses in productivity? With this method, the original queen is allowed to live and produce eggs until you decide to kill her, if you do. Her brood nest may be constricted for a week or so, but there is no interruption and she proceeds laying eggs at high gear.

What about swarming? Well, you can worry less about swarming in all you hives that have new queens since first year queens rarely swarm. If you choose not to requeen hives that have good one and two year old queens as I do, the best method is simple. Check hives every ten days in the one or two month swarm season. Don't touch the frames, just peek up under the bottom bars of the brood nest and poke out the queen initials while you are at it. True, sometimes you will find a hive that beats you to the punch, but not all that often.

Lastly, this easy method of raising queens will give you a familiarity with your bees and their life cycle that you may not have experienced before. It takes the guesswork out of certain aspects of beekeeping allowing you and your bees to work efficiently together. Also, it will undoubtedly increase your appreciation of the little critters, which is why we are all beekeepers in the first place.

The plan makes a few assumptions that are not overly exacting, First of all, it assumes that you overwinter your bees in two deep hivebodies. This is not critical, but it helps. This year my bees overwintered in one deep and one shallow hivebodies. However, we live in Southern Oregon where the winters are mild and I truck my bees to Central California for the almonds bloom around February 1st. Therefore, the bees need less stores than in many parts of the country. For most areas, two deeps is what you need to hold the winter stores necessary to sustain good brood buildup in the spring.

The second assumption is that your bees have come from a number of different sources. In other words, you did not requeen last year with all the same type of queen from the same bee breeder. Since you are going to be the bee breeder, you do not want to be crossing bees which are brothers and sisters and getting possibly a lot of inbreeding. This may cause infertile eggs to be laid, resulting in a spotty brood pattern. It seems to also lead to some very mean-tempered bees, at least on occasion. My bees originally came from Italian, Carniolan, and Caucasian stock in about equal amounts, although by now there has been so much hybridization that it is impossible to tell what they are. I realize there may be some purists out there who shudder at this mongrelization, but believe me that the bees do not care, nor will you when you see how well they do.

A third assumption is that you have some extra hivebodies out there in the barn and also some extra tops and bottoms. Since you are going to be making nucleus colonies, it does not hurt to have some nuc boxes that will hold at least three standard deep frames. I keep about 75 such boxes around for use in the spring and they come in very handy. These are not crucial, though, if you have some extra supers. Just close the entrances down and use only half the box until they get going. Another possiblity is to take a regular deep hivebody, add a temporary piece of 1/4" thickness plywood to divide the hive body in half. Rig a bottom board with a separate entrance at each end and with a wood strip down the middle which comes flush with the plywood in the box. This will allow you to rear separate colonies in each box. With the entrance at each end, the bees and the just-mated queens won't get mixed up and go into the wrong hive.

A final assumption is that you have checked for foulbrood in the fall and have given your clean colonies a couple of doses of terramycin and sugar sometime in the fall. Dirty foulbrood colonies and equipment should have been properly disposed of. You want to be propagating clean colonies only, not spreading American foulbrood around.

The best time to use this method is in the spring, or whenever a fair number of drones begin to appear in the hives or flying around outside. Some sort of spring honey flow should have started and probably the fruit bloom is over. The hives are getting brooded up, there are lots of workers, and new honey is being stored. For me, this usually happens around March 15 to April 1, but a lot of that is due to the early fruit bloom in California. For more northerly climates, around May 1st might be a more realistic date. At any rate, just take the time sequence I will give you and add your own dates.

O.K., so you have decided how

Made Easy

many nucleus colonies and new queens you want to produce. Out of each original hive, you should get at least four three-frame nucleus colonies. One of these will have the original queen, so count conservatively on three new colonies from each original, plus getting the original colony back. Here we go:

3-15 — Set out three-frame nucleus colonies from your best hives. Determine which are best from inspection a week before or honey records from the previous year. At any rate, there should be brood in both boxes. In each nucleus colony place two frames of brood (both sealed and unsealed) and adhering bees. Also place one good frame of honey plus adhering bees. What, you don't have any good frames of honey in your hive? You are too early, come back in two or three weeks when the honey is flowing a little more. Don't waste your time looking for the queen, her presence will be obvious in a week. All of the new colonies should be removed to a new location except for one in the original location. All of the boxes you are going to move should have the entrances stuffed with newspaper so the bees won't fly back to the original location while they are waiting to be moved. Usually I can get 25 to 35 nucleus colonies in the back of my pickup before the bees get to leaking out so bad that I have to take them off to the new location. When you set them out in their new spot, don't line them up nice and even but scatter them around so the new queens won't have any trouble getting back to their own hive. So, to repeat, split these best colonies completely up into 3-frame nucs. Extra frames that don't have much honey or are not completely covered with bees can be shook into the boxes before covering. Have one frame of honey or one frame of brood leftover? Stick it into the next box. Don't worry about mixing bees from different colonies at this time of year.

3-20 to 3-23 — Inspect your nucleus colonies and determine which have the original queen. This is easy to do and in most cases the queen cells from colonies rearing new queens can be observed hanging down just under the top bars of the frames. Crack the frames a little, blow a little smoke down between and at least one is usually evident. If not, you are going to have to gently pull a frame out and look at it. If the original queen is in this hive, the frames will be covered with eggs and brood in all stages. When you place the frames in the boxes, always place the honey frame on one side. Then if you have to pull out a frame, always pull the middle one, which has to be a brood frame. If the original queen is not in this colony, you will probably see queen cells. If you don't, rest assured — they are in there somewhere. If you happen to smash a queen cell, don't worry — they always make enough for such contingencies.

On this inspection, whenever I find a nucleus colony with the original queen, I immediately pull the colony out of the little box and put it back into a standard size box filled mostly with drawn comb so that she doesn't get crowded in her little nuc box. However, I am using a three-frame box and if you are using a larger one, then you can leave her in there longer. Also, if you want to kill her so that you have all new queens produced from your nucleus colonies, now is the time to do it. However, since she came from one of your best colonies and has survived the hive-splitting process, she is probably still an excellent queen, so you will have to think about this.

4-1 to 4-10 — This is a crucial time for your nucleus colonies. After ten days, queens will begin hatching out of their cells and then four to ten days after that will take their mating flight. Then a few days later she starts laying. The only thing you might watch out for during this period are small swarms in the bee yard. What happens is that if the bees are doing well and the honey is coming in, even these little nucs sometimes get big ideas what with all these new queens running around. These small swarms nearly always have a good queen and so are an added bonus and should be hived. You can either let them grow, use them for requeening your old hives, or combine them with your old hives should they go bad.

4-15 — Inspect all your nucleus colonies for eggs except for those you marked as having the original queen. Most of these colonies will have eggs and perhaps young brood present. this means your new colony has successfully requeened itself and is on its way. Combine any colonies that don't have at least a few eggs and come back and check a week later. If still no eggs, shake bees off the frames in front of smaller queen-right colonies to help them along and recycle the frames. Barring any outright disasters, about 90% of your queenless nucs should requeen themselves.

So that's it. The bees do most of the work, you never have to fool around with queens, and the only major frame handling is when you split your best hives. Since all the queens you raise come from your best hives, you get a bee that is adapted to your area, you pay nothing for her, and you don't have to contend with queen cages and introduction problems. If any of your other hives go bad, you have a supply of nucleus colonies you can use for combining. The remainder you can let grow up to become your best hives next year.

Some worry warts out there will say, "yes, but what if it rains during the time the queen must make her mating flight?" Well, queen breeders have to put up with the same problem, and as they are well aware, it hardly ever rains that much. If it was as difficult for her to get out and mate as some would have us believe, then there wouldn't be bees or bee breeders. Of course, it pays to know your area and have sunny, well-protected bee yards. You can also stagger the days you pull the nucs if you want, therefore not putting all your eggs in one basket, so to speak. If you are making a lot of these nucleus colonies, the days get staggered anyway, because you can't pull all the nucs in one day and because of intervening weather conditions. Two good loads of nucs a day is plenty for me, because after splitting out sixty or seventy nucleus colonies, it starts to get a little tedious. Even a beginner who is only splitting three or four colonies can stagger the dates if he is worried that there may be a problem with rain or bad weather. For those who are doing larger numbers, it may help to have all the nucs at each yard the same age. This way you don't have a whole bunch of nucs mixed up, each doing different things at different times.

What kind of final figures do you end up getting on these self-reared queens? The figure I get year after year is that about 85% of the queens get settled down and produce good colonies. This is as good or better than queens I have purchased from professionals. Your own naturally-reared queens won't suddenly get superceded either, but go on to yield productive colonies for years. Good nucleus colonies generally seem to produce good queens and good queens seem to produce good colonies. The bees know what they are doing more often than we do. So if you want to get ahead with the bees, give this method a try. It works just fine for me and I know it will for you too.□

Bee Talk

By RICHARD TAYLOR
Route #3
Trumansburg, NY 14886

LET'S TALK ABOUT beeswax, surely one of the favorite subjects of any beekeeper.

I got to thinking about beeswax the other day when a beekeeper friend asked me how to bleach it. He had molded a lot of little beeswax cakes, to sell along with his honey, and instead of being light yellow, as they should be, they were a chocolate brown, not very pretty.

Well, I don't know any practical way for an ordinary beekeeper to bleach beeswax, but there is really no need to. The reason my friend's wax cakes were brown is that he had melted the wax in an aluminum vessel. Beeswax reacts with many metals — copper, iron and aluminum, in particular — turning it brown to black. But it does not react signficantly with tin. So there is the solution — melt your cappings in a well tinned vessel.

Of course if you have lots of odds and ends of wax around the place and you just want to get them melted down so you can swap them at the bee supply outlet for foundation, then you don't have to be so fussy. I was noticing the other day what a lot of miscellaneous wax I have accumulated, in old cartons and tubs and all sorts of things. One fine day I've got to light up the old gas stove out in my honey room and get this stuff melted down. I do this every two or three years, and the wax is very valuable, just like money in the bank. The way I do it is I put an old galvanized tub on the stove, add about three or four inches of water, get that boiling, and then start dumping in the wax scraps, a couple of pounds or so at a time. Some of the scraps are pieces, some cappings that the bees have licked more or less dry, and some are wads of burr comb I've scraped here and there. You have to be careful here, and not let it get boiling too vigorously, lest it boil over and start a fire; but I think you'd have to be pretty dumb to let that happen. If you keep an eye on things you'll be all right.

When the wax is all melted I just ladle it out with an old sauce pan into milk or cottage cheese cartons, and that's all there is to it. The next morning I have a big stack of wax blocks. All I have to do is peel off the cartons.

Of course galvanized metal is not very good for beeswax either, and my ladling pan is aluminum. But that doesn't matter; the wax is not in contact with either long enough to make much difference, and I'm not trying to get wax for show. I'm just trying to get a lot of wax melted up with as little work as possible, so I can swap it for comb honey foundation.

A topless sixty with spout (arrow) soldered on the side.

To get really beautiful wax, which you can sell for a very fancy price, you go about things differently. Solder a spout on the side of a topless sixty-pound can, about two inches from the top. The inside of the sixty should be in pretty good condition, though it doesn't matter if it is completely rusted on the outside. Next put three or four inches of water in this, and get it boiling. Then add cappings, a handful at a time, which make the very best wax. It won't matter if they are still sticky. Before long you'll have a lot of melted beeswax floating on the water. Use a low flame, and be careful the wax doesn't boil up and over the side. Have a strong wire on hand to stir the melted wax. This causes impurities to sink down into the water underneath. Now to get the wax out, pour boiling hot water slowly into this can. The hot water goes straight to the bottom, of course, and the melted wax rises to the spout and out. While that's going on, you use your third hand, or the hand of a helper, to fill little wax molds at the spout. Tiny wax drinking cups make perfect little molds.

The wax needs no straining. All but the very last wax to come out will be perfectly clean, with hardly ever a dead bee or other impurity in it. You can also stick a little piece of candle wick in each mold as the wax begins to harden. But if you do that you should first dip the wicking in the can of melted wax, to make it stiff, then cut it up into more or less uniform pieces, all ready to poke into the molds. If you don't do that, then the pieces of wick will droop and sometimes sink into the small wax cakes.

I always have a box of these little wax cakes at my honey stand. I think they weigh about two ounces each, and go for fifty cents, which works out to about four dollars a pound. I don't know what people do with them. Some say they wax their fishing lines, some wax their their skis. Once I even found that a customer had taken a bite out of one, to see whether it was food!

You won't get rich selling beeswax that way. I suppose I pick up maybe two or three dollars a week from the wax, at my honey stand, in the summer. What is really more important, I think, is to get beeswax into the hands of the bee supply dealers. They are always eager to get all they can, and you get valuable foundation in return, with a modest "workup" charge. That is one of the best deals I know of, both for you, and for the dealers. But of course they care little for pretty little wax cakes, of the sort just described. They just want it reasonably clean, without a lot of dirt or rags or dead bees mixed with it, and to get that you can use the tub method described at the outset.□

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Research Review

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

Notes On Honey Production In China

THE DIRECTOR AND an Associate Scientist at the bee research institute in Peking have recently discussed beekeeping and honey production in their country. They state, "Beekeeping occupies almost no agricultural land, and requires little investment. But it yields a rapid return . . . ." The number of colonies in China has increased from 500,000 in 1949 to 5,000,000 today. This suggests that we can expect a continuing interest in beekeeping in China and that as much, if not more, honey will enter the export market in the future.

Since 1956 the Chinese have made a stong effort to keep the small Asian honeybee, *Apis cerana* in man-made hives. At present there are about one million such colonies. Production is a little more than forty pounds per colony, which is higher than I've heard from other countries where this bee is used. Apparently the remaining four million colonies in China are European honeybees. It is stated that European bees rob the Asian bees successfully, so presumably the Asian bees are used only in that portion of the country where there are few or no European bees.

The common honey plants in China are mostly familiar to us: rape, vetch, acacia, alfalfa, sweet clover, basswood and buckwheat; however, lichi and a few others are not found in the United States in quantity. Much of the honey is given to "medical factories for making pills with Chinese herbs." Some honey is used in baked goods, a small amount for the retail trade. According to the reference listed below, about half of China's production is exported.

Royal jelly is produced on a large scale and is used to make "medicaments and high-grade nutritive products." Some is combined with ginseng to make a "double treasure". There is also crystallized royal jelly, chocolate royal jelly and royal jelly wine. Venom, propolis and pollen are also harvested, but in limited quantity.

Very little is said about bee diseases in China. Varroa disease is under study. The treatment they mention is to remove capped brood combs and to treat with chemicals, but the details are scanty. A second mite, *Tropilaelaps clareae* is mentioned. I have seen it everywhere I have seen varroa mites in Asia, but somehow it does not appear to have spread around the world the way the varroa mite has. No mention is made in this article of American foulbrood or any other common bee diseases.

A Chinese beekeepers' association was formed in 1979. A bee journal, published six times a year, has a circulation of 110,000. A beekeeping department was founded in one agricultural college in 1981. All this suggests that Chinese beekeepers are just beginning to get organized and that we can expect to hear much more from them in the future.

Deh-Feng, M. and H. Wen-Cheng
Apiculture in the New China. *Bee World* 62: 163-166. 1981.

An Unheralded Centennial is Past

The first recorded honeybee-pesticide loss that we are aware of occured in 1881. A beekeeper, George Thompson of Geneva, Illinois, wrote that his ten-year-old plum tree had never given him any fruit. In an effort to control the curculio Thompson "sprinkled the whole top of the tree" with Paris green a day or two before petal fall. The next afternoon he observed many dead bees in his apiary. He says he learned his lesson and that one should "never put Paris green on trees when in bloom".

Perhaps it isn't really important to recall an event of this nature but it does make me angry that we still have a serious problem. Over 1600 colonies of bees suffered pesticide losses in New York State in 1981. That's too much! Pesticides are important agricultural tools but they are widely misused. We must continue to remind our regulatory agencies that the problem still exists and in some areas of the country has grown worse in recent years.

Shaw, F. R.
Bee poisoning, a review of the more important literature. *Journal of Economic Entomology* 34: 16-21. 1941.

Thompson, G. M.
Paris green. *American Bee Journal* 17: 85. 1881.

More on Varroa Disease

The last issue of *Bee World* for 1981 devotes two articles and 22 pages to varroa disease, a disease not yet in the United States but one we fear. I read both papers carefully and could find nothing new. Diagnosis is still difficult because developing mites are protected within capped brood cells and adult mites burrow under the abdominal sclerites of adult bees. The first article listed below gives a good review of the mites; biology and discusses the methods being used to control the pest, none of which are very practical. Persons not familiar with the disease will find these papers useful in updating themselves on the problem. Reprints are available for $2.30 and $1.85 each by writing International Bee Research Association, Hill House, Gerrards, Bucks, SL9 ONR, England. □

Ritter, W.
Varroa disease of the honeybee *Apis mellifera*. *Bee World* 62: 141-153. 1981.

Griffiths, D. A. and C. E. Bowman
World distribution of the mite *Varroa jacobsoni*, a parasite of honeybees. *Bee World* 62: 154-163. 1981.

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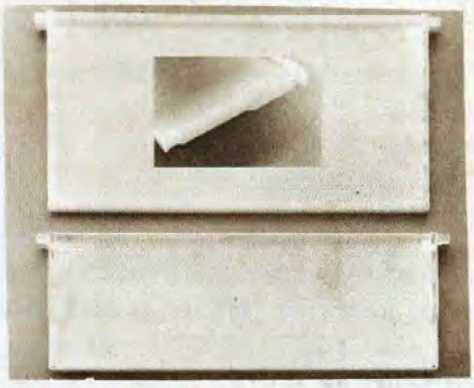

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Monthly HONEY Report

LAWRENCE GOLTZ

January 10, 1982

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	36.50		36.50		36.50	38.50	34.50	42.00	34.00
60 lbs. (per can) Amber	35.00		33.75		35.00	36.00	32.50	42.00	33.00
55 gal. drum (per lb.) White	.57		.58	.56	.56	.60	.56	.57	
55 gal. drum (per lb.) Amber	.54		.52		.54	.57	.47	.55	
Caselots — Wholesale									
1 lb. jar (case of 24)	29.00		25.80	24.50	34.80	24.00	23.00	24.50	23.00
2 lb. jar (case of 12)			24.20	22.50	33.60	23.50	22.00	22.75	22.40
5 lb. jar (case of 6)	32.00		26.25	26.75		25.00	24.10	26.00	25.20
Retail Honey Prices									
½ lb.			.90	.80		.85	.79	.89	.97
12 oz. Squeeze Bottle	1.25		1.50	1.15	1.35	1.30	1.45	1.35	1.43
1 lb.	1.45	1.45	1.49	1.35	1.45	1.45	1.48	1.40	1.59
2 lb.	2.60	2.59	2.85	2.50	2.80	2.50	2.70	2.50	2.75
2½ lb.	3.50					3.15		3.50	
3 lb.		4.25			4.55	3.75		3.75	4.10
4 lb.				4.90		4.80	4.75	5.00	5.10
5 lb.	6.00	6.00	5.95		6.50	5.75	5.20	5.90	6.15
1 lb. Creamed			1.55	1.45				1.50	1.70
1 lb. Comb			2.25			1.75	1.95	1.80	
Round Plastic Comb			1.50	1.70			1.80	1.25	
Beeswax (Light)	1.90		2.00	2.10	1.90	1.95	2.00	1.90	1.85
Beeswax (Dark)	1.80		1.90		1.80	1.90	1.95	1.80	1.75
Pollination Fee (Ave. Per Colony)	20.00		22.50				18.50		

Misc. Comments:

Region 1

Much snow this winter to date, although ground is not frozen under snow cover at the first of year. Bees wintering well. Top grade honey moving well, but high moisture honey being offered by out of state beekeepers according to report from Connecticut.

Region 2

No changes in honey prices. Many large lots of honey in New York state going under government loan. Pesticide losses in New York reported affecting about 50 beekeepers in 1981. Many bees went into winter light in stores in West Virginia. No flight days in December.

Region 3

Moderate winter to date in Ohio.

Bees wntering well. Retail honey sales good in Indiana over the holidays. Bees wintering well with some feeding necessary. Plenty of moisture across this region, with fair snow cover. Bees wintering well in Illinois although mild early portion of winter may increase need for spring feeding. No honey in beekeepers' hands in Illinois because of very short crop. Bees in better condition than last winter in Wisconsin. Moisture plentiful.

Region 4

Mild winter up to first of year in Minnesota. Bees wintering normally. Honey sales only fair due to higher prices and depressed economy. Bottlers buying bulk honey on a hand to mouth basis.

Region 5

Honey sales good during holidays. Bees in weak condition and stores low due to poor weather conditions in North Carolina in the fall. Bees in protected areas of Florida are building up about three weeks early as of first week in January. Temperatures above normal in December and an early season may follow. Colonies are heavy but losing weight fast.

Region 6

Rains in Kentucky have replen-

(Continued on page 91)

Migratory Beekeeping

By ROLLAND BELL
Fort Worth, TX

I'M GONNA HAVE me some of that!

Yes, I see those trucks come and go with colonies of bees and I just know that they are doing better and making more honey than I am.

I figured that with them doing it all the time they surely were making more money or they couldn't keep it up like that. I just could not reconcile myself to the axiom that the grass is not greener on the other side of the fence. The literature says that some hives made tubs full of honey while mine only came up with a little over five gallons — and only the best ones did that.

It was time for me to improve. This letting well enough alone was not enough. I lay awake at night working things out.

It seemed reasonable to go migratory with trailers since I was in the flower shop, greenhouse and nursery business. I had three trailers already in use and I didn't need them through much of the summer in the nursery. My varied business had carried me all over the county allowing me opportunity to scout out prospective nectar locations.

Besides, my colonies seemed to do very well some years and fall way off in other years. The answer was migratory beekeeping. I'm gonna have me some of that.

My brother had a place some eight miles out, on a dry creek, and there was plenty of mesquite and cotton fields nearby. I got together seven colonies (nucs) on a trailer and moved them out there right when the mesquite was in bloom. On the way out I ran into trouble. The trailer had no springs, being axle mounted and it literally rearranged my hives something awful. I even left some of the hive parts scattered up and down the road despite having stopped and let some of the air out of the tires so the trailer would not bounce around so much. Anyhow, I got them there and after straightening them up pretty well went back home leaving the bees, to bring in the honey.

They did. The strong ones robbed out the weak ones. I came back in the fall with two left out of the original seven.

They were not supposed to do that for I had new queens which the ad said were extra good and the most productive of all queens. Well, you live and learn.

I now discovered, after six months into it, that I had more challange than before I started. I worked on that. I got together some pipe and spring running gear and made a trailer with the bed high enough to clear the wheels, taking into account yum and yaw (my goodness, such words). I was able to capture wild swarms sufficient to load up with ten pretty good colonies this time out.

Salt cedar was pretty abundant here and there so I decided to try for that nectar source. The best thicket I could find was down in the sandy land so I loaded up and tied down this bunch of hives with baling wire to hold them in place. This fancy tiedown worked pretty well. Everyone uses baling wire in these parts to fix things with. I moved in with little difficulty in the sand until I got down to the real sandy area where I wanted to set up. I couldn't go any further because I became bogged down.

You can work sandy land if it is just right — not too wet and not too dry. A little bit of either way means trouble, and that was what I had just then. I unhooked the trailer and left'er set. I would go back there from time to look in on them and take off the honey and pat myself on the back for being in the salt cedar. It is a fair nectar source and honey producer but lasts for only four or five months at most.

It now came time to move to cotton, or somewhere, for the nectar was playing out. I must confess, that outyard location gave me more worry as how to pull out than any other I have ever had.

Well, one day I just worked up my courage and decided to take the bull by the horns. I put a throw line on the trailer tongue and wrenched the trailer around and out of the worst of the sand as best I could. Hooking up, I ploughed a road through there hub deep, snagged a hot wire fence which I thought had been well weighted down, jumped a three foot barrow ditch and barely made it up on the hardtop. No sir, I sure don't want to do that very often. Restringing that hot wire fence for half a mile was not what I set out to do that day, but I did. Like I said, live and learn.

Jumping that ditch showed me that the load was too high off the axle for all the swaying. I was surprised that the load didn't turn over. I was going at an angle to the ditch and had fair momentum going and so was able to right the load before it went too far. Back in my shop I brought the bed down as close to the axle as the springs would allow.

Close to my house is a nice mequite thicket. It was in a draw right behind the little Girl Scout house where they held their club meetings. However, it was far enough away that the bees would not cause them any trouble. The man who owned the place gave me permission and I moved in and set up a trailer there. Mighty convenient, for I could drop by on my way to work and look in on the colonies.

Man, one afternoon I drove in and such a cloud of bees as you have ever seen greeted me. The hives were broken up like they say bears do to a bee yard in bear country. My concern about protecting the little girls turned to a fear of little boys for they had rocked and stoned my ten colonies to pieces. Back over a little mound I could see two of the boy's heads looking at me.

I don't know why, but I began to pick up rocks and throw at my own bees. I started to shuffle around and throw some more. Before long those two 12-year-olds joined me in pelting my bees. It was kind'a fun in a way — takes one to know one, or if you can't whip 'em, join'em. Anyway, I was able to get the names of about eight little boys who had brought on my "disaster", if that is what one could call it. I then set to work putting things back together as best I could and moved out two days later to a more suitable location of alfalfa. The melee had gone on for several days from all the damage and enormous number of rocks lying around. I contacted their fathers about how boys do and was able to collect from five of the eight. Of course, some daddys didn't believe theirs would do such a thing or even help in it. It wasn't all

(Continued on page 84)

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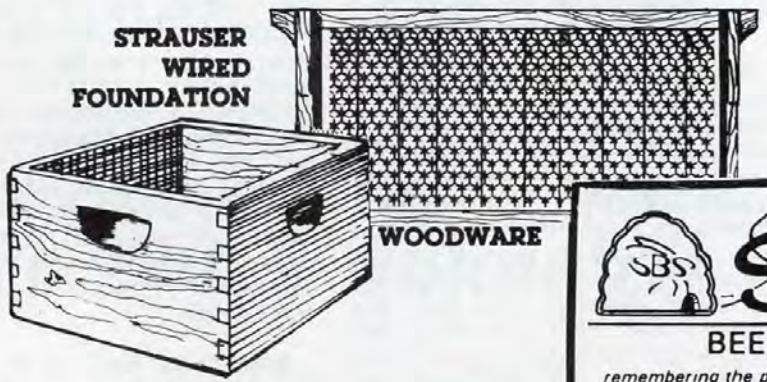

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Notes From The Straw Skep

By BESS CLARKE
50 Lycoming Street
Canton, PA. 17724

ONE OF MY friends has loaned me a diary written in 1890 by the sister of her great-grandmother. It's a fascinating journal of a country woman's life. I think I wouldn't like to go back to the good old days.

The writer was Susan Catlin McMurray and she lived with her husband, Sam, their three childern, and her parents on a small farm at Windfall in Bradford County, PA. Susan was forty-five years old in 1890; Sam was forty-nine; and the parents celebrated their 58th wedding anniversary that year. Dell, the oldest child, taught school. The two younger childern attended a different school, to which they could walk. Generally Sam took Dell to her school although she often walked home.

The family raised most of their own food. I think you'd call them subsistence farmers. They had a few cows and some poultry, and they raised wheat & oats to feed the livestock. Their cash crops were eggs and butter. Sam traded the eggs at the store (located in the Grange building at Granville Center, three miles away) for tea, coffee, tobacco, sugar and thread.

They were sick a lot. It seemed that one or another of them was always suffering a respiratory disorder. Once when Mina had a bad sore throat, hard fever, and headache, they dosed her with aconite, belladonna, and sulphur gargle. They called the doctor only as a last resort, but when the grandfather was very ill Dr. Smith came to see him seven times for which they paid him $10.50 total. Grandfather recovered, I'm happy to note.

They were tired too. Almost every entry makes note of fatigue. No wonder. Susan made their clothes, many of them from hand-me-downs, and she always had a pile of darning and patching to do. All the females cooked. They ate a never ending supply of pies, cookies, cake, and bread. They washed clothes frequently — two or three time a week. There were always two loads — white and calico. Sometimes Sam "rocked" them for Susan. They laid the white stuff out on the grass to bleach. One time, Susan wrote, they hung some of the clothes in the hog pen because it was raining.

They enjoyed picking berries and there was a bountiful crop of blackberries in 1890. But the huckleberries were scarce. Sam finally got a quart on his third try.

Dell, the teacher, was hired at a different school for the fall term and had to pack her trunk and go to live in Smithfield. She left on November first and came home for the weekend after Thanksgiving and then again the day before Christmas. There were many notations throughout the year about events she attended with a John Wright and I was glad to see, in the appendix, a memorandum written by Delphine McMurray Wright, so they must have married. I'd like to know more about her.

Pictures of the family members emerge as the chronicle goes on. Sam was evidently a social creature, not too highly motivated to work. He spent most of his evenings at the Grange and store, much to Susan's annoyance. However, one time he had to go to the County Seat for a week. Perhaps he had to serve on the jury? No reason was given in the diary. But Susan wrote, "Sam came about two o'clock. Oh, but wasn't I glad to see the dear good old face again. He brought each of the children a pair of slippers and me a bottle of perfumery."

Later in the year she felt differently. "Sam went to the Grange Hall and helped fix for the annual feast and war dance. Has gone tonight to enjoy the thing. I staid(sic) (home) to save my 25¢ — somebody has got to save once in a while — or we will have to show our set-downs for the want of clothing to cover them."

The church played a large part in their lives, and visits from family and friends were their social life. I think they didn't spend much time pursuing happiness. Life was real, life was earnest, and they went along from day to day.

Susan lived until 1921 and died at the home of her daughter Mina. In a letter written to a niece shortly before she died she said she was confined to a wheel chair and had a good bit of pain but she had lots to be thankful for and she was living over and over the good times she'd had.

Recipe

After forty years of marriage I have finally learned to make my husband's favorite pie — coconut cream. It really isn't that hard to master. Maybe the reason I haven't made them before is because I prefer apple, or chocolate, or cherry, or any number of other kinds. But this is a good recipe. I hope you'll enjoy it.

COCONUT CREAM PIE: 1 baked crust, 2 cups milk, 1/2 cup honey, 4 tablespoons cornstarch, 2 eggs separated, 1 tablespoon butter, 1/2 teaspoon salt, 1 teaspoon vanilla, 1 cup coconut. First, prepare your crust, by any favorite recipe, bake it, and allow to cool. While it's in the oven toast about a tablespoon of coconut to use for decoration, being careful not to burn it. It gets brown very quickly.

Scald 1-1/2 cups milk. Combine honey, salt and cornstarch and add 1/2 cup cold milk to make a smooth paste. Pour into hot milk and cook, stirring constantly, until the mixture thickens. Beat the egg yolks, pour a little of the hot mixture in and blend. Combine the two mixes and cook two minutes longer, stirring all the time. Remove from heat. Add butter and vanilla, and blend. Beat egg whites until stiff and fold into the warm mixture. Pour into pie shell. Sprinkle toasted coconut over top. Chill before serving. □

Catching Wild Bees The Hard Way

"The assumption that we would not encounter flying bees, our third error, led to our most disastrous mistake."

By RYDER BLUE CRYSTALL
New Castle, CA

THE SCREEN CONE method of hiving established colonies of "wild" bees had been described by Root, Dadant and Taylor among others as being the slow but hassle-free way of removing bees from inaccessible spaces. Using this method to obtain our fifth hive, we found it to be slow but far from easy. Due to a combination of inexperience and bad luck, it was one of the more trying of our early beekeeping adventures.

At the top of a hill on the dirt road that leads to our house in Newcastle, California stands a small stone cabin built by Gold Rush prospectors about 1865. A wooden extension was added to the building about thirty years ago to house migrant farm workers who worked the plum and peach orchards that used to cover the hillsides in the area until fire blight hit in the early '60's. My partner, Earl Grist, and I learned from the owner of the land that there was a hive of bees in one of the wooden walls that had been there for about ten years. He said we could have the colony but we could not cut the wall open.

Although it was our first year of beekeeping, we were already veterans of capturing swarms the hard way. Having a limited budget, we had snatched bees from trees, walls and crevices to build up our apiary. We once responded to a call from a family that had a ten year old hive in their kitchen wall. They did not want to disturb the siding on the house, but since they were remodeling the kitchen, they said we were welcome to tear the sheetrock off the wall! It was a harrowing ordeal (quite fun actually) during which there were smoke, bees, and honey everywhere.

This time we were quite ready to try the slow easy method of "domesticating" an established colony of bees. We had just pulled a new swarm of bees out of a garage wall and we decided to use these bees, boxed in a hive with ten frames of foundation, as bait for the group in the wall. In the screen cone method, a modern hive with frames is set up close to the main entrance of a hive in the wild. A cone about six or eight inches long is fashioned out of window screening and secured over the bees' front door while all other holes are plugged up. A hole in the narrow end of the cone allows passage of no more than one bee at a time. Bees will leave their hive one at a time, but returning bees will try to enter at the base of the cone and fail because of the screen over the entrance. In this situation, the bees will be attracted to the box hive nearby and make it their home. The bait hive should be left in place about a month to capture most of the population and emerging brood excepting probably the queen and a few workers. Using a swarm hived on ten frames of foundation was our first mistake and a careful reading of the sources would have prevented it, as they all specify that one or two frames of brood need to be included in the boxed hive.

We waited until dark to set up our hive since we figured all the bees would be in the wall and we would not be bothered by bees returning from the field to find their hive entrance being blocked. This was our second mistake. Bees do not like to be disturbed at night by commotion and banging at their front door. They do not like it at all. It makes them angry. Very angry.

This might not have been a problem if we could have gotten our screen cone attached quickly and correctly to seal off the entrance before any bees escaped. However we had not noticed that the wooden siding on the building was V-grooved preventing our screen cone from making a tight seal with the wall. The assumption that we would not encounter flying bees, our third error, led to our most disastrous mistake. We had not worn veils or any protective clothing.

Raging bees poured out of the inadequacies of our screen fabrication and proceeded to punish our faulty human reasoning and cavalier assumptions about our superiority over insects. We were both stung about the face and eyes. (which is like getting kicked in the head by a horse) and erupted into a screaming, jumping, arm-waving dance that would have caused a casual observer to judge us insane or possessed. Mercifully, we managed to get back into the car and close the windows on the attacking horde. With the score bees 1, boys 0, we retreated home to don veils and pick up some putty to fill the cracks in our strategy.

In a short while, we returned to the scene of confrontation, covered by clothing from head to foot as our eyes gradually started to swell shut. By this time all the commotion had caused one of the neighbors to call the Sheriff to investigate the outrageous goings-on in the vicinity of an unoccupied house. When the deputy's searchlight spotted us clattering about in the bushes wearing snowmobile suits (in June), veils and gloves, and carrying tools and a burning smoker, he must have thought the Martians had landed. I went over to him and dutifully began to explain how we were setting up a bee hive to attract a colony of bees from the wall into our box. However his exasperated expression led me to believe that he was not interested in the details of capturing bees but he was satisfied with an explanation of who we were and whether we were acting with the permission of the property owner.

After what seemed like half the night we finished attaching the screen cone and constructing a rough scaffold to hold our hive. Now all we had to do was sit back and wait for the easy part of the easy method to work for us.

I've forgotten what number mistake I'm up to, but anyway we did not check the hive box again for three weeks, nearly as long as the books say it should take for the old colony to relocate in the new hive. When we

(Continued on page 81)

Siftings

By CHARLES MRAZ
Box 127
Middlebury, VT 05753

CAPPING THE NEWS, by the Editors of *Gleanings* in the November, 1981 issue, brings up a most important problem now facing beekeeping the the United States, the gradual decrease of honey plants everywhere. What is happening in Vermont is also happening in other parts of the clover belt of the northern United States. I first came to Vermont in 1928. Horses were still the main source of "horse power" and crop rotation with clover hay and corn was common practice. Herbicides and insecticides were but little used, only in apple growing. In those days, there were always hundreds of acres of many kinds of clovers growing and in bloom from mid June to late summer. Farms were small and with horses and small tractors, haying was a slow job. It was common then to start haying the 4th of July and finish Labor Day.

Today, many farmers have their alfalfa, if they have any, all cut and in the silos by Memorial Day, two weeks before it even starts to bloom. With big tractors and silos, hay can be cut, chopped and put into the silos without need of drying, in a very short time. With corn taking up so much of the acreage, there is not much left to grow clovers. Fortunately, corn is not all that it is cracked up to be. It produces lots of tonage per acre that requires much more fertilizers and herbicides, and it costs more per an acre to grow. This year we had a very wet August, so wet, that much of the corn is still out in the fields, unharvested. Big, heavy, modern machines just cannot operate in a sea of clay mud. We can only hope there will be a change back to high protein clovers and alfalfa in place of corn.

Even in the Midwest this change has also taken place and moving further west to the Dakotas where small grains are replacing much of the legumes in some areas. So the future for honey production in the United States does not look promising. Only a miracle of some kind will change this trend of "Modern Agriculture".

It is indeed a pleasure to read some complimentary articles on occasion. The letter by Robert Knox, Grand Island, New York on page 612 in the November *Gleanings*, is the kind I like. to see. There is nothing unusual about the results, that Mr. Knox's brother was greatly improved. It would have been unusual if he did not improve. One problem is that I rarely hear from those to whom I give advice on been venom therapy. Arthritics do have the shortest memories. After trying bee venom therapy and they become well, they completely forget they ever had any arthritis, and I rarely hear from them again, except indirectly, if at all. What better "cure" is there, that makes one completely forget they ever had the disease?

I recently received a reprint of the 1890 *ABC of Bee Culture*, from Molly Yes Press, RD 3, Box 70B, New Berlin, New York 13411. This, with the original Langstroth and *Fifty Years Among The Bees*, should be required reading for all new beekeepers. Many of them will be surprised to find that their "new inventions" in beekeeping were already "invented" almost 100 years ago. They may also find out why a lot of these "new inventions" do not work. These books are full of a lot of valuable information, even if they were written years ago. There is no better way to get a good, basic understanding of beekeeping then to learn how beekeeping was carried out over the past 100 years.

Capping in News by the Editors, in December, 1981 *Gleanings* is another excellent article on the Future of Hive Products, or as now call it "Apitherapy", the theraputic activity of all bee products. What is so tragic about these critics of the merits of bee products, such as honey, pollen, royal jelly, propolis, bee venom, etc., is that none of them have any experience whatever in what they are talking about. They neither try it themselves, nor ever bother to ask those that do have experience. Dr. Anton Terc, the father of bee venom therapy had a good answer to them. He said, "they are like a blind man trying to describe color."

I suppose we can always expect someone to come along and question the value of our bee products that prove to have excellent theraputic activity. I don't believe we should take it lying down. Every chance we can, we should counter it with facts, and not be afraid to counterattack, just because critics may have an impressive title. What counts is how much experience they have in the subject they are criticizing. □

Catching Wild Bees The Hard Way

(Continued from page 80)

opened the hive we saw that no foundation had been drawn out and the small amount of bees that were in the box milled about aimlessly, many flying away when we took off the lid. Conclusion: They have no queen.

We took this information to one of our local beekeepers and he theorized that the bees from the wall may have gone into our hive and killed the queen. He told us to install a new queen and a frame of brood in our hive. This we did and two weeks later the bees in our hive were drawing out six frames of foundation, there was nectar stored and hundreds of eggs laid. We were satisfied that the bees were settled and being productive.

We finally went back and moved that hive from the stone house to a new location, almost three months from that night we fought so fiercely to corral them. The colony in the wall was definitely dead and our hive box weighed about fifty pounds. This hive is now one of our more active hives and we expect a good crop of honey from it this year. We learned a lot from our experience with this hive and it certainly added to the excitement of our beekeeping venture. □

My Dad Was A Beekeeper

By NICK WALLINGFORD
Rotorua, NZ

"MY DAD WAS A BEEKEEPER."

How many times when talking with people and mentioning bees I hear those words or similar ones. "My Uncle kept bees" or more rarely "Grandma used to have beehives." Words spoken with a kind of wistful respect and often accompanied by some apicultural exploit.

"He used to just let them crawl all over his arms and they never stung him."

She used to say how the first year she had the bees they filled over two hundred sections, every one of them perfectly capped."

"He told me about how heavy the jumbo boxes he started with were, but I only saw them later, after they had been retired to be planter boxes."

I enjoy hearing these little stories and feel a sort of common thread in the memories of quite differing people. It seems many people have had this contact with beekeeping at some time in their life. The farmer whose grandparents were farmers and the city dweller who remembers the hives down in the garden — both recall, often with a look of awe and pride, a relative who was both in touch with a hidden order and slightly eccentric, as those who don't share the fascination of beekeeping may see it.

He never had more than a few hives, and he'd probably be described by some as a mere bee-haver, as he didn't actively manipulate the hives much. Honey wasn't the main purpose of having the hives, though I do remember extracting time one warm summer night of my growing up. All the neighborhood kids crowding around, chewing on bits of wax and honey, watching and tasting.

The hives I remember from my childhood were always out in the garden, white painted boxes set up on concrete blocks, the mysterious activity on the alighting board and the repeated admonitions to not stand in their flight path. Summer days we would catch bees in jars to look at them more closely.

He seemed to keep the beehives mostly for the swarms and I don't think he could feature his garden without at least one hive in it. New boxes and the sweet smell of foundation wax would appear and in due time he would see or hear of a swarm. After hiving it and making sure it was well established he would give it to some beekeeper-in-the-making to get him started. I don't know how many times he did that over the years.

When the time came, several years after I left home to make my own life, he gave me my first hive, helping me to screen the entrance, staple the boxes together and lift it into the trunk of the car. I carefully set it up in my own garden and started to learn about bees and beekeeping. When I was preparing to leave for New Zealand several years later he made a point of letting me know that he was glad that I would be going, that he thought it would be good for me. I hope he took pride in telling his friends that his son was a beekeeper.

On a trip back to the U.S. he had me organize the extracting with the brand new two frame extractor and electric uncapping knife he had bought. I can clearly remember the three of us out in the garage — me with the knife and handling the full boxes of honey, him turning the handle and assuring me it wasn't tiring him, and my Mom running the strong dark honey into an odd assortment of jars collected from cupboards and neighbors.

And then this last year when I made the sudden trip back to be with him for the month before he died. Many things were still left unsaid but the memories of two beekeepers talking together of boxes of honey and swarms will stay with me all my life.

When I talk with someone and they say that their father was a beekeeper, I feel a closeness to them and to my Dad, too. All the stories he told me, and the fine example for living that he gave, a good man always willing to help others. The man who gave me my interest in bees and so much else.

My Dad was a beekeeper.□

Surveying Three New York Gourmet Shops For Honey

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

BLOOMINGDALE'S HAD THE neatest, cleanest and best display of honeys from around the world when I visited New York City this past fall. The jars were arranged at eye level where they were easy to see and the labels easy to read; the shelves were neat, clean and well lit. I counted over twenty-five different labels, quite a wide selection. Only one jar of honey was poorly packed, containing bits of wax, pollen and big black specks from a source I can't imagine. It was from Ireland and priced at $6.50 for a one pound sample.

The best display in Bloomingdale's was some light, cut comb honey from Michigan. The label was a bright yellow that complemented the package, making it stand out on the shelf. The cappings were clean, with no travel strains, and the comb had been well drained. It was one of those packs I would like to see in a honey show and I imagine it moved well. It must have been well packed for shipment, since neither the packages nor the labels were damaged. The price was $4.25 for 10 ounces, but remember, this was in a New York City gourmet shop! Macy's had the same package for $5.00. By contrast, some dark, unappealing "Ozark Mountain Wildflower" honey was selling for $6.25 for two pounds.

B. Altman, across the street from the Empire State Building, had much less honey, but still a good display. It was on a stand that was readily visible but I have difficulty reading labels at knee height and below. Two U.S. packers had supplied the bulk of the honey. It was amusing to see that a jar labeled N.Y. buckwheat had been packed in Florida; at $2.50 it was the cheapest one pound jar in the store. A five pound tin of Florida orange blossom was priced at $10.50 and was probably the best buy in the house.

Macy's, which has long had a reputation for having a wide selection of honey, had over thirty different labels, the greatest number of the three stores. However, I was very much discouraged by what I saw. A small, crude clay pot containing twenty-four ounces of an unnamed honey from abroad sold for $15.00. I saw one jar that was fermenting; honey had leaked from it, making a mess. "Killer Bee Honey" in 5.75 ounce bottles was offered at $4.15. The honey was dark and did not have any eye appeal, at least to me. The box in which it was packed contained a sixteen page brochure — interesting, but not especially factual. This had been on the market for several years but I doubt if it is widely sold.

Crystallized honey was being sold in all of the three shops. Macy's had a "Canadian-style pack" of such honey in a round, clear, glass jar. One should never pack crystallized honey in a clear glass. When honey crystallizes it shrinks and pulls from the jars, as had this sample, leaving a crystallized surface that appears to be moldy. Professor Dyce, who developed the process of making crystallized honey, studied this problem extensively because packers had many complaints from housewives who returned jars of what they thought was moldy honey. Of course nothing was wrong with the honey and to solve the problem it was recommended that crystallized honey be packed in opaque jars, or if clear glass was used that there be a full wrap-around label.

Very few of the containers of honey had much information on the label about the contents. A label on a jar of wild thyme honey packed in this country told that it was a rare honey, produced in only a few areas, but said nothing about the rich history of this honey in Greece where it has been famous for thousand of years. I think specialty packers miss a great opportunity by not using a second, discriptive label. Beekeepers know and understand the difference in honeys but the public that does the buying is often ignorant of facts they might find useful and interesting.

There was dust on both the shelves and jar caps in Macy's; this was not the case in the other two stores. This is difficult to understand as their other food displays were in much better condition. Some jar caps had much paint scraped off, suggesting they were not well packed for shipment. Many packers are not as careful as they should be in this regard.

I was amused, thrilled and disappointed as I surveyed each of the honey displays in three of New York's larger stores. None of them had much, if any, of the U.S. light clover honey that is the staple of our honey trade and best liked by most people.

None of our largest honey packers, with the exception of the Florida firm, were represented in any of the three stores. This is unfortunate as we have a great variety of excellent quality honeys at reasonable prices. □

Migratory Beekeeping

(Continued from page 76)

bad considering that over in another outyard, one Fourth of July, someone had set off firecrackers in hives and literally exploded them.

Perhaps migrating bees can bring in more honey than keeping colonies on permanent locations, but in balancing work expended versus honey harvested I came out little better. I certainly got to know more people and found out that there is adventure in migratory beekeeping if you are looking for it. However, I wonder about the grass being greener vs. leaving well enough alone. □

The Black Bear — Part II

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

Bees and Bears Don't Mix Well

QUITE A NUMBER of people have given me additional information about damage to bees by black bears since Part I on this subject appeared in the January issue of *Gleanings in Bee Culture.*

Beekeepers in almost every state in the United States and in most parts of Canada suffer losses from depredation by the black bear (*Ursus americanus*). The State of North Carolina is one of the chief victims.

Two members of the North Carolina Department of Entomology of North Carolina State University, William G. Lord and Prof. John T. Ambrose, have made an extensive study of damage to bees by black bears in the state. Their study is titled Black Bear Depredation of Beehives in North Carolina, 1977-1979. These authors report that in the year 1977 the state's commercial beekeepers suffered losses from depredation by bears to the extent of 12.57 per cent of their gross income.

The major part of this damage occurred during April through June. A second and smaller peak of damage occurred during the months of August through November. Beekeeper losses over the period 1977-79 averaged $28,563.85 annually. Estimates of loss per destroyed hive were $62.24, and $38.22 per damaged hive. These estimates do not include expense to the beekeeper of additional travel and work caused by the damage. These authors suggest that the aroma of ripening honey may be a stimulant to bear attacks on hives since the greatest periods of damage occurred during the major nectar flows.

William G. Lord, one of the two researchers cited above, has made a very extensive study of the bear question in the U.S. and Canada. Some of his reports have been published; others will be published soon. He takes quite a different attitude toward the problem from that taken by the typical beekeeper. It is his belief that the greatest threat to the financial interest of the North Carolina beekeeper is in the clearing of land that now yields good nectar flows. He says that superfarms created after the clearing of land occurs are going into soybeans; soybeans get sprayed, and bees get killed.

He further claims that the conservationists who want to keep the habitat of the bear from being cleared are, as a consequence, the friends of the beekeeper. He says "Rather than poisoning and shooting bears, beekeepers should learn to live with them (a good electric fence) and take a step toward cooperating with a group with actually very similar interests."

Damage by Bears on the Increase

Almost everyone with whom I have corresponded on the subject, states that damage to bees by bears is increasing. The local representative of the New York State Department of Conservation said so; an article in the *Badger Bee,* Wisconsin (June 1981) says: "Black bears have been raising havoc with bee yards in Polk and Barron counties recently."

William G. Lord (quoted here previously) says in his thesis on the subject that Feng (1069) surveyed 36 states and provinces to determine the magnitude of black bear depredation in the United States and Canada. He found that 68 per cent of the responding beekeepers experienced black bear depredation of their bee operations, and 67 per cent of those beekeepers thought the problem was significant. Heavy losses were reported in Florida, Montana, Colorado, and Pennsylvania. Still heavier losses were indicated in Canada. In Alberta losses from bear damage totaled $200,000. in 1973. The damage there reached that figure dispite the removal of almost 400 bears.

Lord states: "The problem of bear depredation has reached such proportions in Canada that several compensation and assistance programs have been enacted."

New Jersey beekeepers were recently alerted to a proposal by the Bureau of Wildlife Management of that State to move bears into the Pinelands area with the idea of promoting them as desirable hunting objects. As recently as July 12, 1981, the *New York Times* reported on the proposal. The Wildlife Bureau invited the Secretary of Agriculture and leaders of the 950 member New Jersey Beekeepers' Association to a meeting with the Bureau to discuss the proposal. Both opposed the plan.

The Secretary of Agriculture, Phillip Alampi, said "I am unalterably opposed to it. There are a few bears in the mountains of northwestern Jersey, but that's a different story. In the Pinelands the bears would never be far from towns and people. They could pose a hazard to automobile traffic and to hikers, campers and other vistors to the Pinelands."

Mr. Alampi further stated that he feared such a move would cause the bears to forage through the Pinelands' 8000 acres of blueberries and 3000 acres of cranberries. Besides damaging the crops, he said they would go after the 10,000 colonies of honeybees that growers rent from beekeepers to pollinate their crops.

The Times reported that George P. Howard, chief of the wildlife bureau, whose work is supported by fees for hunting and fishing licenses, said, "black bears are shy, nocturnal creatures that do not bother people who do not try to feed them."

Jacob Matthenius, state apiarist in the Department of Agriculture, the *Times* reported as saying: "Male bears can wander 125 miles in mating season. the bears pull the honeycomb right out of the beehives and eat the bees along with the honey."

The *Times* reported Mr. Cole Gibbs, president of the 40,000 member State Federation of Sportsmen's Clubs as saying that the program could mean a bear hunting season in New Jersey, and that **"it's going to be a lot of fun."**

Vermont, a State that Compensates Beekeepers for Loss by Depredation by Bear

As we reported in our earlier article on the black bear, several states in the United States, and several provinces in Canada compensate beekeepers for losses from this animal's depredation. Vermont is an example of a state that seems to have a no-nonsense program that compensates property owners for losses due to the activity of bears and deer. I

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The Black Bear

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have a copy of their Regulation #817 which outlines the details under which the property owner may apply for compensation.

The regulation calls for the aggrieved property owner to make an application for reimbursement to the Fish and Game Department through the State Game Warden assigned to the area where the damage occured.

Methods of Controlling Bear Damage

Shooting and the use of electric fences seem to be the most widely used methods of control. Others find that moving the bees is the most successful procedure.

Some beekeepers have tried the use of emetic compounds to prevent intrusion. Lithium chloride or cupric sulphate were tried but did not prove sufficiently effective. Baiting the bee yards proved slightly effective on the first visit but seemed to encourage repeat visits.

If a yard must be located in bear territory, placement appears to be an important factor. Bears tend to stay in wooded territory. They seem to like to travel through ravines and along bodies of water. One researcher found that visits by bears could be reduced by half through locating yards a distance of more that 100 yards from tree-covered territory. Swamps are a favorite habitat of bears. I observed this fact in Florida last winter where a queen breeder found it necessary to place an electric fence around his colonies because they were located near a swamp. Bee yards located near corn fields frequently attract bears during the ripe corn season. Proximity to a dump can be a lure for bears.

Some experimenters have tried the use of lion feces and urine to discourage intrusion by bears but with only "mixed success". It is barely possible that the use of human urine or quantities of human hair might be a deterrent against an initial visit by a bear that is not too sophisticated in terms of human habitations and their attendant odors. In some instances dogs have been located in bee yards to serve as a deterrent to intrusion by bears. Others have employed elevated platforms, but these are expensive to erect, difficult to operate, and are not totally deterrent in their effect.

Shooting the intruding bear has been one of the most-used plans followed by beekeepers I have talked with. This is especially true if the beekeeper is an experienced hunter and possesses know-how about the importance of scents affected by direction of the wind and other factors. Most states permit killing of bears that are causing loss of property, or else issue permits to kill. Poisoning might be quite effective were it not for the fact that other life, domestic as well as wild, is also concerned.

Locating bee yards near human dwelling is not very effective unless the yard is unprotected by trees, or dogs are left out of doors at night. Both deer and bears are fully capable of determining whether dogs are roaming free, or are secured or kept in doors.

Moving a yard of bees promptly after the first visit is doubtless the most effective preventive, provided the operator has another preferable location to which he can move.

Erecting an electric fence around the yard can be effective if the operator knows how to do the work properly. Such fences must be maintained, of course, to make sure that current is present at the time the bear elects to try to gain entrance. Also. a fallen tre can render a fence inoperative. Lightning also can render a fence ineffective. Care must be taken to assure that a bear can not dig under the bottom wire.

William G. Lord has designed an electric fence that he believes to be effective. If you should wish to write him about it, it is respectfully suggested that you provide return postage. He has been able to erect his fence at a cost of slightly less than $100. He states that his fence can be erected by two people in an hour or less. I have seen others in the process of building such fences who required a day or more to perform the work, even after accumulating the equipment necessary. Some states recompense beekeepers in whole or in part for the cost of electric fences. Most do not.

Of course, adequate control of populations of bears by the particular agency of the state assigned the function, is the most effective method and, in the opinion of this writer, the most proper one.

The New York State Department of Environmental Control has available at Albany, NY, the description and illustration of a fence that it states can be erected at an approximate cost of $124.75 (for materials, only, of course). It will enclose approximately forty colonies.

Prevalence of Black Bears

Lord and Ambrose in their study of Bear Depredation of Beehives in the United States and Canada report that there are viable populations of black bears in 49 states and provinces. The only states indicated as being free of them are: North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Iowa, Illinois, Indiana and Ohio. Also Kentucky, Utah and Arizona. By free I mean not harboring them to the degree that they are a threat to beekeeping property.

This study lists the average yearly loss of hives destroyed or damaged by bears. This destruction ranges from $125,000 in the province of Alberta, $26,654 for Br. Columbia, $15,000 for New York, $29,646 for North Carolina, $25,000 for Pennsylvania, $40,000 for Washington, down to $100 for Maryland. The actual damage in most cases is doubtless considerably greater than this since many beekeepers do not report losses. This is particularly true of hobbyists and beginners.

Removal of Offending Bears from Territory

Many states make some provision for the removal of an offending bear from the vicinity of the neighborhood where it has caused damage. New York State employs this practice but does not provide equipment in adequate quantity to make it satisfactorily effective. I noted earlier (in a previous article) that in the area where I live there is only one trap available for three large counties. Countless beekeepers, also researchers, testify that removal of an offending bear is not an effective method of control, even if the par-

— Part II

ticular bear is transported as far away as fifty miles. The traps referred to in this article are of the type that temporarily confines the animal until it can be disposed of in some manner. The use of steel traps (where legal) would not be advisable, probably, because they would need in most cases to be located near the hives. A bear entraped in such an instance would doubtlessly cause considerable distruction in the vicinity.

A Letter From The New York State Department of Environmental Control

In my previous article in *Gleanings* on the black bear I indicated that I had written this department regarding my loss of hives of bees by the work of one of these animals.

Below is the reply of an agent of this department.

Dear Mr. Morse:

Commissioner Flacke has asked this office to reply to your letter of June 19 relative to your recent problem with a marauding bear causing damage to your apiary.

We regret that you were unfortunate enough to lose two hives to the bear and understand fully that this was a considerable financial loss. We receive approximately one-half dozen phone calls from bee owners each year and have been made fully aware of the damage that bears can do.

Our policy with regard to handling complaints from landowners suffering damage from bears is to advise that an electric fence be erected around the apiary to prevent this bear from visiting the apiary again. We have plans for the construction of an effective fence and I have enclosed a copy with this letter.

If a bear continues to frequent an area where a number of hives are located we will transport our culvert trap to the area and attempt to remove the animal. It has been our experience over a number of years that a bear will quite often make one hit and then never return. This is why we wait for a pattern to develop. We have also found that even if a bear stays in one area he may not enter the trap once it is set. Trapping wildlife is not always as easy as it is shown on television or in the movies. We have also had the experience of trapping a bear, taking it about 50 miles away and releasing it only to have it return to the same area a few days later. Bears are great wanderers and have an acute homing instinct.

New York State does not reimburse landowners for losses caused by wildlife. Some states do offer some compensation either in the form of direct payment, or in the form of assistance in constructing fences. This is not a decision that our department has made. It is State law and would require legislation to change it. If the State were to reimburse landowners for damages I would estimate that it would take millions of dollars to fund the program. Deer damage and beaver damage problems are very common throughout most of the State and financial losses are quite extensive in many cases.

The wildlife of the state belongs to the people of the state. The Department of Environment Conservation is responsible for managing the wildlife for the people. We have allowed the bear population to increase in the Catskills during the last five years by first closing the hunting season for two years and then manipulating season lengths so that the hunter take stays at desired level. This was done not only for the benefit of hunters but also for others of the public who enjoy seeing bears. The population has now reached a level which allows for range expansion and this is why bears are seen near inhabited areas where you wouldn't normally expect to see them. Usually the animals are only moving through and don't stay too long.

I hope you will look at the fencing information I have sent you and seriously consider erecting the fencing system described. A bear may never return to your locale again but if one does the fence will keep it away from your hives.

Sincerely,
Glenn M. Cole
Wildlife Manager
Region 3

Here is my reaction to the letter from the representative of the New York Department of Environmental Control.

The State Department official begins his letter with an expression of regret for the loss of my hives as a consequence of depredation by a bear. I have no right to question the propriety of expression of his part but it has a hollow ring in my ears as I read it because he and his department have given little if any evidence of doing anything to protect my bees or the bees of the other seven thousand beekeepers of New York State.

He advises that I build an electric fence. The number of colonies I operate would not justify such an expenditure — and the same is true for most of the other thousands of small operators in New York State. The cost would be in excess of one hundred dollars for materials alone. Then there is the cost of maintenance, and the cost of erecting the fence against animals which no one is the state is adequately controlling. Even if I were a commerical operator it is questionable whether I could afford the expense of fence erection for a number of yards.

The official states that a trap is available. But they have only one for my county plus the two adjacent counties. Furthermore, they plan to wait until the bear does further damage before taking action — if they have a trap that is not in use at the time. They did not have a free trap at the time of the damage to my hives.

The official says the bear may not return. That is small comfort. It he fails to return it will not be based on any action by the department official. It will be the bear's decision. They are fickle. Even fifty miles is not too great a distance to prevent their return. I don't know how other operators feel in a case such as mine, but every time I am called upon to do something for my colonies now, I have a sense of futility, knowing that my work is likely for naught. If I were a commercial operator with my living dependent upon my bees, I should have a still more resentful feeling that I am not being fairly treated.

The department official says the department does not pay for damage done by bears. Does his department advocate such reimbursement? Or is his interest primarily with the hunter and the citizen who may enjoy the

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The Grand Beehive

By DEWEY M. CARON
University of Delaware

A TRADITIONAL FOLKLORE and art motif inherited and preserved by the Mormon people of Utah is the ancient beehive — the skep. The skep conveys a wealth of meaning and information about past and continuing culture. Beehive skeps are everywhere in official Utah — from state road numbers to the state symbol, and skeps are widely used in commercial business and personal art.

Beekeepers as individuals have a very personal investment and interest in bee and skep art and history. A segment of the beekeeping population are avid customers of bee related items from bumper stickers to pins to bee games and stuffed/plastic bee toys. The proliferation of such items is evident at beekeeper meetings and in examination of a current bee supply catalogue compared to ten or even five years ago.

A recent display, the Grand Beehive Exhibition, initially viewed by the public in Utah and then in Washington, DC and now for all to admire in a book, *The Grand Beehive* by Hal Cannon — Univerity of Utah Press, Salt Lake City, 1980, treats the beehive as a serious art form. Hal Cannon, who conceived and assembled the display, has the refined eye of a skep hunter. Beekeepers will delight in his artistry. The beehive never was treated so beautifully.

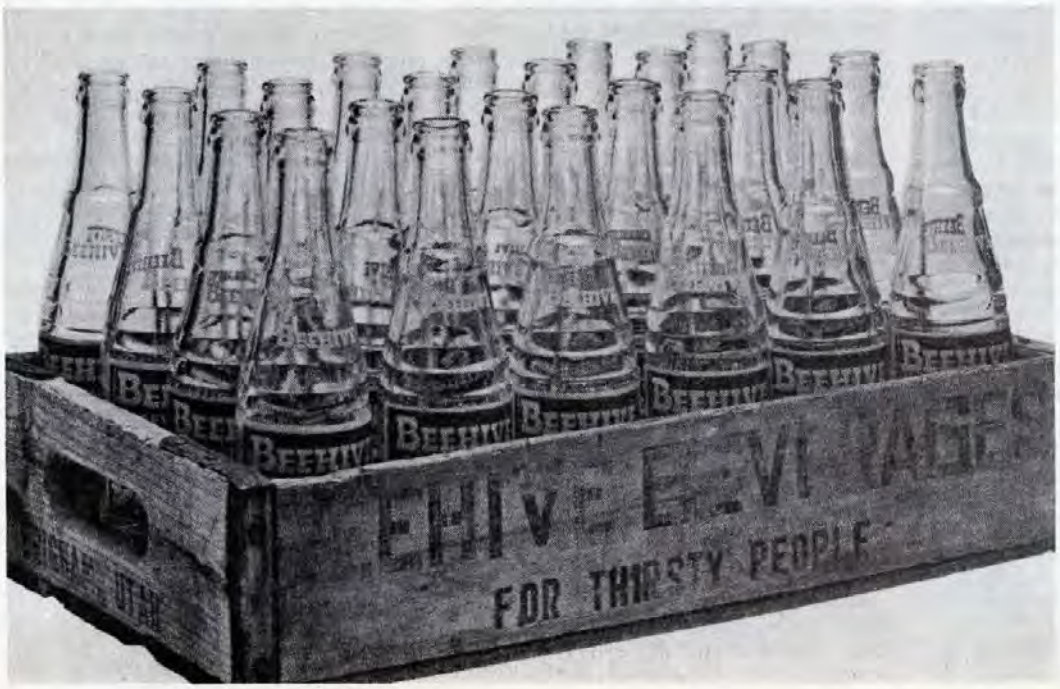
The beehive was symbolic of the defensive and secretive nature of the Mormons. The beehive, of their several dominant religious symbols, was adopted by the general public and accepted by both Mormon and non-Mormon alike as a symbol of industriousness of individual and state. The Mormons wanted their land called deseret, a word meaning honeybee that is apparently the only surviving term from the original language of Adam and Eve. It was named instead Utah but the skep indured.

The original Beehive Exhibition in the Salt Lake Art Center included some unusual touches. The Beehive Beverage Co. of Brigham City, closed earlier after being sold, made a special cream soda for the exhibit premiere. Opening night guests drank, in effect, collectors' items. There was also a correspondence art portion to the Exhibition and over 100 diverse postcard interpretations of the beehive were received from all over the world. The display includes a marvelous representation.

The exhibit at the Renwick Gallery (part of the Smithsonian Institution) in Washington, DC ran until November 8, 1981. The book, however, will help allow the exhibition to live and permit thousands more to share in its unique beauty. The photographs are almost better than the exhibit and the real thing left behind in Utah. It preserves both chic and chintzy in the beehive art world.

The beehive art of Hal Cannon consists of such diverse objects as a neon beehive delicatessen and bakery sign; beehive badges for conventioneers and police; a truly awful modern polyester beehive quilt and a marvelous antique velvet and silk one; a nice honey jar and beehive salt/pepper shaker collection; a gravestone with beehive; a beehive cake and much more. Once what was a sign of religion and a mark of a believer strongly endures in use today. As seen through the eyes of Hal Cannon it takes on meaning and life again.

The Grand Beehive, the book from the exhibit, is a marvelous collection. There is a very nice essay on the beehive by the author followed by seventy black and white and color photographs of the Exhibition. The reproduction quality is excellent and the range of beehive art is fascinating. If you are an aficionado of bees and beehive symbols, art and collectables, you too will find *The Grand Beehive* an inspiration and a delight. I recommend you examine a copy.□



Beehive soda from one of over 150 businesses in Utah employing the beehive emblem.

Monthly Honey Report

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tished ground moisture after a dry fall. Winter weather at year's end followed several months when temperatures were mostly above normal. Colonies in good condition in Kentucky. Markets are sufficient to dispose of the smaller 1981 crop. Very little honey left in the hands of producers in Tennessee. Honey sales adulterated honey in certain markets, marking people afraid to buy any honey — anywhere. Some areas of Texas dry. Bees in average to good conditions.

Region 7

A warm period has caused bees to consume honey faster than normal in Arkansas. Consequently, some feeding required and more will be needed before spring. Arkansas below normal in rainfall. Honey moving slowly at retail in Arkansas due to uncertainty of economy. Bees in best condition in years in East Central Oklahoma. Imports of honey continues hurting local beekeepers' honey sales and prices. Still lots of adulterated honey in certain markets, making people afraid to buy any honey — anywhere. Some areas of Texas dry. Bees in average to good condition.

Region 8

Bees have had frequent flights during the early winter in Montana. Weather has been relatively mild except for extreme northern counties. Areas east of Continental Divide need snow in the mountains for irrigation water in summer. Honey sold well during the holidays. Bees in excellent condition in Colorado at end of year with above normal populations and stores. Consumer demand for honey has been excellent despite higher prices in stores. Stocks of honey in hands of producers is very small having either been sold or put on CCC Loan.

Region 9

Not much activity in honey in Oregon, but expected to pick up after first of year. Bees are being readied for almond pollination at $20 — $24 per hive. Most bees in good condition. Rains variable in California with heavy rains in northern part. Plants expected to be in good condition for early honey flows.

The Black Bear — Part II

(Continued from page 89)

sight of a wild bear for which he asumes not the slightest responsibility? Which is more important, the sight of an wild bear or the destruction the bear may do?

He states further that if the state were to recompense owners of property against the depredations of bears, deer, and beaver, the total might run to millions of dollars.

Here is the nub of the question: Who shall bear the cost of the damage done by these animals, the people who hunt them for fun, or for the thrill of sighting them as they drive leisurely along the road, or shall the owner of land, garden, and hive bear the cost? If the state were required to pay damages for destruction committed by the wild animals, would not the Conservation Department be more careful to restrict reasonably the population growth of them? And is it necessarily true that the problem with bears must be linked with that of deer or beavers? Is not each one a different category and of different effect?

The department representative admits that they have let the bear population get out of control. Why? Was it done with the welfare of property owners in mind, or merely the hunter who was being served?

As a matter of fact, the case for honeybees **is** vitally different from that which prevails with deer and beaver. Honeybees perform a service to the public which is doubtless greater than is true of the property damaged by deer and beaver. Honeybees pollinate plants which furnish approximately one third of the food on the tables of all citizens. Aside from the matter of financial loss to their owners, honeybees perform a service which is too important to be overlooked or neglected by public officials.

Conclusion

But we should be practical about the problem that bears represent for beekeepers. We shall not get too much support from Conservation Departments. Their primary interest is with the hunter and the viewer of wildlife. The people in that category far outnumber the property owners who experience damage from the forays of wild animals.

Our recourse lies with our legislative representatives, both state and national. The matter must probably be settled on the State level since there are quite a number of states that are not directly concerned. Besides, our state representatives are closer to us. We, on the other hand, must make our plight known to these representatives — and in vital, not milk warm, terms. In the very nature of the case, most beekeepers are going to operate on a small scale. If they are discouraged from keeping bees, not only will they suffer in various ways, but the general public will suffer through the loss of the pollination services which all honeybees perform, those kept by the hobbyist quite as much as the commercial operator.

And since there is strength in unity, it is our beekeepers' organizations that are best fitted to carry a good part of the load, assisted by those members who have the welfare of all concerned at heart.□

CORRECTION

The following names were inadvertedly omitted from the list of Master Beekeepers in the article by Dr. Roger Morse titled The Master Beekeepers Program in the January issue of *Gleanings*.

Beck, Bernard J.	**Huntington, NY**
Stein, Samuel	**Kings Park, NY**

The Individual Hive Robbing Screen

By DR. ROGER HOOPINGARNER
Department of Entomology
Michigan State University
East Lansing, Michigan 48824

I FIRST SAW robbing screens used at the U.S.D.A. Carl Hayden Bee Laboratory in Tuscon, Arizona, and I was told they were an outgrowth of a design originally developed by Dr. Harry Laidlaw for queen nuclei. While I had read his queen rearing book I had other concerns and missed this important concept. Upon my return to East Lansing from my research leave at the Tucson lab, I was greeted with a very temperamental apiary as there was no nectar available (early June). I decided to make some robbing screens that covered the front entance of each hive in the apiary (Fig. 1.) The results were outstanding! Within two or three days we could manipulate most colonies in the apiary without getting stung, whereas before we were getting several stings per colony. We now leave the screens on the colonies most of the year. We do have upper auger holes that provide additional flight and ventilation during the major honey flows.

What is the principle of operation of the robbing screen? Remeber that bees are instinctive animals and thus respond to certain sensory inputs. Bees that smell a source of honey within another colony arrive at the door only to find a screen covering the entrance. They fly at the odor coming from the entrance but can not gain access through the screen. The bees from the hive learn very quickly to move up the front of the hive to exit (Fig. 2). Even though a potential robbing bee has just come from a hive with a similar screen, her instinctive behavior directs her to the screened entrance where the odor is and not down behind the screen from above.

The construction is relatively simple (Fig. 3). We used common pine for the frame and aluminum screen wire

(Continued on page 109)

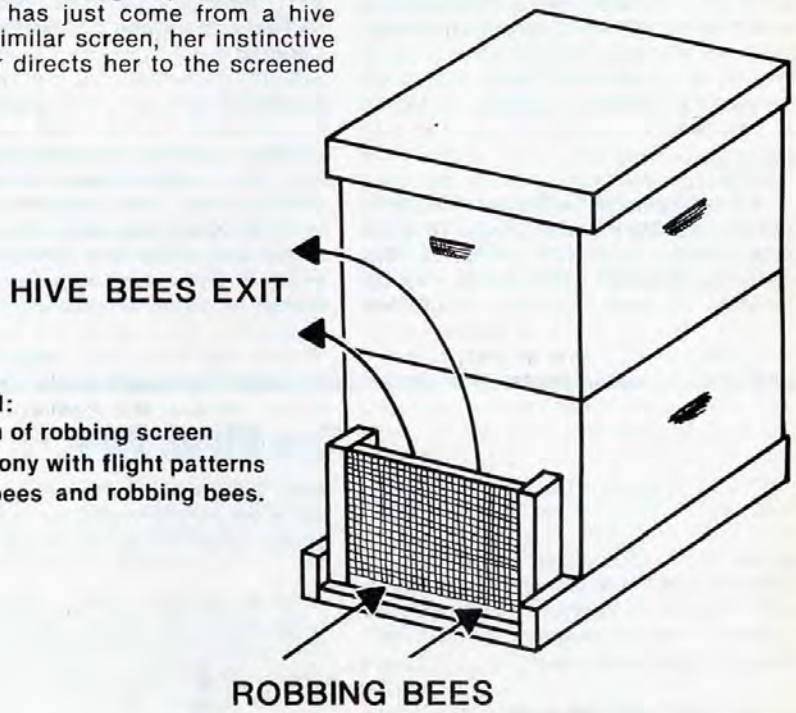


Figure 1:
Diagram of robbing screen on a colony with flight patterns of hive bees and robbing bees.

Robbing screen in place on a colony.

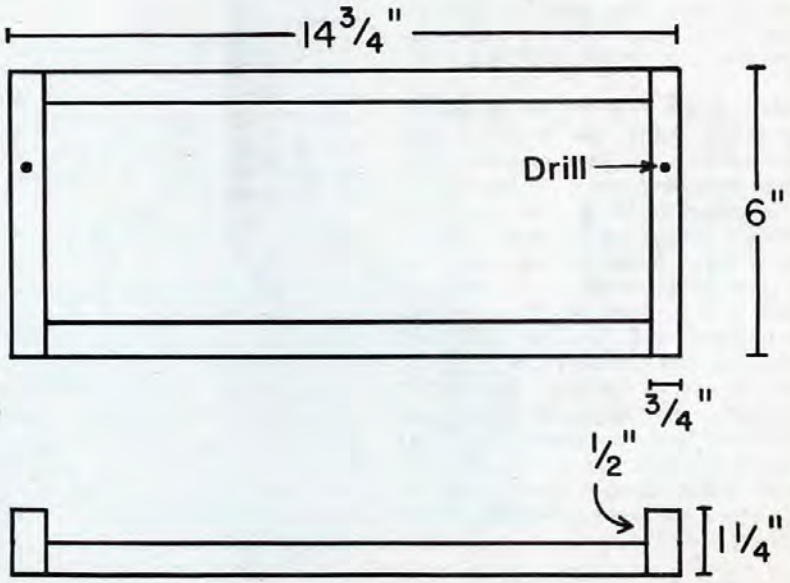


Figure 2: Construction plans for robbing screen.

Willow Hybrids As Nectar Sources

By FRANCIS O. HOLMES
Henniker, NH

WILLOWS NOT ONLY supply much of the earliest available springtime nectar and pollen to overwintering honeybees, but their capacity for hybridization offers an opportunity to combine some of the advantages of one species with desirable attributes of another.

Very early flowering is available in the Japanese rose-gold pussy willow (*Salix gracilistyla* Miq.), which has the further virtue of being practically immune to damage by the so-called Introduced Willow Leaf Beetle (*Plagiodera versicolor* Laich.). The period of bloom of this willow can be substantially extended by planting some specimens of it in warm sunny locations and other in slightly shaded and hence cooler spots. The pollen from the early blossomer can thus be made available late enough in springtime to use it in controlled pollination of our common American pussy willow (*Salix discolor* Muhlenb.), female plants of which are widely available and representative of our best native nectar source in the genus Salix. Such a hybrid (*Salix discolor x gracilistyla*) has been made and seems to grow well here. Time will tell whether it will display the earliness of blooming and the immunity to leaf-beetle attack characteristic of the male parent in combination with the hardiness an attractiveness to honeybees of the later blossoming female parent.

Another combination that has seemed worth testing involves two willows both of which show dependable resistance of leaf beetle attack. The Asiatic willow *Salix sachalinensis* Fr. Schmidt is available here as a female line that attracts honeybees well. It can be crossed with the equally late blooming *Salix purpurea* L., which has attracted honeybees best of all the introduced species thus far tested and that is very little troubled by leaf beetles or stem borers. This hybrid has now been made and will require a few years of testing to determine whether the desired combination of characteristics will appear in the first-generation hybrid line.

Rooting Of Willow Cuttings

The popular notion is that willow cuttings may be rooted by simply cutting a twig or branch and jabbing it into the ground. At some times of the year and in the case of certain willows this does indeed succeed, but many of our native willows are rather difficult to establish by this means. My first attempt to establish native willows near my bee hives involved taking one cutting from each of a thousand wild willows in springtime and inserting the cuttings in nursery rows. The result was that not a single one of the thousand lived!

Bees on pussy willow

Easiest to root are the species and varieties long propagated commercially, as in the case of the Purple Basket Willow (*Salix purpurea* L.), the Common Osier (*S. viminalis* L.), and the White Willow (*S. alba* L.). Doubtless this means that long continued commercial osier production has automatically selected easily rooted variants of each popularly utililzed line of willows.

Among the most difficultly rooted willows are such native species as the Prairie Willow (*S. humilis* Marsh.), and the closely related Dwarf Gray Willow (*S. tristis* Ait.). One individual plant of a native willow, a rather rare male-female specimen of the Beak Willow (*S. Bebbiana* Sarg.), was conventiently located for my use as a source of cuttings, but it was finally propagated successfully only after some three years of effort.

Conditions favorable for the rooting of cuttings of the most willow include maintenance of cut stems in erect (not in horizontal) position in 1/2 inch of wate, at a temperature of about 72°F. of slightly higher. Addition of cracked limestone to the water is helpful in some areas. Inverting the cuttings for the first twenty four hours and then placing them in the erect position is a favorable procedure. Tip cuttings generally root less well than older parts of the same stems.

It is feasible to root cuttings also by standing them erect in moist soil, preferably with less of the stem above the surface of the soil than below it. The cuttings may well be kept in darkness at about 72°F. until leaf buds begin to develop small leaves that must have sunlight to maintain themselves and to support root growth when it begins. □

Book Review

Begin to Keep Bees, by Franklin H. Carrier. Pub. by Carrier's Beekeeping Supplies, San Jose, Cal. Pp. xv + 234. $14.95.

This is a well-done book for the absolute beginner. Seventy-four pages are given over to just getting started, culminating in the installation of a package. The rest of the book is devoted to detailed instructions for extracting, storing, wintering, requeening, dealing with pests, and so on. The book is very well printed and bound, and well supplied with photographs. It succeeds in what it aims to do, namely, to tell the reader who knows nothing at all about bees everything he will need to know to get started. The instructions are very detailed, including pointers on how to dress for the apiary, how to light a smoker (three steps), how to put it out (two steps), and so on.

Of course, no matter how hard an author tries not to overlook a single detail, beginners will always come up with hitherto undreampt of questions. For example, one telephoned me once to ask whether the directions on the queen mailing cage to "close the hive" after introducing a new queen meant to close the **entrance**, a natural interpretation for a beginner. Another nearly went crazy when he read the instruction to remove the cork from the candy end of the queen cage, only to find that no candy had been supplied to the cage that was included in the package. In desperation, he tried to feed them chocolate!

Still, Mr. Carrier has done a good job of trying to anticipate every question a beginner could come up with. □

Richard Taylor

Pollen Identification For Beekeepers By Rex Sawyer, University College Cardiff Press, University College, P.O. Box 78, Cardiff, OFI 1XL, U.K., 98 pages plus index. Soft cover. Price 5.95 English Pounds.

The author is the recognized British authority on pollen in honey. In 1952 he began collecting information derived from the microscopic examination of honey samples. A former teacher, Mr. Sawyer is a beekeeper and has recently been elected president of the Somerset Beekeepers Association following some 35 years of active membership.

This book provides a complete description of pollen including the details of structure, descriptive terminology, and indentification key with index cards and other indentification notes.

Apparatus, such as the microscope, used in studying pollen, is covered by description, photos and drawings. Mounting techniques are described. Two hundred and fifty four photographs seen as pollen would appear at X400 magnification are shown in the book.

One index provides a cross reference of plant genus, key numbers, plant family and the plate numbers. Another index is of the English plant name in cross reference with key numbers, botanical name, plant family and plate numbers. A list of pollen features is found on the inside of the front and back cover.

Pollen identification may be a challenge to the average beekeeper without the aid of proper preparation of the sample, a visual aid and the key to identification. If this study interests you here is an opportunity to obtain a good guide to pollen identification. The plants (of Britain) listed in the book are not entirely different from our American honey plants so most plant pollen identified in the book are those commonly found in America as well.

The New Comb Honey Book by Richard Taylor, Linden Books, Interlaken, N.Y. 14847. 109 pages plus index. Soft cover, price $5.95. The newest book by the popular author is divided into four subject chapters: Why and Wherefores; Backyard Comb Honey Beekeeping; Things to Do; and Producing Comb Honey Commercially. It follows his very successful *How To Raise Beautiful Comb Honey* published in 1977. *The New Comb Honey Book* is much more comprehensive than his original book on the subject of comb honey as it includes the latest techniques of using the round comb section equipment.

The amount of information included in this relatively inexpensive book is prodigious. For the beekeeper only casually interested in comb honey, or, for the commercial beekeeper who may wish to have a convenient, accurate and practical guide to producing comb honey this book will answer equally well. Techniques are explained in detail yet in a language understandable by all.

The inimitable style of the author will make *The New Comb Honey Book* a welcome addition to any beekeeper's library. It is liberally illustrated with clear photographs and interesting art creations, many illustrating the author's apiaries and produce.

A review cannot do justice to this excellent book. It must be read to be appreciated.

Other books by Dr. Taylor include: *Beekeepers Record and Journal*; *How To Do It Book of Beekeeping*; *Joys of Beekeeping*; and another new one, *Beekeeping for Gardeners*.

Beekeeping for Gardeners by Richard Taylor, Linden Books, Interlaken, N.Y. 14847. 52 pages, plus table of contents. Paper back, $2.95. "This little book" in the author's words, "is meant as an introduction to beekeeping, not as a treatise on that subject. It is written mainly for gardeners and others who have a love for nature and for simple things, in the hope of inducing more of them to add to their lives the joys of owning one or two hives of bees."

This compact little book covers the essential information that is needed by a gardener who is interested in beginning beekeeping. This information includes a discussion of the interesting relationship between the activities of bees and the growing of plants. It is pointed out that beekeepers and gardeners are of the same purpose — living close to the earth and enjoying the pleasures of both activities.

This book will be a convenient source of information for the gardener about bees and beekeeping. More importantly, perhaps, is the fact that it will introduce beekeeping to a growing number of gardeners who here-to-fore may not have had a convenient source of information on beekeeping tuned specifically to their need. Dr. Taylor is to be congratulated on recognizing this need and authoring *Beekeeping for Gardeners* which is not only a valuable reference but is a message of good will from a Master Beekeeper to gardeners everywhere. He has the rare ability to communicate enthusiasm while sharing knowledge. The book fulfills a need that has been neglected for far too long.

Apiculture, a reprint by Dr. Eva

(Continued on page 95)

Strictly Backlot

By CARL CALLENBACH
135 College Avenue
Elizabethtown, PA 17022

AS ROGER MORSE has noted in his *Bees & Beekeeping* (1975): "The drone is a much maligned animal. While Webster's dictionary defines a drone as a male honeybee, an alternative definition is a person who lives on the labors of others." I believe I met the male honeybee in a general science textbook somewhere around seventh grade. When I was seventeen and hired out for the summer to a ceramic tile contractor as a laborer, I was introduced to the alternative definition. We were repairing the tile shower stalls in a fraternity building on the Penn State campus, and there were times, quite frankly, when standing idly by the cement mixer oggling coeds usurped a significant amount of the energy we normally devoted to shoveling sand or cement. Or wheelbarrowing the cement up the ramp and into the building. Unfortunately, one perfect morning we were so engaged admiring a particularly fine parade of girls on their way to eight o'clock classes that we failed to hear our boss pull up in his truck. Our vocabularies were immediately expanded, if not enriched; we met, among our boss' usually fiesty verbage, Webster's alternative definition.

Why didn't he ask for our attention with other appropriate words? For example: parasite, leech, sponge, do-nothing, deadbeat, idler, bum, sluggard, slugabed, lazybones, laggard, loiterer, lounger, lingerer, trifler, dawdler, dallier, daydreamer, lotus-eater, shirker, goldbrick, goof-off, good-for-nothing, or ne'er-do-well.

I have a theory. I believe our boss had been reading the bee literature. For the fact is that all along the experts have been **more than** correctly defining the drone as a male honeybee:

The male bee, the drone, emerges after about twenty-four days. He is a handsome insect, much larger than either the worker or the queen, and true to the connotations attached to his name, imperious, demanding, and utterly unproductive.

John F. Adams.
Beekeeping—The Gentle Craft (1972)

They have no sting with which to defend themselves; no proboscis which is suitable for getting honey from the flowers, and no baskets on their thighs for holding the bee-bread. They are physically disqualified for work, even if they were never so well disposed for it.

L. L. Langstroth.
Langstroth on the Hive and the Honey-Bee (1853)

The brain development of the drone is believed to be inferior to that of the worker.

ABC and XYZ of Bee Culture (1974)

The young drones are ready to leave the hive after they are about two weeks old, and they do this shortly after noon of a warm pleasant day. They come out with the young bees as they play and first try wings; but their motions are far from being graceful and easy, and they frequently tumble about so awkwardly then, as they strick against one's face, he might almost think them drunk or crazy.

ABC and XYZ of Bee Culture (1940)

Much maligned? But that's not the end of it! For along comes Shakespeare and Virgil and that ilk and it's fairly obvious they've gotten hold of all those bee books:

Both gods and men are angry with a man who lives in idleness, for in nature he is like the stingless drone who waste the labor of the bees, eating without working.

Hesiod. *Works and Days*

A glorious lazy drone, grown fat with feeding on others' toil.

Philip Massinger.
The Great Duke of Florence

Virtue, if not in action, is a vice; and when we move not forward, we go backward; Nor is this peace, the curse of drones and cowards, Our health, but a disease.

Massinger. *The Maid of Honour*

For so work the honey-bees
Creatures that by a rule in nature teach
The act of order to a peopled kingdom.
They have a kind and officers of sorts;
Where some, like magistrates, correct at home,
Others, like merchants, venture trade abroad,
Others, like soldiers, armed in their stings,
Make boot upon the summer's velvet buds;
Which pillage they with merry march bring home
To The tent-royal of their emperor:
Who busied in his majesty, surveys
The singing masons building roofs of gold,
The civil citizens kneading up the honey,
The poor mechanic porters crowding in
Their heavy burdens at his narrow gate,
The sad-ey'd justice, with his surly hum,
Delivering o'er to executors pale
The lazy yawning drone.

Shakespeare. *King Henry V*

They keep out from their hives the drones, a slothful pack.

Virgil. *Georgics*

Roger Morse is correct. The drone is a much maligned metaphor! I wish our boss had been reading Virgil with a mind unbiased by bee books. I wish he'd left the drones out of it. On that mountain morning, slothful pack would have been adequate. □

Book Review

(Continued from page 94)

Crane. A 34-page reprint for sale by the International Bee Research Association, 1.20 English pounds or $2.60 U.S., post paid.

This totally absorbing review of apiculture over the past fifty years (1929-1979) was commissioned by the Commonwealth Agricultural Bureaux for its Golden Jubilee volume *Prespectives in World Agriculture**, a collection of appraisals by eminent world authorities in the field of agriculture.

**Perspectives in World Agriculture* (1980) is published by the Commonwealth Agricultural Bureaux, Farham Royal, Slough, Bucks SL2 3BN, UK at 20 English pounds; $43 U.S. It is also available from the International Bee Research Association, Hill House, Gerrards Cross, Bucks SL9 ONR, UK, at 22 English pounds or $47.50 U.S., post paid. The book contains 532 pages.

The reprint, "Apiculture", is available only from the International Bee Research Association. □

Questions and Answers

Q. What is pollen? W.G. Connecticut.

A. Pollen is formed in the anthers of a flower which are borne at the tip of the stamens. Often referred to as pollen grains, they are usually rough surfaced and somewhat spherical. They are microscopic or nearly so in size. Pollen carries the male gametes of the plants. Mature pollen is either shed into the air or is gathered by pollinating insects. Some of the pollen eventually reaches the stigma of a flower bringing about fertilization and seed formation. Pollen is used by honeybees to provide protein in an enriched diet for the larvae.

★ ★ ★ ★ ★ ★

Q. Year before last, I started with two hives and built up to seven. They all wintered well and with luck, swarms and two packages, built up to fifteen colonies. The first year I got 150 pounds surplus from the original two hives. Last year in October, I got only 120 pounds of honey from all colonies, leaving 1½ and 2 stories to winter on. October and November were quite warm so instead of clustering my bees were flying and using stores. Most hives were light. Can jugs of syrup be left on all winter? How about frames of drawn foundation dipped in syrup and left above the cluster to move up on? I am starting with foundation so have only six or seven supers of drawn comb. B.W. Ohio.

A. Food can be given to bees at any time during the winter but of course the lower temperatures usually prevent the bees from moving to the source of the food. Unless the food is within the immediate vicinity, the winter cluster could starve when the honey in the combs is exhausted. Low temperatures would prevent their reaching top feeders, entrance feeders and most internal feeders except possibly the syrup filled combs which you mentioned. Filling empty drawn comb with syrup is said to be rather difficult as well as having the problem of retaining the syrup in the cells, which could make this means of feeding rather questionable. In any type of feeder holding liquid feed there may be the problem of granulation and fermentation if late in the fall or left on during the winter. Perhaps dry sugar would be less perishable as an emergency food. Heaped on the inner cover around the center hole it could be available during periods of warmer weather. A warm period during the winter is a conventient time to give any light colony an emergency feeding and any method of getting it to them would be effective. The interior of the hive must be above about 55 degrees F. to allow the bees any movement. Even though the air temperature may be lower on the outside, a day with strong sunshine could bring the interior temperature up to the above level and allow the cluster to loosen and bees move about to feed.

★ ★ ★ ★ ★ ★

Q. My husband started with just one colony of bees. He now has several more and much more honey than we can use ourselves. Wer are thinking of selling some from our home. 1. Should the bottles be sterilized? What about the cleanliness of the frames? 2. Are Plastic containers as suitable as glass? M.D. Arizona.

A. Thoroughly washed or clean new jars may be filled with honey without sterilizing. Before honey is stored in the combs the house cleaning bees do a very good job of cleaning the interior of each cell. If the frames holding the combs need cleaning they can be scraped clean or if the combs are very old and dark you may prefer to remove the combs from the frame, boil the frames in strong detergent and then start new combs from wax foundation.

In answer to your second question we would suggest a limited trial using plastic containers in place of glass jars. Some honey packers use this type of container while most prefer to use glass. There may be advantages and disadvantages to each type which we are not aware of until each is tested under the particular handling conditions experienced. We have received a report that honey darkens faster in plastic and normal water wet glue on labels don't stick. Glass jars can break in shipping but plastic too is subject to handling problems.

★ ★ ★ ★ ★ ★

Q. After several years of beekeeping I have decided to winter my 12 colonies in three hive bodies with at least 100 pounds of good honey. This eliminates any need for feeding sugar syrup; however, I have also noticed that colonies fed Fumidil-B have done better. Is there any way to feed Fumidil-B dry with sugar as one can do with Terramycin? T.S. Wisconsin.

A. Very likely the recommended method of feeding Fumidil-B in sugar syrup has to do with the type of infection the drug is designed to treat. Nosema is caused by an internal parasite which lives in the tissue of the lining of an internal organ of the bee called the ventriculus. To reach the parasite the Fumidil-B must pass through the digestive tract of the infected adult bee. Terramycin, on the other hand, is carried through the brood food glands of the nurse bees and fed to larvae which are susceptible to the brood diseases. Another possibility may be that the chemical makeup of Fumidil-B may render it less effective or ineffective unless it is in solution or mixture of sugar water. In the dry form, mixed with powdered sugar it may remain inactive. The recommendations of the manufacturers of the antibiotics, followed by testing on bees, have determined what are the most effective methods of medication and these directions must be followed for the best results.

★ ★ ★ ★ ★ ★

Q. I would like to know whether there is any nectar available to honeybees from wheat, oats, or other grasses. In other words, would a field of grain adjacent to a hive be of any value to the bees.? N.C. Texas.

A. None of the grasses, including wheat, oats and other cereal grains have any value as a nectar source to bees.

★ ★ ★ ★ ★ ★

Q. What would cause a swarm to come back to their hive three times and swarm again a few minutes later? On a Sunday around noon a swarm came out of a hive I was watching. I hived them. It was a small swarm of about two pounds. On Monday they left their hive and returned to the parent hive. A few minutes later they again swarmed out and the swarm was larger. I hived them, notic-

(Continued on page 97)

Capping The News

THE EDITORS

"Beekeeping Small Ta'k"

Queens

THIS IS THE time of year when beekeepers should be thinking about ordering queens for the coming spring season. Postponing this important task may lead to disappointment when time comes to divide colonies for increase or replace poor queens. Leaving colonies to requeen by their own means can result in inferior queens. Queen breeders raise queens from selected breeding stock, are certain that queen cells develop under controlled, ideal conditions and that the virgin queens mate with carefully selected drones. Nothing is left to chance as often happens during supersedure. Stock improvement by using superior queens is important to the beekeeper. The best way to assure having high producing, quality queens is to buy them from reliable breeders who make it their business to help you produce better honey crops.

Pesticides

The pesticide problem remains the single most important threat to beekeepers in many sections of the United States. Bee losses continue to mount where the use of pesticides exposes foraging bees to poisoning. The microencapsulation of highly toxic pesticides increases bee kills by prolonging the period of high toxicity. Bees are more vulnerable to microencapsulated pesticides because the capsules are carried into the hive along with pollen. The slow release of the poison will contaminate the combs for many months, endangering the brood and often causing the death of brood before it emerges. Beekeepers must continue to seek an indemnity payment bill to protect them against the continuing losses to pesticide. At the same time bans on pesticide use when bees are being used to forage on or pollinate crops is imperative. Bees are necessary to pollinate the crops which provide many of our important fruits and vegetables. Without bees serious food shortages would threaten us.

Pesticides are health hazards and the fewer used the better, especially those which have been proven to be highly dangerous in laboratory tests. While the beekeepers are suffering major losses the use of pesticides continues. Without compensation for losses beekeeping will become virtually impossible as a profitable business in areas where heavy pesticide use continues.

Acarine Mites and Varroa

The threat of the acarine mite cannot be ignored when the source of infection is just below our border in Mexico. Infected bees could be transported into the United States by bringing a queen from an infected colony across the border in violation of the present embargo. The queen may be carrying the mites on her body. Importing bees into the United States from countries known to have infestation of mites is presently prohibited. Also, a widespread infestation of Varroasis could be extremely destructive to the beekeeping industry in the United States, particularly since there is no effective controls. By all means necessary the mites must be kept out of the United States for it could become a very serious problem.

Disease Control

While we must be on guard against introducing destructive pests and diseases we must also keep up our defense against the serious bee diseases already present. Control of the foulbroods depends upon a strong bee inspection program. There is no excuse for whole apiaries of infected colonies spreading disease among neighboring bees. Antibiotics only suppress the symptoms of the foulbrood and do not destroy the disease spores as does burning. Sterilization of hives is being used in several states but until the practice of sterilization becomes universal there is no substitute for continual vigilance against the destructive spread of the foulbroods. Sterilization chambers for use in treating beekeeping equipment are effective but is an expensive program if the capacity is supplied to treat large amounts of infected equipment. A widespread increase in bee diseases could damage the American beekeeping industry beyond recovery. We should pay more attention to prevention and control while there is time. □

Questions and Answers

(Continued from page 96)

ing a few young queens among the bees. I also noted an older queen in the weeds, away from the swarm. I put her in a cage and laid her aside where she attracted about a pound of bees. I placed the queen and the bees in the swarm colony. The next day they had released the queen and they returned to the original hive. The next day they left again. Adding a few frames of brood I again hived them noticing that the old queen was with them this time. They stayed in this time and the final weight must have been around six pounds. D.S. Kentucky.

The behavior of swarms is always unpredictable. The presence or absence of a mated, mature queen will have a deciding influence on any swarm. Despite the presence of virgin queens your swarm's behavior reflected the presence or absence of the original hive queen which normally leaves with the swarm. The fact that they returned and left several times means that the queen was either absent or her flying was impaired. Perhaps the hatching of queen cells, the basis of afterswarming, contributed to the confusion and the emergence of the additional bees who joined the original swarm upon the second and third emergence.

★ ★ ★ ★ ★ ★

Q. Can I use wet combs next year that have come from hives that were treated for European Foulbrood? They have been stored in the cold and there was no brood in any of them. H.V. Michigan.

A. We assume that the colony was treated with one of the antibiotics such as terramycin and in that event we can see no problem of contamination in the stored combs. This is also assuming that the medication was used according to directions. □

Two Tree Varieties With Increased Nectar Potential

By BERNIE HAYES
Wellsville, NY

MY TREE NECTAR research is now providing greater insight on the use and limitations of the species available today. In the past two decades, the foreign exotics, such as the Evodias and Sophora, have become well established especially due to the help of the many arboretums who fill the gap between the plant explorer's collections and the interested public.

Two examples that come to mind are the Harvard Arboretum, with its mature Pagoda tree and the Philadelphia Arboretum which for years stimulated interest in the *Evodia daniellii*. More on that later.

Unfortunately, my land and apiary were swept by the floodwaters of the 1972 Agnes hurricane in which I lost all fourteen colonies, much fertile topsoil and endless day's time to repair the damage to start over once again. Also, now at age 70, time has to be taken into consideration to produce something worthwhile.

Since it takes at least five years for a grower to estimate the possibilities of a tree I now have the results in on two important tree species which form the basis of this article.

In 1972 I planted three small (3-3½ ft.) Tulip trees, bought from a Tennessee nursery, in a protected corner area where leaf piles once stood to rot into humus. Of course some weeds and other seedlings became competitive with their growth. My intent was to see how they would survive without any other care than staking them at the start. Also, and most important of all, would they withstand the cold which often here goes to minus twenty below before a winter is out. (Some tree varieties, those that grow lushly and vigorously, winterkill, all or part, and would not be suitable.)

Bee Bee Tree (*Evodia*)

Another test is how would these trees resist the pesky rabbits and mice that frequent such spots. I am pleased to report that where other growth was knawed and eaten, the wildlife, which includes the stray deer, ignored this kind of bark. I did notice, however, that this species would not be suitable for a windy location unless staked or kept pruned to a low position to develop a more firm trunk. The tops bend very limber to a strong wind though they seem to shed snow or ice by springing back.

One tree is now eight foot tall while the other is six foot and the remaining one did not make it and was removed. Possibly the soil under it was too stony since adequate moisture is essential for young trees.

Without any pruning, the tops are attractively shaped and the color of the leaves unusual indicating freedom from leaf blights, etc. This variety does not put out unwanted sprouts for once trimmed when set out it continues to grow at the terminals only. I did not find any indications of disease nor signs that the caterpillars or other insects are fond of it.

My tree book reference on the Tulip indicates that the range is from northern Florida to R.I. and central Massachusetts including western, through central and southern New York, parts of Ontario, southern Michigan to Indiana, southern Illinois, eastern Arkansas and northern Louisiana.

The Hudson valley and Long Island at one time was the home of giant tulip trees, possibly all gone now for lumber except a few isolated trees.

The tulip is a very heavy nectar source with blossoms formed in a cup shape, hence the name. It is a reliable source of nectar in the more southern states rather than the northern ones. One mature tree does grow in my area though I have not observed the blossoming lately. This tree is of the Magnolia family, the tallest hardwood in North America. This tree has the signs of a common poplar, namely, trembling leaf attachments and limber in the trunk.

Tulip poplar (*L. tulipifera*) Photo by Wm. Eaton.

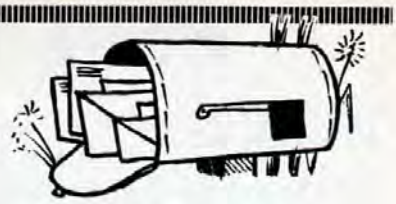
The reader may now assume that this variety is easy to transplant and this is true for it does start growing in a new location readily.

The second tree which I have been testing for the same period is the *Evodia hupenhensis* which, in this case, is from seed and not a nursery purchased tree.

Only last winter, I started leaving flats outdoors and to my surprise they came thru minus fifteen degree F. without any dieback at all. This leads me to believe that, outside of a wet, warm, late fall when growth stays tender, this species will endure minus twenty degrees F. which should put it into the same growing range as the aforementioned. Outside of protected locations in New York State this tree has not been cold tested to the low temperatures men-

(Continued on page 99)

Gleanings Mail Box



Chestnut Nectar

I would like to comment on a question from G. C. in North Carolina in the July, 1981 issue of *Gleanings*, concerning chestnut trees in the vicinity of his hives, and your answer as to the chestnut's nectar-yeilding potential.

Here in southern Switzerland and throughout the entire central range of the northern Italian Alps up to heights approximately 3,500 ft. above sea level, the chestnut, *Castanea sativa*, is a prime source of nectar. It throws copiously in any weather and to my knowledge has never left the beekeepers here without a surplus. In better years, starting in the valleys around the beginning of June and moving up into the mountains until August, the bloom can stretch out over three weeks in one area before hives must be moved to higher elevations.

In most areas, chestnut nectar, which in its pure state contains over 50% fructose and produces a honey that tends toward a dark yellow-amber and leaves a slightly bitter after-taste, is mixed with other nectar sources: wild flowers, mountain flowers, linden, pine, late locust, imparting to them a certain spiciness that is at least as difficult to describe as that of buckwheat. In fact, anyone who has cultivated a taste for buckwheat honey will take chestnut right in stride.

The large stands of chestnut trees which produce the nectar were planted by mountain people in years past as a source of food. During the latter 19th century they were attacked by the same blight that wiped out the chestnut in the U.S. But since the 1940's, researchers have noted a rapid diminishing of the disease.

Mr. G. C. should assure himself that the trees near his hives are not horse chestnut *Esculus hippocastanum* to which the bees will fly in late spring for some pollen and nectar which produces a rather watery honey with little aroma.

The *Castanea sativa* is a monoecious plant whose nearest relatives are the oak and beech. The pistils, looking like tiny spiked flowers, are found at the base of the long stamens, which have a fuzzy appearance and yellow-white color when in bloom and can be sticky to the touch, as the nectaries, in the form of tiny protuberances, run the entire length of the stamen.

In addition to nectar, the chestnut dispenses large amounts of a pollen of a type that is one of the best known for man or bee.

Michael Quinn
Apicolutra Sesturant
6967 Dino
Switzerland

Save The Tongues

Dear Editor:

In *Gleaning In Bee Culture* March 81, Volume 109, No. 3. "The Care of Package Bees" by Dr. Roger A. Morse appears the comment "The best way to feed the bees is to paint the syrup on the wire screen with a small paint brush."

If one looks along the screen you will see hundreds of tongues picking up the syrup. These tongues will be injured by the paint brush.

The best way is to use a sprayer or put the package on its side in a pan and pour the syrup on the bees.

We enjoy the *Gleanings*.

Leo Fuhr
Vernon, B.C., Canada

Suggests Better Editing

Dear Editor:

With reference to Grant Morse's article, "Management for Success", in the August, 1981 issue: Good financial management must indeed be an integral part of any commercial or sideline beekeeping operation. I must, however, point out that statements allocating poor money sense of the female spouse only are not valid, and are offensive to me and likely to much of your readership. I would prefer to see that such statements ("It has been said (by whom? by the way) that a careless wife..." and "every spouse should have her allowance") be edited out of otherwise informative articles.

Ms. Dorothy Murrell
Falher, Alberta, Canada

Two Tree Varieties With Increased Nectar Potential

(Continued from page 98)

tioned, to the best of my knowledge. The reader is perhaps more familiar with *Evodia daniellii* (Bee Bee Tree) which is a much inferior grower and often does not yield nectar every year while hupehensis is a annual yielder and often grows into giants for its species. Refer October 1979, *Gleanings* for more on this species.

The vigor of the seed most impressed me. One flat, the usual tomato 5x8 flat, sprouted most every seed and many tiny little plants are growing very well, much too closely crowded and probably low on nutrients, but doing a vigorous growth. In another, larger flat, which I did not have time to transplant I increased the dirt around the plants and they really took off, typical of exotics used to growing in the difficult soils and conditions of Asia.

Evodia hupehensis requires a well drained soil and I suspect that is important for the tulip also though not as much so. The wood compares favorably with tulip and linden. In those trees it is soft, easily worked but with strength that increases with age.

As for starting either of these varieties from seed, the tulip never germinated for me and I found seedlings reasonable in cost and a better way to start them. Seed of *Evodin hupehensis* is very scarce and few sources are available though its seed is very fine and a little goes a long way. *Evodin hupehensis* being Asiatic, may be available from foreign sources but one Japanese nursery does not show it, although this is the only catalog I have. Again, the arboretums are a valuable source of information and sometimes seed. For data on flowering trees early, see the March, '79 *Gleanings*, page 123. □

History Of The Maryland

By J. IANNUZZI
Ellicott City, MD

The Beginnings & Present Status

FOUNDED ON DECEMBER 4, 1908 at the Fifth Regiment Armory, Baltimore, the Maryland State Beekeepers' Association (MSBA) is preparing to celebrate its diamond jubilee in 1983. Open to anyone interested in honeybees, its kickoff meeting was attended by about "100 enthusiastic beekeepers," 43 of whom promptly joined through paying dues of fifty cents. Membership gradually declined over the years until dipping to 20 in 1927, rising to 155 twenty years later. In September 1981 it is more than 400, from every county in the state, save two, stretching from the Eastern Shore with its cantalope and soybean fields eager for pollination to the buckwheat hills of Western Maryland. Its members include sideliner Charles O. Smith, Boonsboro, with more than a thousand colonies but not Wallace Huff, Hyett, with 300 nor Gary J. Ranker, Cumberland, with the same number nor Roy Abel, Glen Arm, with more than 500 — all believed to be the largest beekeepers in the state — the last two of whom take their bees to Florida for the winter. It is estimated that the average member owns six colonies, according to I. Barton Smith, Jr. Crownsville, the state apiary inspector. (In 1981 there were 1,960 registered apiarists statewide with 13,000 colonies including perhaps 85% of those in existence, according to an estimate of Edmond R. Vanden Bosche, the assistant state apiary inspector from Baltimore.)

Founding Impetus and Key Men

The initial impetus for the Association and the actual founder was Thomas Baddeley Symons, a native of Talbot County who was graduated in entomology in 1902 from the Maryland Agricultural College, known today as the University of Maryland, College Park (there are also campuses in Baltimore, Catonsville and Salisbury). As state entomologist, he was extremely interested in the honeybee and its friends. As the first secretary-treasurer of MSBA, he was an early and lasting influence and was succeeded in 1915 in his dual position of state entomologist and MSBA secretary-treasurer by one of his own students, Ernest Neal Cory who served until 1937, except for 1918-1920 when George H. Cale, later editor of "The American Bee Journal," filled that slot temporarily. Cory in turn was replaced by George Jenvy Abrams who served until 1959 when MSBA celebrated its golden anniversary. In other words, for the first half century of its existence, the key men in MSBA were Symons, Cory and Abrams.

Although these four men are now deceased, their dynamic presence left an indelible mark on the Maryland

From the left: I. Barton Smith, Jr., Crownsville, MD, state apiary inspector; L. Andrew Hauck, Cooksville, MD, MSBA President, 1976-77; Bee beard King of Maryland, Donald Pierpont Kolpack, Columbia, former President (1978-79), Howard County (MD) Beekeepers' Association.

The Apiary Building, University of Maryland, College Park, as it looked on June 20, 1981, its 30th year. James M. Marsh, Nokomis, FL, is seen standing with left hand in pocket, near center of photo.

State Beekeepers' Association

State Beekeepers' Association and each was remarkable in his own way.

Ernest Neal Cory

For example, the second MSBA secretary-treasurer who served with distinction for so many years had an illustrious career. Born in Takoma Park, a suburb of Washington, D.C., on August 13, 1886, Ernest Neal Cory started as an instructor at his alma mater upon graduation with a B.S. degree, he rose to the position of chairman of the Department of Entomology after securing his Ph.D. in entomology from the American University, Washington, D.C., in 1926. Additionally he served as entomologist with the state, with the Agricultural Experimental Service which he helped establish, and with the State Agricultural Extension Service.

It is curious to note that his published obituary January 27, 1979 prepared by Elaine Bridgeman, a professional research, writer, nowhere mentioned his long and distinguished association with man's best and with the Maryland State Beekeepers' Association of which he was a primary motivating force until 1940 both at the annual and seasonal meetings, but the oldtimers remember him well as the oldest surviving (ex)member of MSBA who last appeared at the 1966 annual meeting at the specific request of ex-President James M. Marsh, to eulogize his good friend George Jenvy Abrams who had just died the preceding September.

George J. Abrams
The Giant in Maryland Beekeeping

Abrams himself was *sui qeneris.* This former Cory student saw daylight first in Washington, D.C., January 21, 1902 and succumbed at the age of 63 on September 26, 1965. In between those years, busier than the honeybee that he personified, he was known as the foremost beeman (his favorite term for others) in the state and across the nation, a veritable GIANT in his time, operating as Extension agent in apiculture — starting in 1931 — at the University of Maryland, College Park, as well as an expert teacher of entomology. As a student there, he had earned his first degree in 1927 followed by a master's two years later. His pride and joy was the apiculture edifice, ground for which was broken on April 1, 1950 and which was dedicated the following year on June 16, as he culminated a ten-year campaign, working closely with MSBA as surrogate, on behalf of the what was called "the first and only apiculture building on any college campus anywhere".

"Old Johnny Beeswax," as he called himself in the *Pollen Basket* which he founded in February 1935 as a monthly and edited until thirty days before his death, was extremely faithful in appearing at MSBA meetings, as indicated by the statement appearing in the January 1943 *Pollen Basket*, when he described himself as "an old beekeeper who has only missed one beekeepers' meeting in the last 15 years (because of illness, on January 13, 1940)."

Alfred Dietz as Successor

The year following Abrams' passing, Dr. Alfred Dietz, a recent doctoral graduate from the University of Minnesota, took over for two years at College Park before leaving for Clark College, Atlanta, later moving onto the University of Georgia. Before his departure, he was involved in the horrendous job of hosting Apimondia in August 1967, assisted by James I. Hambleton and Arthur Holmes, MSBA President. The XXI congress of world beekeeping organizations brought together some 1,500 beekeepers and friends for a weeklong meeting held at several university buildings, the first and only Apimondia international confab ever convened in the United States, an

(Continued on page 102)

MSBA President (1962-63) John V. Lindner, Cumberland, MD, admiring the bee beard of his friend, James Johnson, President, W.V. Beekeepers' Association, at the Eastern Apicultural Society meeting, Rutgers University, New Brunswick, NJ, August 6, 1981.

MSBA President (1957-59) James M. Marsh, Nokomis, Florida.

History Of The Maryland

(Continued from page 101)

event that Abrams, ever the organizer and promoter, had worked long and hard for but did not live to see.

The Coming of Dewey Maurice Caron

With Dietz gone in 1968, MSBA lost another good friend and counselor. It was not until the summer of 1970, with John V. Lindner and others filling in the void, that the University snared Vermont native Dewey M. Caron, a Roger Morse, Ph. D. product from Cornell, and MSBA again had a new friend and guide. Seeking greener pastures and more floral sources for his honeybees, effective July 1, 1981, the 11-year teaching veteran at the University of Maryland, College Park, where he was professor of apiculture, state and extentsion apiculturist, left his post to assume chairmanship of the Department of Entomology and Applied Ecology, University of Delaware, Newark.

Caron was one of the brightest stars on the horizon of Maryland apiculture which he dominated ever since he appeared on the scene in September 1970, filling the Dietz vacancy at the apiary building as assistant professor. A one-year sabbatical in July 1977 found him at the U.S. Department of Agriculture bee laboratory in Tucson, Arizona, an experiencee that perhaps ignited his desire to pitch his honeyhouse elsewhere. By the fall of 1979, he had been promoted to full professor, a sterling tribute to his all-round capabilities, since he had been on board less than a decade.

As founder Abrams before him, Caron edited the quarterly *Pollen Basket* mailed out to some two thousand readers, many of them MSBA members, keeping them *au courant* with the latest in the field as well as with details of the next quarterly MSBA meeting.

Today (September 1981) MSBA is without friend and counselor at the apicultural building at the University because a cut in funds does not permit the hiring of a Caron replacement. The ball is now being partly carried by specialist in apiculture Melanie Odlum, the new *Pollen Basket* editor and one of Caron's graduate students, a young lady who was a commercial beekeeper in South America for several years, a queen breeder in North Carolina, and a frequent speaker at MBSA meetings in the past few years.

The 1980-81 officers of the Maryland State Beekeepers Association. From the left: Secretary John Romanik, Ellicott City, MD; Treasurer Ernest Miner, Jr., Walkersville, MD; President Richard D. Hammond, Frederick, MD; and Vice-President Ann W. Harman, Laytonsville, MD.

John Vincent Lindner from Cumberland

No brief history of MSBA would be complete without mentioning the name of John V. Lindner, Cumberland. Described at the July 20, 1979 MSBA meeting — convened in his honor on the occasion of his retirement from being the first full-time state apiary inspector (since 1967) — as "one of the greatest beekeepers the state of Maryland has ever known," he has been associated with MSBA for the past four decades — "since 1939," by his own admission. He has had a long, involved and intimate association with MSBA — probably more than any other member but for Hebert Smith, Tacoma Park, and/or James M. Marsh, Nokomis, Florida who, along with the latter, may possess the longest paid-up memberships.

Lindner achieved the top rung himself in 1962 when he began a two-year tour as president, following in the footsteps of Col. R. R. Boyer, Hollywood, also a former regional bee inspector. During that period. he struggled hard to maintain and enlarge the membership — the aspiring goal of all new prexies. For many years, he was an indispensible part of the annual Association honey show — started by Abrams in 1938 — both as participant, judge or coach. Over the years, he participated consistently in the executive committee meeting where Association policy and direction and programs were frequently formulated. In 1979, he was serving in the midst of a four-year term as Eastern Apicultural Society (EAS) director from Maryland — the EAS board serves the same function as the MSBA one.

James MacDonald Marsh

A good friend of Lindner is James M. Marsh, both of whom took the the Lindner bees to Florida during the winter months for many years, beginning a few years after the war. This Florida retiree who started as a part-time state bee inspector in 1937 was honored by being named the first lifetime member of the 73-year-old MSBA at its June 20, 1981 meeting, University of Maryland, College Park, in connection with the 30th anniversary celebration of the dedication of the apiary structure there. As a paid-up MSBA member for the past 49 years and member longer than anybody else, Marsh will soon be 80 years old. When the statewide group, founded in 1908, celebrated its

State Beekeepers' Association

From the left, MSBA Presidents: John V. Lindner (1962-63), Cumberland, MD; Harry A. Mallow (1974-75), Cumberland; James M. Marsh (1957-59), Nokomis, FL; Clarence E. Krickler (1972-73), Skyesville, MD; Arthur G. Strang (1970-71), Boyds, MD; Earle O. Edmunds (1978-79), Arnold, MD; and Cmdr. E.R. Mumford (1969), Annapolis, MD. Taken on April 21, 1979, Cumberland, MD at the MSBA meeting honoring retiring John V Lindner as state apiary inspector.

golden anniversary, he was its president.

MSBA Presidents over the years

Marsh was just one of the more than 29 presidents that have served the Association since the beginning. The complete listing follows:

1. Dr. J. Aikenhead, Easton, 1908-09
2. Norris W. James, Baldwin, 1910
3. W. R. McCardell, Gaithersburg, 1911
4. W. E. Atkinson, Glyndon, 1912
5. 1913 — unknown
6. 1914 — unknown
7. 1915 — unknown
8. John Thompson, 1916
9. Norris W. James, Baldwin, 1917-18
10. Dr. John R. Abercrombie, Baltimore, 1919
11. Charles F. Balie, Sykesville, 1920-23
12. E. A. Andrews, Jr., 1924
13. Samuel G. Crocker, Jr., Roland Park, 1925
14. Dr. John R. Abercrombie, Baltimore, 1926
15. L. J. Hiltgartner, Phoenix, 1927-28
16. *Lloyd B. Shearman, Glen Arm, 1929
17. A. Howard Johnson, Centerville, 1930-32
18. Harold L. Kelly, Forest Glen, 1933-34
19. Dr. S. R. Damon, Towson, 1935-37
20. Harold L. Kelly, Forest Glen, 1938-56
21. *James M. Marsh, Hyattsville, 1957-59
22. *Col. R. R. Boyer, Hollywood, 1960-61
23. *John V. Lindner, Cumberland 1962-63
24. James Isaac Hambleton, Brookeville, 1964
25 *Arthur C. Holems, Millersville 1965-67
26. *Rev. Glenn F. Clulow, Pasadena 1968
27. *Cmdr. E. R. Mumford, Annapolis, 1969
28. *Arthur G. Strang, Boyds, 1970-71
29. *Clarence E. Krickler, Sykesville, 1972-73
30. *Harry A. Mallow, Cumberland, 1974-75
31. *Lester Andrew Hauck, Ellicott City, 1976-77
32. *Earle O. Edmunds, Arnold, 1978-79
33. *Richard D. Hammond, Frederick, 1980-81

* Still living

Of those listed above, 13 are still alive today and bear an asterisk next to their names. Harold L. Kelly, Forest Glen, a sideline beekeeper with more than 100 hives, served the longest — 21 years, a situation that is not likely to be repeated since the one who succeeded him pushed through a constitutional amendment limiting service to two consecutive years, starting in 1960. (Since Kelly was serving during the war years, Abrams declared that he would continue to do so, "for the duration.") Kelly had the distinction also of being the bosom buddy of Abrams, the *gris eminencce* behind MSBA and number three/four man during the years of the Kelly tenure. The most famous MSBA chief was James I. Hambleton, Brookeville, chief of the bee lab in Beltsville for many years, and said to be the most knowledgeable on honeybees in the nation and also widely published. For example, an excellent article from his pen appeared in the *National Geographic* in March 1935.

Recipient of the first (1981) Beekeeper-of-the-Year Award, the current MSBA head is Richard D. Hammond, Frederick assisted by Ann Harman, Laytonsville, as vice president, Ernest Miner, Jr., Walklersville, as treasurer and John Romanik, Ellicott City, as secretary.

All MSBA presidents have been white males, a tradition likely to be broken in 1982 if the current second in command succeeds as prexy, although it should be noted that the Reverend Hugo Lee, Baltimore, a blackman — perhaps the first of his race — served as vice president in 1978 and 1979 under Earle O. Edmunds, Arnold, but did not achieve the presidency, since the nominating group, dominated by the executive committee, passed him over.

Historic Gathering of Living Former Presidents

On the occasion of the 1979 meeting honoring the Lindner retirement, 11 of the 12 living ex-presidents received a special letter, originated by the author, then principal editor of *The Beeline*, inviting them to attend to "have their picture taken for history." Seven appeared, namely, Earle O. Edmunds, Arnold; Harry A. Mallow, Cumberland; Clarence E. Krickler, Sykesville; Arthur G. Strang, Boyds; Cmdr. E. R. Mumford, Annapolis; John V. Lindner, Cumberland; and James M. Marsh, commuting all the way from Florida for the special occasion.

In Conclusion

To paraphrase Liz Rodrigues, who wrote an historical article about the New Jersey Beekeepers' Association for the January 1980 *Gleanings In Bee Culture* (pp. 34-35): THERE MUST BE SOMETHING GOOD ABOUT AN ASSOCIATION THAT HAS SURVIVED 73 YEARS.□

Beekeeping in Japan

The first description of honeybees in Japan appeared in 643 A.D., telling of a general who tried to keep bees at Miwa-yama (a holy place) but failed. This colony seemed to be native Japanese honeybees, *Apis cerana japonica*, which are distributed at the present time in a wide area of Japan except Hokkaido, the northern-most island of Japan. They are kept in simple boxes or hollow logs. Modern beekeeping in Japan started in 1876 when European honeybees in hives with movable frames were introduced.

Beekeepers and Colonies

About 320,00 colonies are kept by 11,000 beekeepers in 1980. Since the statistics are based on registrations by beekeepers in February every year, the actual number of colonies in honey flow season could be doubled. Sixty percent of beekeepers are professional.

Honey Plants

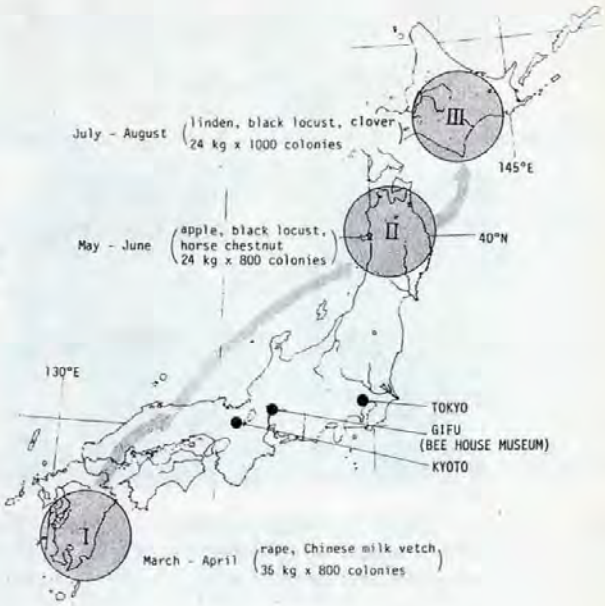
Abundant plant species bloom successively through its four seasons. Popular native honey comes from Chinese milk vetch (*Astragalus sinicus*), black locust (*Robinia pseudoacacia*), Japanese horse chestnut (*Aesculus turbinata*), orange (*Citrus, sp.*) and white clover (*Trifolium repens*). Linden (*Tilia sp.*) produces a fairly big crop, but the honey is the cheapest kind due to its strong aroma and taste which the Japanese people do not like.

Migratroy Beekeeping

Large scale beekeepers conduct migratory beekeeping. Overwintering is better done in the southern area, then one follows successive blooming to the north.

Pollination

Three quarters of colonies introduced for pollination (total 88,000 in 1980) are concentrated on strawberry production in green houses. Because of honeybees strawberry season comes earlier than before in March and April, with bigger and better shaped fruit sold in markets.



An example of Migratory Beekeeping in Japan.

Enemies and Disease

Giant hornets, *Vespa mandarinia*, about five cm big attack honeybees in the autumn. Twenty of those will give serious damage to a colony in two to three hours.

The exoparasitic mite, *Varroa jacobsoni* is prevalent all over Japan. Although several kinds of anti-Varroa smoking agents have been tried with some success, there is no established control method as yet.

About 2,500 colonies infected with American foul brood are burned each year as decreed by law, Chalk brood disease has been reported increasingly.

Honey

Domestic honey production is 6,000 to 8,000 tons a year varying mainly by weather factors. After freeing honey imports in 1963, shipments increased rapidly to more than three times as much as this crop. It is imported from countries around the world. Japan is the third largest importing country in the world, following West Germany and the U.S.A. The Japanese people's honey consumption per capita in a year is around 250 g.

Royal Jelly

The Japanese people have liked royal jelly as a "health food" for the last thirty years with consumption increasing very rapidly during the last decade to more than 100 tons a year. This seems to be related to the tradition of "Oriental Medicine". Apitherapeutic activities of royal jelly would still merit futher investigation to expand its use in other countries.

Other Hive Products

Beeswax comsumption is steadily around 900 tons a year, 80% of which is imported. Honeybee venom is being used medicinally. Some licensed acupuncturists are using live bees or sting parts of them to treat neuromuscular malfunctions like rheumatism, etc.

Boiled drone brood in soy sauce is canned and consumed as a relish. Pollen and propolis have started to find their way to meet people's demand.□

From a publication of Japan Air Lines sent by courtesy of Tetsuo Sakai, Institute of Honeybee Science, Tamagawa University, Machida-Shi, Tokyo, 194 Japan.

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Suburban Beekeeping

By D. WILLIAM BUCK
Gardena, CA

Raised hives hidden from view. Photo taken from public sidewalk.

Side view of elevated hives in partial sun.

Most suburban or city backyards here in southern California are small indeed. For the hobbyist with a few hives or the larger beekeeper who wants a limited number of colonies close to home, it's often quite a task to find the best yard area in which to place bees. Of course, the only way to keep bees in city or suburb is to conceal hives, bee flight and fully-suited beekeeper from public view. Chapters and articles abound urging the city or suburban hobbyist to place colonies on a flat roof, behind vegetation, or along a wall of sufficient height. Accompanying illustrations usually show a dozen hives on a spacious flat roof, a row of colonies along a tall fence, or a group of hives placed behind a hedge on a back lot many times larger than the average suburban or city property in my area. What to do if your roof slants, your yard is small, and suspicious neighbors can poke their heads over fences on all sides of you?

Placing hives on an elevated platform can be one way to conceal your "gentle craft" that frequently meets with disapproval in communities forgetful of our agricultural heritage. By constructing a simple plywood stand against the east wall of the house, and by selectively trimming the branches of bordering trees, I not only concealed five hives from view, but also gave the bees a more protected location. Skunks, dampness on bottom boards, ants, and winds pose few or no problems. Partially filtered sunlight still encourages early activity but decreases the stress placed on colonies exposed to full summer sun. Flight pattern can go in only one direction; up and unnoticed by neighbors or passersby. Another advantage I appreciate is the ablility to view and evaluate entrance activity while standing below the hives, thereby avoiding such occasion as when a returning forager finds no humor in being tangled in the hair of a human's head!

Studies indicate that honeybees maintained in open areas tend to

"out of sight, out of mind"

display a stronger nest-defense instinct than do the same strain of bees when kept in more wooded or sheltered locales. (1) And the Aebis discuss in their book, *The Art and Adventure of Beekeeping*, one method for keeping hives gentle: Provide for constant motion of objects nearby the apiary — eg., a fluttering cloth, leaves rustling on trees, etc. — so that passing humans or animals will not be detected with alarm by guard bees. (2) Should all of this hold true, then placing hives on an elevated platform surrounded by trees or shrubs would certainly help mitigate the temperment of an irascible colony. It's my observation that colonies I've kept in open, treeless areas seemed far more defensive than those on the platform.

Construction of two platforms on which five to six hives may be placed cost me about forty dollars in material purchased new. For me, it was well worth the money and construction time now that now one sees these particular hives, there no longer exists the "bee nuisance" reported on occasion to the local animal control agency. A classic example of "out of sight, out of mind?"

There are some inconveniences with my setup. Carrying heavy supers down a ladder or lowering them by rope leaves much to be desired; crowding hives in a small space slows thing down a bit and may lead to increased drifting; and the height and cramped work area combine to make simple manipulations some times dangerous or exhausting.

Other methods of concealing the urban apiary may prove more suitable than mine. If you're fortunate to have one, a balcony with hives hidden by potted foliage would seem ideal. One hobbyist in my area uses his garage for a very hidden apiary, and I've seen garden and storage sheds used in similar fashion. But no matter where the colonies are placed — in the tops of trees or closer to terra firma — the first rule for the city or suburban beekeeper must be to conceal his or her hives and thus keep them "out of sight, out of mind."□

Footnotes

(1) An extreme example is the keeping of Apis adansonii in buildings in South Africa.

(2) Aebi, Harry and Ormond 1975. *The Art of Adventure of Beekeeping*. Pg. 102. Unity Press, Santa Cruz.

Front view of raised hives. Activity can be seen from below flight pattern.

News and Events

OHIO
Stark County Bee School

The Stark County Beekeepers' Association will hold their 6th annual Bee School, Saturday March 6th from 9 a.m. to 4 p.m. at Malone College, in the Stewart Auditorium, 515 25th St. NW, Canton, Ohio. Admission is $2.50 at the door. The program is designed for beginners and hobbyists. Dr. Richard Taylor has tentatively been scheduled as the featured speaker. Lunch may be obtained at the school cafeteria or a sack lunch may be brought. For further information contact Walt Crawford, 3569 Amherst Ave., N. Massillon, Ohio 44646 or Phone 837-3180.

ALBERTA, CANADA
Alberta Beekeepers' Association

The Alberta Beekeepers' Association concluded its 48th Annual Meeting last month with a new Board of Directors, a new Secretary-Treasurer, and a new office.

President of the province-wide Association of commercial and hobby beekeepers is Eric Abell from Gibbons; Vice-President is Ted Leischner of Olds. Other directors are John Woodburn of Grimshaw, Sid Pawlowski of St. Vincent, Richard Cote of Lethbridge, David Tharle of Edmonton, Don Turner of Rosebud, Dale Philpott of Brooks, who is also the Canadian Honey Council representative, and Bev Woodburn of Grimshaw, who is also the President of the Ladies' Auxiliary.

The new Secretary-Treasurer is Louise Zwaenepoel of Edmonton, who may be contacted at the new office location of 5908 — 137 Avenue, Edmonton T5A 1C9, Phone 475-3314.

The Information Officer is Linde Turner of Rosebud.

Alberta Beekeepers' Association Board of Officers for 1981-82. Rear: Don Turner, Eric Abell, David Tharle, Richard Cote. Front: John Woodburn, Louise Zwaenepoel, Bev Woodburn, Ted Leischner, Sid Pawlowski, Dale Philpott.

KANSAS
Central Kansas Honey Queen

Julianne Reynolds, seventeen year old daughter of Mr. and Mrs. Gary J. Reynolds, Concordia, has been chosen as the 1982 Central Kansas Honey Queen, the title she also has held in 1981. The selection was made at the recent meeting of the Central Kansas Beekeepers' Association at Haddam, Kansas.

As the Central Kansas Honey Queen, Julianne will be the official ambassador for the Central Kansas Honey Industry and will promote Kansas honey on television and radio and appear at area and state fairs, clubs' and ride in parades.

Central Kansas Honey Queen Julianne Reynolds.

She is a junior at Concordia High School and a member of Sports Club, Art Club and a photographer on the yearbook staff. She is a member of the Wesleyan Life Corps Team which went to San Pedro Sula, Tela, Porta Cortes and La Ceiba, Honduras, Central America. Julianne's hobbies include singing, art, reading, swimming and crocheting.

CALIFORNIA
State Beekeepers' Association Convention

The California State Beekeepers' Association, Inc. recently concluded its 92nd Annual Convention at Harrah's, South Lake Tahoe.

After four days of meetings and in-

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The Individual Hive Robbing Screen

(Continued from page 92)

for the front. The only problem is that there is some variation between bottom boards with regards to inside measurements. Thus, use the smallest inside measurements for the outside dimension of the robbing screen. Any gaps created can be plugged with a little propolis. Drill through the sides for the nail holes since with loose nails in the screen it is easier to reset the screen after hive manipulations.

As we indicated above, we generally keep the screens on the year around. We have seen no reduction in honey yields though we usually have upper entrances during honey flow periods. The bees do have some trouble removing trash from the hive and about once a summer we clean the bottom boards. The benefits of using robbing screens will be apparent from the reduction in stings, but also there could be a reduction in the transfer of diseases. Skunks are also discouraged from molesting colonies fitted with these screens which also helps in keeping the colony gentle. For the beekeeper with more than one colony in a location, these robbing screens make beekeeping a lot more enjoyable throughout the entire year.

Editor's Note: By blocking the bees' exit at the top of the robbing screen it can be used as a moving screen as well. The space enclosed by the screen on the front of the hive allows a clustering space during moves in hot weather. A half inch by half inch wooden block, 13¼ inch long will block the exit if the dimensions in the diagram are used. Two small nails will hold this block in place. □

News and Events

(Continued from page 108)

formative presentations, the climax of the convention was the Annual Queen Coronation Banquet and Ball where Nancy Garcia, of Patterson, was crowned 1982 California Honey Queen. Miss Garcia competed as the representative of the Delta Bee Club. Kim Shaw, of Madera, representing the Central Valley Beekeepers Association, was crowned 1982 California Honey Princess.

Bob Koehnen, of Glenn, was awarded the coveted title of "Beekeeper of the Year" for 1981. The award is given annually to an outstanding beekeeper who has been actively involved in industry related programs and organizations.

Gene Brandi, of Los Banos, was named "Young Beekeeper of the Year" for 1981, an award given to an outstanding person who has been in the bee business for ten years or less.

Honorary Memberships were bestowed upon Hood Littlefield, of Visalia, and C. W. Beekman, of Hughson, for their many years of membership and service to the C.S.B.A.

The newly elected officers of the C.S.B.A. are:

President — Richard Gannon, Redding
Vice-President — James Wickerd, Riverside
Sec.-Treas. — Frank Johnson, Riverside

Officers of the Ladies Auxiliary are:
President — Diane Kay Allred, Coalinga
Vice-President — Phyllis Wright, San Carlos
Sec.-Treas. — Kathy Selzer, San Joaquin□

Bob Koehnen 1981 California Beekeeper of the Year.

Honey Is Best For Teeth

Die Biene, the well known German beekeeping journal, recently reported some views and information about sweets and dental health. Too much sweet matter is generally thought to harm teeth. Sweets, chocolates and similar snacks attack dental enamel.

A German pediatrition has recently investigated precisely what foods are associated with the most severe tooth damage. He reported that sweets which dissolve slowly in the mouth are especially dangerous and favor the development of caries.

The worst of the lot are those sweets which stick to teeth as well as become lodged between teeth. Toffees, for example, are only dissolved by saliva after 870 seconds! Chocolates dissolve fairly quickly in the mouth.

The sweet least to be feared is honey. Honey eaten on buttered toast required only ten seconds to dissolve in the mouth.

From K. Voges, *South African Bee Journal* 53(4) 1981.

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Gunter Honey Bee Co., Inc.*

Towner, North Dakota Sour Lake, Texas

By JOE MOFFETT
Cushing, OK

THIS 6,000 COLONY company keeps bees in North Dakota, owns a Canadian bee outfit, and moves 4,000 colonies to the Bay City area of Texas each year. The Gunters also sell package bees, queens, nuclei, and queen cells from their Texas bees.

The company is a partnership between two brothers, Richard (1933) and Larry (1939) and employs five to six other men.

Their grandfather, August, had a few box hives, which he gave to his son, Irvan (1901), in 1914. Later, Irvan kept bees in Ripley Indiana. He also worked three years for a honey packer, the F.W. Muth Company.

One year the Muth Company received fifty cases of excellent honey from Charlie Hauseman of Hillsboro, North Dakota. This caused Gunter to move to North Dakota to try his luck in beekeeping there. He soon sold his North Dakota bees and moved back to Indiana.

Part of the Gunter family taken at the Hiatt House in Jan., 1978. From left to right, Richard's son, Dwight, Richard, Mrs. Richard (Alice) Gunter, Richard's son, Daniel, Mrs. Larry (Jane) Gunter and Larry.

However, in 1927 Gunter sold out in Indiana and moved everything to North Dakota in a $50.00 Model T truck to keep bees full-time. The first year all his colonies were made from packages installed on foundation. The next year, 1928, he shipped a carload of honey from North Dakota. Because of the drouth, Gunter moved to Erskine, Minnesota in the 1930's. He moved his bees to Texas for the winter of 1932-1933. The Gunters have moved bees back to Texas every fall since then. They now move 4,000 colonies to the Bay City area of Texas each year and produce their queens and packages from this locality.

The Gunters are shaking bees from their Texas colonies into packages to send to Canada. They also sell queen cells, queens, and nuclei.

They used to move their bees to the lower Rio Grande Valley, but suffered such heavy losses from insecticides that they now go to the big thicket area. All their bees are on pallets. Some are kept in Texas all year.

When moisture conditions improved, they moved back to North Dakota from Minnesota and built a honey house in Towner in 1956. Richard joined the company when he got out of the service in 1956, and Larry came in a year later.

Irvan married in 1930. Three daughters, as well as Richard and Larry were born to this marriage. One son-in-law, Robert Brua of McVille, North Dakota, also is a commercial beekeeper. Since retiring, Irvan now manufactures foundation.

The Gunters bought a Canadian bee outfit in 1972 and now winter about two-thirds of their Canadian bees. Four colonies are packed together on a pallet for winter. Three

(Continued on page 114)

Gunter Honey Bee Co., Inc.

(Continued from page 112)

inches of fiberglass is used as insulation on all four sides and the top of the colonies. The fiberglass is held in place with a cardboard case. Each colony is given an upper entrance.

They also are experimenting with wintering 1,000 colonies in the North in buildings where the temperature is kept at 48 degrees Fahrenheit.

Irvan Gunter has been a Sioux Honey Association director for forty years (1938-1978). He packed honey on a large scale before joining Sioux, and sold large numbers of five pounds pails in the Chicago Market. His best honey producing year was in 1936, when he extracted an average of 350 pounds of honey per colony.

In 1978 Richard Gunter was elected to succeed his father as Sioux Honey Director from North Dakota. Dwight Gunter, one of Richard's boys, bought 25 colonies when he was 15 and is also in the business.

Larry Gunter has been a member of the Executive Committee of the American Beekeeping Federation for the last five years.

The Gunters are moving these colonies into a controlled temperature (48 F.) room for the winter. They are experimenting with wintering about 1,000 colonies in this manner.

Slightly modified from** ***Some Beekeepers and Associates. **Moffett Publishing Co., Route 3, Box 175A, Cushing, Oklahoma 74023. 1979.**

Insemination Service Is Started

Instrumental insemination has not been widely available to the commercial industry due to the expense of equipment and time involved in training. A new service is now available in the southeastern states. Instrumental Insemination Service, I.I.S., is being offered at your business location to ensure optimal care of your bees. It is owned and operated by Susan Cobey and Timothy Lawrence, who will come to your apiary with the necessary equipment and expertise to cross your selected stock. Having worked for many years as professional apiculturists in research and the commerical industry, Sue and Tim have recently married, moved to Baton Rouge, Louisiana and feel the opportunity is right.

A breeding program supported by instrumental insemination will enable complete control of breeders parentage. Thus the beekeeper will be able to rear a more productive bee and a bee adapted to a specific

(Continued on page 116)

Aerial photograph of the Gunter Honey, Inc. property.

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Beekeeping, The Peace Corps, and Chile

By PETER BORST
Santiago, Chile

IN JUNE 1981, our family was offered the opportunity to travel to Chile to live for two years. The two parents were to develop a beekeeping extension program as an outgrowth of the apiary started at the University of Concepcion by previous Peace Corps Volunteers. The family was to be provided a house at the University and a living allowance. We were surprised that the Peace Corps was willing to take on the responsibility of a family of four, but Earle and Rhoda Brooks, co-directors of Peace Corps Chile (as well as former Peace Corps Volunteers and confirmed family people) were eager to give it a try. And we were excited about the opportunity for the children to experience a Latin-American culture in such an intimate fashion. By July we were in Chile.

We had a three month training peroid which included classes in language and culture, various cultural experiences, and we lived in the home of a Chilean family of four. By October we were on our site at Chillan, a small city in the heart of the central valley, an agricultural region with a combination of sun, soil, and water almost identical to central California.

Chile has about a million beehives. About half of these are modern Langstroth-style hives and are operated by beekeepers with knowledge of the current trends in honey production. The other half are rough boxes. The honey from these is cut out with a knife and the level of knowledge is very low. We were hoping to work with these people, demonstrating the benefits of the improved hive such as increased production, ease of handling, and understanding of bee behavior and disease.

There is very little activity at the university level in beekeeping research, technique, and especially working with rural people. But given the Peace Corps Volunteers, the University of Concepcion supplied funds to build the apiary, provided the money would be repaid, presumably through the sale of honey. When we arrived, the program, was under fire as being unprofitable and we sat down immediately with Pedro Casals, Professor of Entomology in charge of the program,) to find ways of generating money. Still, the emphasis was to be on extension, getting the information to the people, and more importantly, making them feel that they could come to the University to see what we were doing.

What happened next is the dark side of politics. The budget-cutters in Washington, in hopes of paring enough fat off the government to compensate for the big income tax cut already passed, sliced into the Peace Corps. This had happened before, but was done in a way that programs were either curtailed or eased out of existence. The case in Chile was entirely different. The people involved in Peace Corps Chile were unceremoniously informed that their program was cancelled and they had a maximum of three months to get the volunteers out.

Our group had only been on the job for three weeks when this news arrived. The country directors were both irate and deeply hurt that they hadn't even been consulted. The volunteers were shocked. We had already furnished our house, gotten the children in school, made initial contacts and friends, and were then told to finish up and prepare to transfer to another country with another culture and radically different problems.

Of course, this kind of savings only looks good on paper. Here the government saved the money they would have spent phasing Peace Corps Chile out over a one or two year period. But they have truly wasted the time and money spent on preparing the volunteers for two years of life and work in Chile. The training, the labor of finding locations for these people, the enthusiasm of new volunteers, all this was lost.

It was with a great deal of regret that we decided to leave the Peace Corps. We had left behind jobs, house, family, and friends, with the idea that there was something more important in life than personal gain — that having reached a level of success, we should go and help others struggling to do the same thing. In countries with a choice of opportunities so limited that we in the United States cannot even imagine.

Beekeeping is ideally suited to the developing world, as China has demonstrated. It can be started as a cottage industry adaptable to a range of economic levels. It can begin with people keeping small numbers of handmade hives in their yards to produce honey for their families and friends and communities and be expanded to beekeeping cooperatives, producing honey for export, as well as equipment and bees to keep the local industry growing. But being an unpredictable sort of pursuit with a relatively small margin of profit, it will be avoided by investors seeking large gains.

Still — who is going to carry the information to the people? The amount spent on intercultural exchange and development is headed for the vanishing point while the emphasis on augmenting the apalling power of military overkill is increasing multilaterally.

The current administration seems intent on destroying the very programs that distinguished the sixties and seventies. The pursuit of profit and power has once again come to

(Continued on page 120

Insemination Service Is Started

(Continued from page 114)

region. Development of a stock improvement program depends on selection of strong, healthy, high yield colonies. Consistant high yield queens are what build a business reputation. More information and details are available by contacting I.I.S., P.O. Box 16908, Baton Rouge, LA 70893. □

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A child can ask a thousand questions a beekeeper cannot answer.

Beekeeping, The Peace Corps and Chile

(Continued from page 116)

dominate the policies of the United States government as well as that of Chile and others. And without financial support, the movement against poverty, pollution, and inhumanity will return to the realm of literature and rhetorical discussion, where it began.

The actual result of ill-considered budget cutting will not be the streamlining of the government. Rather, it will end with all the conscientious qualified people abandoning the government due to its uncertainty and seeking other work. The shift away from service to self-interested activity will become permanent. Only the true power-seekers will be left in the government.

Of course, there are differing opinions on the need of this kind of assistance. In one of the national newspapers in Chile appeared an editorial about the departure of the Peace Corps. This article stated that Chile has developed to such a level that it no longer requires aid of this sort. It went on to draw hazy connections between the Peace Corps and the socialist government of Salvador Allende, who was killed and replaced by the current military dictatorship. And to sort of round out the discussion, a well known American economist recently appeared in Chile to say, among other things, that there is no wealth and poverty, but rather, the workers and the lazy.

I have seen the poor of Chile and if the current govenments feel that they are not needy, then they will **never** gain access to the knowledge and financial aid that would be required to pull them out of the vicious circle they are in. It is a small wonder that the poor of the world are attracted to the rhetoric of socialist and communist leaders. These leaders offer them a way out, a share in the wealth of their nations. And if we are to forestall the expansion of communism, we have to show that we care about these people. We have to go to them and demonstrate that we do not believe that they are lazy and are living in shacks like farm animals because they prefer to! And this is just what the Peace Corps is trying to do, with a budget smaller than the amount spent on military marching bands! (84 million dollars vs. 95 million.)

In order to eliminate the problem of world poverty, we cannot rely on simplistic solutions. Everything must be tried, from emergency food relief, to small scale farm projects — like beekeeping — all the way to the industrialization of developing countries. But it should be apparent to every thinking person that the current tendency to say that there is no problem, that the present solutions are not cost-effective, or that the responsibility belongs to someone else, will only worsen the catastrophic situation.

It a takes tremendous amount of courage and faith to turn around and face world poverty. Here is a field of work where success is difficult to see. But the Peace Corps has been going at it for twenty years, and this is no time to quit! Therefore, I hope everyone feels strongly enough about this to express their concern to those people with whom the decisions rest.

Bee Stings and Honey

By EDWIN TATE
Woodland Hills, CA

BEEKEEPERS ARE WELL aware of the fact that wellfed bees can be manipulated easily and safely as a rule. Package bees are a good example, when full of syrup they are docile and readily placed in the hive. Also the fun project of making a living beard becomes possible with well fed bees. Swarming bees are usually well supplied with nectar and honey when they leave the hive. They too are as a consequence gentled.

Swarming commences early in the year in the coastal area of the west. March was clear and warm. I had received a number of calls to collect swarms on a Friday evening and before I could leave Saturday morning I received a couple more calls. I hadn't been in any hurry to start as a swarm rarely leaves from their first cluster location before nine thirty or ten o'clock A.M.

I placed several hives and nucleus boxes in my trailer. My plan being to shake large swarms into the hives and small ones into the nuc boxes. When shaken, to put the cover on and move to the next address to repeat the process, Then return later, place a piece of window screen in the entrance and take them to my bee yard four miles away.

I arrived home near noon after getting seven swarms into hives. My neighbor called over the fence. "Did I want a swarm of bees?" I said, "Yes, show me!" He did, the most beautiful swarm I'd seen all morning. It was on a large branch extending parallel to the ground about ten feet up on a large *Cedrus Deodora*. I see a ten foot step ladder leaning against a building and asked, "Could I use it?" No problem.

I went home, got a hive, nailed the botton on securely and at the tree removed the six center frames. I walked up the ladder under the swarm, no veil, no smoker, no gloves. Just me and the coverless hive as I'd done all morning. I gently snugged the hive up around the cone of bees and gave it a sharp rap against the tree limb. That was when all the bees left the branch and the hive and landed all over me, stinging. I walked down the ladder and set the now empty hive down and ran among some tall bushes near by, meanwhile squashing bees and clawing bees and stingers from my face, my bare arms, neck and hair, using my fingernails to rid myself of as many stingers as I could feel. More bees had followed me and were continuing to attack so I headed for home clawing stingers and bees from my skin.

I called to my wife to bring me a jar of honey. She set a quart on the step and retreated into the house. I poured honey over my head and rubbed it over my neck, arms, and hands and ankles. The angry bees in flight around me forgot their anger at the

(Continued on page 127)

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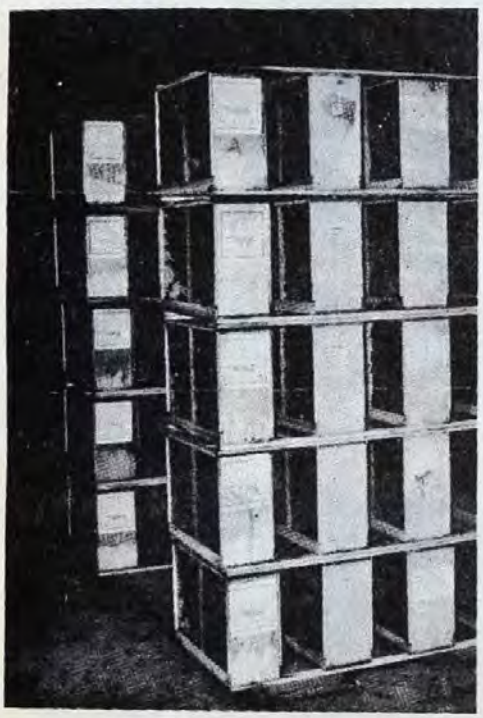

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News & Events

OHIO
Summit County Beekeepers' Association

The January meeting of the Summit County Beekeepers' Association will be on January 26th at the Richfield Library, Richfield, Ohio at 7:00 p.m. Tom Messick of New London, Ohio will be the speaker. His subject will be Special Problems In Handling The Honey Crop.

Bee Stings and Honey

(Continued from page 120)

smell of the honey and commenced lighting one me to eat honey. I poured honey on a wooden fence post for them to work on, while I walked around the house ridding myself of bees and still clawing out stingers.

Honey has long been used in our family for the relief of pain and swelling from stings of bees, wasps and yellow jackets.

I have been stung a great many times, but never wholesale as in this episode. Usually some swelling occurs, especially if the stinger is allowed to work its way all the way in and the venom all pumped into the flesh before the stinger is removed and honey applied. The pain stops rather quickly after the area is generously coated with the honey but if the honey is removed after the pain subsides, the swelling will continue as though no honey had been used.

When I was somewhat free of bees I went into the screened porch where my wife could remove the rest of the bees and start scraping out stingers that I'd missed and applying more honey. In ten minutes virually all pain had stopped, but since I was a really stung individual I kept my honey coating liberally applied. I stripped off my clothes and lay in the bath tub to "drip" making sure I hadn't missed any stingers and applying more honey as it warmed and oozed off me.

A compress saturated with honey is a useful way to keep the area involved well coated and to keep the swelling to a minimun.

As no appreciable swelling developed after a couple of hours I bathed, had lunch and was ready to go pick up my morning swarms. I did not go near the cedar tree.

Since this major attack I never attempt to hive a swarm without a veil, unless I've seen them leave the hive. One hungry swarm taught me about bees with empty stomachs. The next day I asked my neighbor: "How long had the swarm hung in the cedar tree?" He said: "About ten days."

THEY WERE HUNGRY! □

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Hybri-Bees, Inc. provides breeder queens to a select group of queen producers in the United States and around the world. It is the daughters from these breeders that are purchased as Starline and Midnight hybrid queens. It was decided to hold a closed meeting of cooperators at the American Beekeeping Federation meeting in Savannah, Georgia. The purpose of the meeting was to review the November 17, 1981 meeting in Houston, TX and elaborate on accomplishments at Hybri-Bees, Inc.

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