GLEANINGS IN BEE CULTURE

DECEMBER 1983

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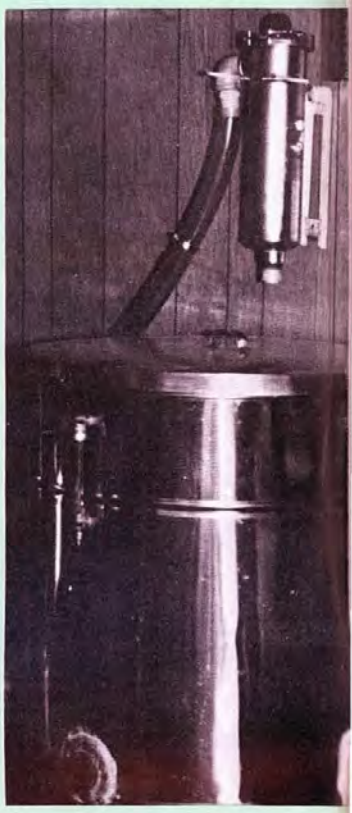
Batavia, Iowa



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120 YEARS FOR PROGRESS IN BEEKEEPING

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COVER STORY

CHRISTMAS IS A TIME FOR SHARING GOOD THINGS WITH FAMILY AND FRIENDS. THIS MONTH'S COVER PHOTO CATCHES TWO BUDDIES ENJOYING THE HOLIDAYS TOGETHER. *MERRY CHRISTMAS EVERYONE!*

Photo of Eric Krueger by John Root.

NOTES FROM THE BEEYARD

LOOKING FOR GOOD NEWS ABOUT THE FUTURE OF BEEKEEPING? HERE IT IS!

We've received a few letters, lately, from folks who are wondering out loud, and sometimes loudly out loud, why so much of the news about the future of beekeeping seems gloomy. Well, we've got our problems, that's for sure, but maybe we do dwell on them at the exclusion of also reminding ourselves of the good things we've got going for us.

We recently returned from the 1983 Southern States Beekeeping Federation Conference in Myrtle Beach, South Carolina. President Steve Forrest and all who organized the fine activities are to be congratulated for their excellent planning, hospitality, ability to bring beekeepers and industry leaders together, and their very obvious willingness to spend energy and resources promoting beekeeping. To our way of thinking, one of the most significant occurances of the conference was the recognition award given to Rose Lied, Account Supervisor for the Ketchum Advertising agency that handles the Heinz 57 Barbeque Sauce and Honey Recipe account. For those of you unfamiliar with this, what follows should be one of the most hopeful indications of a good future for beekeeping.

Several years ago, the Heinz company began promoting their Heinz 57 brand barbeque sauce by introducing recipes that would enhance use of their product. One such recipe featured honey. Heinz research indicated that approximately 40 percent of middle income American households had honey on hand. Over the course of several years, Heinz spent 15 million dollars promoting their recipe idea. They alternated using coupons with recipes on them with placing the recipes on the backs of sauce bottles. They featured two ounce sample sauce packs and recipes and established displays at which consumers could get coupons for discounts on both Heinz 57 and honey. In a national survey to determine the success of these efforts, it was discovered that 58 percent of all surveyed had heard of the 57 and honey recipe and could recite the actual recipe. 30 percent of those had tried it more than once and half of those said they were regular users. Moreover, sales of Heinz 57 went up 21 percent nationally.

Why is this such good news for beekeepers? It proves that national promotion of honey can be successful. Balance the fact that 40 percent of American middle income households have honey against the fact that Americans only consume less than a pound per person. Obviously, the consumption problem stems from a lack of awareness as to how the product can be used -- how honey can be incorporated into everday food preparation. Consumers like honey but use it slowly. As we have witnessed in many other ways, effective promotion can change the attitudes of consumers and can educate them. The orange growers have done this by convincing Americans that "orange juice is not just for breakfast anymore." Despite the fact that we are a small industry, beekeepers can achieve these results as well. The marketing plan, recently submitted to Congress, may be an important first step in generating resources for such promotion. Additionally, the strength and energies of local, state and regional organizations can do much to contribute. Folks, this is so important because it gives us all solid evidence that many of our problems can be solved. To increase consumption of honey creates a product demand. That demand, in turn, will cause beekeeping to grow. A growth in beekeeping will result in a larger measure of strength for the industry, helping us to promote ourselves even more. Successful promotion, then, becomes a self-perpetuating force. It is within our ability to attain that success.

THOUGHTS ON MARKETING HONEY IN SUPERMARKETS

One of our co-workers at GLEANINGS recently mentioned that her little boy enjoyed going to the big supermarkets on weekends because he could make a meal out of going from food demonstration stand to food demonstration stand, gobbling free sample sausages, cheese, meatballs and the endless festival of culinary tidbits offered us by sales representatives of food companies.

That started us thinking. Maybe we haven't been in the right place at the right time, but none of us recalls having passed a supermarket demonstration table at which potential customers were given free samples of honey, drizzed on a hot bun, on a cake of ice cream, straight up or in any other form. Assuming that, perhaps, not many other folks have had a different experience, we began checking around with supermarkets for more information. We were also fortunate to talk with Melissa Hart, American Honey Queen, and learned that this type of promotion is an important part of the honey queen program.

Many beekeepers have the luxury of being able to take their honey into small local grocery stores where the owner can be readily approached. In many cases, the beekeeper and store owner or manager are already acquainted and the challenge of securing a marketing place for honey is greatly reduced. For those who market in small stores, however, sales can be proportionately small. How then, could one go about approaching a large supermarket for the purpose of displaying honey? And, might there be a value in organizing a honey demonstration booth at which a beekeeper or honey queen could distribute free samples and product information?

Let's address the second question first.

Food demonstrations are generally arranged by salespeople for a specific food company. In general, the following will hold true:

1.) Supermarkets prefer that demonstrations focus on a brand name product rather than a generic appeal. It is possible for a honey council or beekeeping association to win approval for a demonstration, but organizers should realize, in advance, that customers, sampling any food product that is not identified by a label, are very likely to ask: "This is very good -- what kind of honey is this? Who is it packed by? What brand name do I look for?" Stores, being extremely customer oriented, want to be able to tell a customer exactly what to look for. It might be necessary to convince a store manager that representatives at the honey demonstration will make it clear that their product, being pure and natural, could be purchased with the same characteristics of quality, under many different labels, and that customers should sample a variety to determine what suits them best.

2.) A supermarket absolutely does not want to promote a product, then be forced to take it away from the consumer. Honey producers who cannot provide a continuous source of packaged honey might find themselves hard pressed to convince a store manager that promotion should take place. Be prepared to exhibit an ability to meet the law of supply and demand.

3.) Stores are oriented toward the season: don't approach them in winter with the idea of selling a demonstration theme involving honey and ice cream. Don't approach them in summer suggesting honey and steaming hot buns. Also, what don't you want to feature with honey? Saltines ain't too great. Remember, too, that the responsibility and cost of all setting-up is with the demonstrator. Tables, signs and all accessories must be provided for. Sometimes, however, stores that produce regular promotional flyers or advertisements will help by including, with their literature notices that a food demonstration will occur. Most displays are scheduled for weekends when business is most brisk.

How then, should someone with a flair for organization and adequate honey to market approach a supermarket for approval of a demonstration project and continuing display possibilities?

Begin by making personal contact with the local store manager or assistant manager. Phone calls can be easily ignored or diluted. Face-to-face contact provides more control of a situation. In some cases, the manager can give you approval. In other cases you will be referred to corporate headquarters. Should this happen, be sure to get the name and title of the person you must contact there. Often it will be a buyer who is responsible for deciding what all stores in a specific chain should carry. It will usually be possible for an appointment time to be made over the phone, but the actual approach for approval must still be one-on-one. Regardless of whether you are addressing a local manager or a corporate buyer, here are some tips for successful presentation:

A.) For some odd reason, beekeepers sometimes forget to think of honey as a food. Honey packing is not regulated with the same strictness that other food processing operations are. None-the-less, those making food related decisions for supermarkets are used to dealing with professionals. In appearance and conduct the qualities of competency and organization must be projected.

B.) An ability to supply a product must be demonstrated. Of equal importance is the necessity of providing samples to prove freshness. Buyers must also be shown an attractive package. With honey, many packing options are available and should be taken advantage of. One of the most apparent packaging enhancements is the label. Interestingly enough, many beekeepers don't realize how important a label can be. It must be remembered that beekeepers and consumers perceive bees and honey differently. Evidence has shown that the average consumer prefers a honey label showing honey being used in some form of consumption: that is to say, being poured over pancakes, into tea or being used with food in some other way. As unfortunate as it may seem, many folks do not want to think of honey as having been produced by an insect, and they consequently don't find labels with illustrations of bees to be particularily appetizing.

Having received permission to conduct a honey sample demonstration, a seller should excercise, in public, the same qualities that were necessary to convince the store manager or buyer that such a product exhibition would be good for everyone involved.

We're sure many of you have additional ideas and viewpoints on marketing procedures. We'd like to remind you that GLEANINGS has a continuing "Honey Marketing Contest" section through which we are seeking marketing ideas. The best suggestions received, each month, will be awarded $8 each and will be published in GBC.

Our special thanks to Dan Kendall, Assistant Manager, Buehler's in Wooster, Ohio.

Mark Bruner
Medina, Ohio

OLD PHOTOGRAPHS

SCATTERED ON MY DESK LIKE SHATTERED TURTLE EGGS ON A LITTERED BEACH, ARE JAGGED, AGED PHOTOS OF AN OLD BEEKEEPER WHOSE SONS MUST NOW BE VERY OLD. I HAVE ALL SIX, FACE DOWN IN FADING WHITE AND BROWN LUCK OF THE TOSS. ONLY THE NOTES ON BACK REMIND ME OF WHAT THEY ARE: E.L. KINKADE IN HIS SYCAMORE VALLEY BEEYARD. I PICTURE HIM HOLDING A HONEYED FRAME OF COMB -- HIS STRAW HAT; A HORIZON SHAPED TO FRAME HIS WALRUS MOUSTACHE. HE IS TOO OLD TO BE HUMBLED BY BEES, AND TOO PROUD TO FEEL QUITE AS OLD AS HE IS.

The Monthly Honey Report

LAWRENCE GOLTZ

November 10, 1983

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	40.00	33.60	34.80	35.10	36.50	40.00	35.50	35.50	37.80
60 lbs. (per can) Amber	40.00	25.80	30.00	34.50	32.00	37.50	34.80	34.00	34.80
55 gal. drum (per lb.) White		.56	.58	.58	.56		.53	.55	.58
55 gal. drum (per lb.) Amber		.42	.50		.53		.44	.54	.54
Case lots — Wholesale									
1 lb. jar (case of 24)	28.50	24.90	25.80	25.90	26.00	24.50	25.00	24.50	28.00
2 lb. jar (case of 12)	27.50	23.30	24.20	23.75	25.50	23.00	25.50	23.90	27.45
5 lb. jar (case of 6)	30.00	27.80	26.25		28.75	25.00	28.20	25.50	
Retail Honey Prices									
½ lb.	.90		.90	.83	.89	.90	.85	.90	.95
12 oz. Squeeze Bottle	1.50	1.19		1.17	1.25	1.35	1.20	1.39	1.35
1 lb.	1.50	1.39	1.50	1.43	1.45	1.55	1.40	1.70	1.55
2 lb.	2.70	2.59	2.90	2.59	2.80	2.60	2.70	2.80	2.75
2½ lb.	3.35					3.25		3.25	
3 lb.						3.85		3.80	3.50
4 lb.	5.00	4.95		4.99		4.90	4.50	5.00	
5 lb.	6.00		6.25		6.25	5.80		5.95	5.50
1 lb. Creamed			1.55					1.60	1.50
1 lb. Comb	2.25		2.25		1.95	1.85		1.85	2.25
Round Plastic Comb	1.75	1.75	1.85					1.70	1.65
Beeswax (Light)	1.15	1.10	1.50		1.40	1.50		1.20	1.25
Beeswax (Dark)	1.05	1.00	1.05		1.35	1.40		1.10	1.10
Pollination Fee (Ave. Per Colony)	24.00		27.50					20.00	25.00

Misc. Comments

Region 1

The honey market has picked up. Some beekepers have sold out their lower than average crops and are now buying local honey in short supply. Most honey marketed in 60 lb. cans due to numbers of producers with small numbers of bees. Good markets for local honey. Packing honey from outside the area is limited by the cost of processing and marketing. Honey must sell for ⅓ more to provide reasonable profit margin. Price of imported honey making competing difficult.

Region 2

Fall honey flow in Pennsylvania area was very good in 1983. Bees in excellent condition for winter. Honey sales have improved but not equal to years past.

Region 3

An excellent crop year in northern Ohio but less than average is some of the southwestern parts of state due to dry weather. Honey selling well, bees in excellent condition for winter and hives are well provisioned after strong fall honeyflow. Bees going into winter with mostly ample stores and large clusters in Indiana. Bees had a good fall honeyflow in Illinois and bees going into winter with ample stores. Surplus honey in beekeeper's hands. Retail sales fair to good. Imports are still the major problem.

Region 4

Beekeepers in southeastern Minnesota have combined weak colonies or have fed heavily to prepare for winter. Fall stayed mild and allowed bees to be fed well. Colonies have good population going into winter. Honey sales are slow for larger sized containers but good in the smaller sizes in Minnesota.

Region 5

Bees in good condition with a minimum of feeding required due to prolonged fall honeyflow in most areas.

Region 6

A good aster honeyflow in first half of October in Kentucky producing good winter stores. A few locations yielded 40-50 pounds surplus. Honey is selling very slow in Kentucky. Cheaper import honey is making its' way into most areas of the market.

CONTINUED ON THE NEXT PAGE

Region 7

Good fall honeyflows due to ample rain and above normal temperatures. Bees in good condition.

Region 8

A mild fall for most of southern Arizona. Above average rainfall with flooding in some areas. No reports on colony loss due to flooding available. The above average rainfall and mild weather brought on extra-early fall honeyflow. Bees stored extra honey for winter, reducing the need for feeding. Montana bees are wrapped for winter or shippped to Southwest, mostly Arizona. Some operators eliminating half of the colonies and shipping rest south for springtime splits. Great increase in small beekeeping operations has placed additional responsibilities on inspection service. Early fall rains have helped nectar plants and they should be going into winter with excellent moisture.

Region 9

October was warm and very dry in Washington. No measurable amount of rain in over a month on the East side of state as of November 1st. Most colonies have plenty of stores, but some feeding needed. Average yields for 1983 range from 18 pounds per colony up to 50 and 60 pounds per colony. Honey sales remain good at retail. Unusual swarming activity in central coastal California this fall. Normal swarm activity is about one swarm but received more than 35 calls this year. Activity due to unusually warm weather. Of the 35 swarms captured, 23 abandoned their hive within two days. Honey sales have been extremely poor. Expecting fall honeyflow in California to be substantial.

Bee Talk

by DR. RICHARD TAYLOR

Route 3
Trumansburg, N.Y. 14886

Lately I've found myself, from time to time, thinking small. Now I'll explain what I mean by that.

About 20 years ago, when I was tending several small apiaries in Rhode Island, I used to read with yearning about the large apiaries up in this part of the country and through the midwest. I loved my apiaries, and I thought that if only I could move into one of those primary honey producing regions, then I could have huge apiaries, and my happiness would be correspondingly increased, manyfold. I visited the apiculture department at Cornell, where Professor Dyce told me that if I wanted to deliver ten tons of honey to the honey co-op there, then they would be glad to have me deliver another ten tons the next week. Wow! I could move up there, have all the bees I wanted, sell my great crops as fast as they got harvested, and my happiness would be complete.

So that's what I did. I got a teaching job up there, to keep body and soul together while embarking upon my new life as a commercial beekeeeper, began buying up second-hand equipment, built a honey house, and thus laid the groundwork for my great happiness to follow. Before long I had eight apiaries in three counties, and was measuring my crops by the tons.

Somehow, though, my happiness had not increased with the same leaps and bounds as my beekeeping. Sometimes hives, not properly tended would be taken over by laying workers, or succumb to wax worms, or starve over winter. I'd finish my extracting around the first of November in a state of exhaustion. Spring found me dashing from yard to yard supering up and dealing with swams, while my gardening, hitherto a source of delight,went neglected. And I realized that I had, in some sense, ceased being a beekeeper and had become nothing but a honey producer.

So I went back down to one apiary, sold all my extracting equipment, became a comb honey beekeeper, and my happiness, which had ebbed, again began to soar. I am an apiarist again, and once more, I spend the grey winter days dreaming and planning how to become an even better one. My honey crops are not the biggest, but they are the most beautiful and delectable to be found on the face of the earth,in my opinion.And each year,i think, is going to get better and better, as I plan things out and perfect them.

There is a lot to be said about thinking small, so far as material things are concerned, and reserving greatness for things of the spirit. It is the key to magnanimous living. The very word, magnanimity, literally means greatness of soul.

All these thoughts were reinforced in me this past summer, when circumstances required me to spend much of my time in the city. Sometimes, on my walks around the city with Polly, my Dalmatian dog, I'd come across tiny vegetable gardens which residents had carved out of limited space of their yards. Occasionally their owners would be in them, lovingly tending them, absorbed in every root, vine and leaf, and, it appeared to me, totally happy. Their happiness, I think, would not be increased a hundredfold by their gardens becoming a hundred times larger. The same walks often took me through the finer neighborhoods, with their spacious lawns, large cars and other signs of opulence. These people were seldom seen puttering in little gardens. I think they do not have the time. Their lives are caught up in coping with the affairs of their businesses and professions, making large and far-reaching decisions,having an impact upon the world and, perhaps, inciting the envy of others less "successful.' These things with which they surround themselves excite no envy in me. I see, instead, lives hurrying on, filled with anxiety, years rolling by like days, while not far away people with simpler demands on the world pause with joy over a basket of beautiful vegetables they have grown from a few seeds, or perhaps rejoice with a few hives of bees, having all the time in the world to absorb the pleasure of tending them.

In one of the ugliest parts of the city, where there is not a square foot of grass within sight, there appear on the sidewalk each spring several huge wooden plant boxes. By mid-summer they are filled with a spectacular array of flowers, in perfect arrangement;he result of a horticultural expertise that is itself the result of many years of devotion to this project. Their owner lives by himself in a decrepit apartment over the street. He is surely no model of happiness but one senses the fulfillment he derives from this one project, small in itself, but very large in his life.

All these things reinforce something I began to learn years ago, which I think many people go to their graves without ever learning at all. It has, I think, a special relevance to beekeeping, because few things can match one or a few hives of bees for the capacity to evoke fascination, wonder and joy. If one were to put in a formula, it would be: Small is beautiful!□

HONEY MARKETING IDEAS

To do something to promote the sale of honey, I wrote the enclosed sheet which we give to everyone who buys or honey.

Centuries before white sugar, man relied on honey as his sole sweet. In the Old Testament it was told that the Promised Land would be "flowing with milk and honey". In the New Testament it is recorded that Jesus Christ appeared to his disciples after his resurrection from the dead and ate a piece of comb honey before them to show that he was alive.

Unlike white sugar (sucrose), honey does not have to be digested. This delightful sweet is composed of fruit sugar (fructose) and blood sugar (dextrose) which are immediately absorbed into the blood stream for quick energy.

Our bees travel 75,000 miles (three times around the world) and visit 367 million flowers to make one pound of honey for you.

We prepare your honey as naturally as possible. We cut the caps from the honeycomb with a hot knife, place the open combs in a centrifuge, and extract the honey. We then strain the honey through a nylon cloth and package it.

Microscopic examination would probably show small amounts of wild flower pollen (another marvel food of Nature) which would pass through the filter cloth. Guarantees of natural purity that you can observe are: slowness of small air bubbles to break; slow pouring when cool,; ability to change from liquid to crystalline state with temperature change; taste; and most importanty, delicate floral scents.

To retard granulation, store in warm room or in deep freeze. (NOT in refrigerator).

We guarantee your satisfaction with our honey unconditionally, or your money back.

William A. Gant
2090 Richmond Rd.
Richmond, MI 48062

Questions and Answers

Q. After extracting I have been placing my shallow supers over the inner covers of my main hive bodies to be cleaned up. Although most of the time the bees will take the residual honey left on the extracted combs down into the hive, occassionally I find that they will start bringing up stores from below to fill the empty combs. Under what conditions do they do this?

Another question: what is the best way to kill the larvae of the wax moth? Although moth balls seem to do a good job in killing off the moths, they don't seem to touch the larvae. Dipel spray kills those on the surface of the comb but doesn't always reach those under the web.

Will the bees clean up the webbing, etc., left by the wax moth after they have been eliminated? **James, L. Tabor, Naples, ME 04005**

A. It is not uncommon for a colony to deposit fresh nectar in supers which are placed back on a colony after extracting, above the inner cover. This is particularly likely in the fall during a late honey flow from goldenrod and aster. I don't think it is so much of a case of the bees carrying honey from the brood nest as it is of fresh, incoming nectar being deposited in the supers above the inner cover. Seldom are the combs all filled and capped but the accumulation of honey in open cells with the presence of a cluster of bees defeats the purpose of placing the supers back on the hive, that of having them cleaned of honey and dry for storage.

Paradichlorobenzene (PDB) crystals kill the adult and immature stages, but not the eggs of the Greater Wax Moth (*G. mellonella*). Perhaps your method of using the crystals needs to be checked. A pile of 10 shallow or five deep supers should be treated by placing about six tablespoons of the crystals on a piece of paper placed on the topbars of the top super. As the crystals evaporate the heavier-than-air gas permeates the combs. Any cracks or other openings should be sealed with tape and a tight cover placed on the stack. At intervals of two or three weeks the cover should be raised and the top supers examined for the presence of damage of crystals. Replentish if necessary until all wax moth is over, which is usually after the first killing frosts.

Bees will clean up a limited amount of the webbing and other debris left after wax moths have invaded the combs. If the damage is extensive, during which combs are literally woven together it is better to replace the foundation and in some cases, the frames as well.

L. Goltz

Q. We have a lot of trouble with wax worms in comb honey. Does freezing the honey help prevent them? **J.F. Carter, 29 So. Church St., Honeoye Falls, NY 14472.**

A. Comb honey supers become very attractive to wax moths, especially after they have been in use two or three seasons. The moths are apparently attracted by the burr combs and propolis. They are a special problem with round section supers, because of the spaces in frames where they can hide.

To protect comb honey from wax worms, pack it, that is, put the lids on the round sections, or, in the case of square sections, put them into protective cartons, then put these, a dozen or so at a time, into plastic bags, and then into a good freezer. The advice one sometimes sees, simply to "freeze" them, is of little use, because honey does not freeze, and the 32 degree F. temperature of water is not cold enought to deal with wax worms. Let the temperature in the freezer go down to zero F., which may take a day or two. This will kill all stages of wax moth, including eggs. The honey is not harmed, nor does this treatment induce granulation. It can, if the freezer space is not needed, be left there indefinitely. The bags should be left unopened for several hours when the sections are removed, so that moisture will condense on the bag, and not on the sections. You will never see wax worm damage if you follow that procedure.

R. Taylor

Q. A lot of bee books set forth elaborate directions for preparing a colony for winter — so many frames of honey, so much pollen in a certain position relative to the cluster; a small area free of honey and pollen in the food chamber for the center of the cluster, and so on. This sounds like it is necessary to tear every hive apart in the fall and rearrange the combs. Is this so? **Jeffrey Hamelman, 940 Main St., Coventry, CT 06238.**

A. The only requirements for good wintering are:
1. Adequate stores. Heft the colony from behind, and if it is heavy, all is well. No need to weigh it or open it.
2. Ventilation. Leave the inner cover hole partially open to let moisture escape. The outer cover normally does not inhibit the escape of moisture if the inner cover hole is partially uncovered.
3. Protection from mice. Close the entrance down or cover it with hardware cloth.
4. An uncongested entrance. Tilt the colony forward to allow dead bees to drop out. This will also save you the trouble of cleaning the bottom boards in the spring.

None of those steps requries opening the hive, and there is no need to wrap it.

R. Taylor

Q. If a hive produces 100 pounds of honey and a double queen hive produces close to 200 pounds and is twice as much work, what is the advantage of using double queens? These are the figures I seem to get from reading. **Joe W. Anderson, 2702 S. Scottville Rd., Scottville, MI 49454.**

A. The principal savings in using a two queen system is the economy of equipment required. I am not certain that there is twice as much work caring for a two queen colony as compared to a single queen unit. It is not necessarily true that a double queen colony will produce twice as much honey as a single queen colony. No doubt if two queen colonies were much better than one queen colonies they would be in greater use than generally. For further information consult: "Two-Queen's VS Single Queen Colony Management" by C.L. Farrar, *Gleanings,* pp. 593-596.1936

L. Goltz

Q. While working in the flowers this September my wife hollered "your bees are swarming." About 2000 came on limb. The queen must not have been with them because they went back to the hive. I noticed a ball of bees on the entrance so I took a bee brush and swept them in a nuc. I used a small stick to gently scatter the balls of bees. The queen clung to the stick along with 50 bees or so. My wife brought a mason jar with a screw top. I shook the bees in the jar. Having never touched the queen we went to the shop which was about 200 feet away. We closed the door and windows tight so she couldn't fly away while putting her in a shipping cage. We opened the jar which was air tight and I caught the queen. My wife looked out the window and the bees were swarming on the window pane. This time there was five or six thousand in the swarm.

My question is—having never touched the queen and taking her in a sealed jar 200 feet away in a tight building, how did

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Questions and Answers

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the bees know she was in the shop? **John Lackey, 411 LaVista Dr., Evans, GA 30809.**

A. I suspect that some trace of the scent of the queen and accompanying workers was clinging to you or the outside of the jar. The pheromones are so powerful that molecules can permeate the air in the vicinity and in turn can be detected by the other bees quite readily. **L. Goltz.**

Bees and Gardens

This being the last of the Bees and Gardens columns, I hope that *Gleanings* readers will excuse a final indulgence. For the last few issues this column which you have read (which is a rash assumption) has tended to run to the philosophical rather than the practical. For this reason, among others, perhaps you will be glad to see it come to an end.

Wisdom is defined in the dictionary as the power of judging rightly and following the soundest course of action, based on knowledge, experience and understanding. I wonder if, in defining wisdom, the dictionaries' description is not too prosaic; perhaps does not take into consideration that wisdom is also a living, active, revitalizing force that may not be lavished on humans alone, at least in a broader sense. Wisdom is not the sole province of the aged, certain religions or cultures or even of governments. Wisdom, it seems to me is an endowment given generously to some and less lavishly to others among earth's creatures. Some people may equate wisdom to intelligence, which is defined succinctly in the dictionary as the ability to acquire and retain knowledge, a characteristic of our youth, whereas wisdom is commonly associated with maturity in the human race.

This column provides us with the opportunity to consider the status of a higher order of animals such as the honey bee, in relation to wisdom and intelligence.

It is well known, if you are a beekeeper, that your bees do not always appear to follow the soundest course of action, and do not therefore appear to be wise, at least in terms of our original definition. But, neither does man, who is supposed to be the more intelligent of the two phylum. Is it acceptable to credit bees with any wisdom or intelligence, or are actions often attributed to these functions merely reflections of genetic manipulation programmed during millions of years of evolution and adapted to man's needs through controlled breeding and tenancy in hives? Is physiognomy (the practice of trying to judge character and mental qualities by the observation of bodily features) equally applicable to other animals as it supposedly can be applied to Homo sapiens? Are some animals, other than men(bees for example), wiser or more intelligent than others and are some bees more intelligent than other bees?

There is evidence that honeybees take positive actions that assure survival and add to their usefulness to man, in pollination of plants, for example.

Foraging bees visiting artificial flowers deposited on them a substance that attracted other foragers. Flowers which yield no nectar may be marked with a repellent (Free and Williams. Jour. of Apicultural Research 22(2): 86-90. (1983).

Bees exhibit selectivity in foraging nectar-rich sources in preference to less rewarding sources. Are individual bees reacting to a stimulus or does each bee demonstrate an ability to "decide" that one nectar sourse is better than another?

Worker bee larvae of the proper age among many are used to rear queens. Does an individual bee, given the task of selecting a larvae, conciously make a judgement, rejecting one and selecting another?

Bees associate visual stimuli with locating hive entrances. If a recognized hive marker is suddenly switched after the bee has oriented itself and begun the "approach" to the entrance can it suddenly change its flight if hostile guard bees meet it?

Do individual bees have the ability to differentiate, perceive and act on the various tasks in a colony, or are all these directions preprogrammed and the individual bee reacts if and when circumstances dictate the need?

Analysis of bee behavior can point to other examples which suggest that bees exhibit what may amount to a kind of subliminal intelligence. The problem of interpretation enters in when equating bee behavior to human intelligence; or in making comparisons between various animals other than man. Many animals exhibit an ability to selectively act in response to stimuli. Is this based on inherited ability and/or true intelligence, or, is it a simple reaction to instinct?

I cannot help but recall instances of having seen pet dogs actually wait until a traffic light turns red for oncoming traffic before crossing an intersection. The dog seems to actually watch the light, or consciously wait for cars to come to a stop. I would agree that training enters into this example but could it not be that some level of "reasoning" is also involved?

These examples are all interesting and perhaps puzzling statements and questions, mental exercises, if you wish, or a form of banter between reader and writer. In this case, the purpose is to awaken us to the awareness that beekeeping can be more than just an exercise in mechanical performance of routine tasks by brute strength. Just how deeply into the practice of beekeeping we are involved may influence our contemplation of such abstract matters as to whether honey bees exhibit intelligence or wisdom. It is never-the-less interesting to hear different views among animal behaviorists who choose to pass along opinions on such matters. At least we beekeepers can argue the matter without worrying about being proven right or wrong. I leave such problems for you to discuss and future generations to solve. □

L. Goltz

Time To Rest

Now with winter coming
The honey bees have stopped humming

They've settled in their hives
To keep warm and make more lives

They have all come to rest
'Cause they know they've done their best

Now we pray, they'll all survive
To bring us more honey when the time arrives

Karen Tessier
Payette, Idaho

Capping The News

THE EDITORS

"Beekeeping Small Talk"

THE WILLIAM H. MINER AGRICULTURAL RESEARCH INSTITUTE

The Miner Institute, located in Chazy, New York, was built and equipped, in 1956, with funding from the Miner Foundation. Its purpose, as a non-profit educational institution, is to focus on environmental sciences, farm management and *in vitro*cell biology. Programs of adaptive research as well as continuing education are carried out in cooperation with the State University of New York at Plattsburgh, Cornell University, the University of Vermont, farmers, farm organizations and those engaged in agribusiness throughout northern New York. Honeybees are an important part of activities at the Miner Institute, especially because of their role in the apple production program. The Champlain Valley Beekeepers' Association, organized in 1981, has grown in size and scope and holds its meetings at the Institute. The entire beekeeping program is coordinated by Administrative Assistant, Loretta M. Surprenant. Loretta's involvement with bees came rather suddenly when the individual who had been tending the apiaries left. With little practical experience, Loretta took over and through hard work and energy, expanded the apiculture program while becoming a skilled beekeeper herself. The highlight of her program is an educational seminar held each April at the Institute. Last year, more than 100 beekeepers attended, and Miner has now become the center for a great deal of beekeeping activity in northeastern New York.

A GRAVE UNDERTAKING

Cornell entomologist, Kirk Vischer, reports that, in addition to the duties of cell cleaning, feeding and foraging that bees assume during their lifetimes, approximately one to two percent of the colony serves as undertakers -- removing the dead that would otherwise pile up at a rate of more than a quart a month. Vischer claims that by color dotting bees, he determined that undertaking was a specific responsibility that generally lasted only several days. Bees that were not undertakers might briefly tug at a corpse, but they would not remove it. An undertaker, however, would grab the dead bee in its mandibles and fly with it as far as 400 feet. Vischer also suspects that bees emit a pheremone substance when they die, thereby alerting the undertakers. He demonstrated this by making wooden models of dead bees. Whereas it took the undertakers about seven minutes to remove actual, freshly dead bees, it took them seven hours to remove the models.

A HAIR RAISING EXPERIMENT?

A report in the Vol. 22, No. 2, 1983 JOURNAL OF APICULTURAL RESEARCH comments that preliminary results of work done experimenting with the use of human hair or chicken feathers in smokers, suggests that the anaesthetic affect of these substances on bees does not shorten their life span. Both hair and feathers, when burned, produce hydrogen sulfide, the agent which causes anaethesia. Ammonium nitrate, used as a commercial fertilizer, has also been used as an anaesthetic, but reports have suggested that it has a negative influence on the longevity of bees. Another possible problem with using an anaesthetic of any kind is that bees, in such a state, can smother each other. This new information might, however, provide a use for those of you who periodically get so angry with the occasional mean colony that you pull your hair out in frustration.

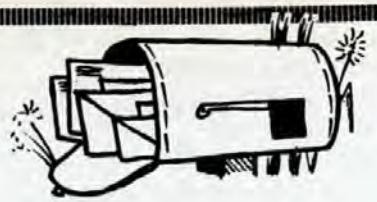
BEES TOUTED AT ALABAMA GATHERING

Rollin Moseley, of Scottsboro Alabama reports that the recent Alabama Beekeepers' Convention at Auburn University brought in more than 200 beekeepers and farmers. It is hoped that farmers who are not primarily beekeepers will continue to increase in numbers at such gatherings. A conference official stated: "We've been hoping that the state's farmers will realize the true value of having bees on their property, and so far they have."

THE ANTIBIOTICS CONTROVERSY

The use of antibiotics as a prophylactic treatment against diseases such as foulbrood, have been frequently debated -- often with considerable intensity. One aspect of deciding whether the use of such drugs is beneficial or not, was mentioned in the October, 1983 issue of the FDA CONSUMER. There it was stated that "there is evidence that bacteria in [these] animals are able to develop a resistance to antibiotics fed to the animals at low, or subtherapeutic levels. Knowledgeable scientists say that this resistance can be transferred to other bacteria, including those that are pathogenic to humans..." There is, of course, nothing to indicate that this directly applies to the feeding of antibiotics to bees, nor does it suggest even a sizeable percentage of all the factors that must be considered in a discussion of this issue; but it does present a dimension that should not be ignored.

Gleanings Mail Box



Dear Editor:

I recently retired so I could take up beekeeping without the interruptions of a medical practice and I am driving to improve my expertise. Since I am just beginning, I have made many mistakes and I thought you would be interested in my mistake I made this summer.

I do cabinet work as a hobby. I had some Vermont barnboard left from a renovation job I had done on my office. It is white pine with a grey water stain that looks like the siding of an old barn. I thought this would make a unique hive body and made several, with finger joints on the corners, rabbited ends to hold the brood frames and put some old oak drawer handles on the sides in place of the usual hand-hold grooves. The interior was left with its white, natural white pine finish and no paint was necessary. There was no odor and they looked most attractive on my bottom boards.

I was called by someone nearby to collect a huge swarm from their backyard last May. I set the box on the ground and layered a limb of bees so that it hung over the front of this new brood box cleated to a bottom board and covered with an old cover. The bees seemed reluctant to go in and stay and I thought the swarm was physically too large for one hive body. So I returned that evening with another of my barn board hive bodies and with an experienced beekeeper. Since it was getting dark, we shook the limb of bees into the empty top box placed on the bottom one with new foundation. We closed up the front and reached home in about ten minutes to set this hive on a stand for the night.

I went out early the next morning to check on their progress only to see masses of bees wet with regurgetated honey stuck together—some just barely moving. Those remaining in the hive were all dead. Our interpretation was that there were too many bees for such a space and that they separated.

About a week later there was a swarm on my own property in a white pine tree—another huge one. I set my barn board hive body on a sheet and lowered the swarm on to the sheet in front of the hive. They trooped in nicely—but in about ten minutes, trooped out and took to the air. This time they re-grouped on the lower branches of a magnolia tree about two feet off the ground. This time I shook them with the top hive body which was empty so that they could work their way through the bottom which had foundation. Soon after I put the lid on, they were staggering into the front dead and dying in the grass in a sticky mess. It looked like a bees' enactment of the Coconut Grove Fire!

It was at this point I first suspected something in the wood and believed it is treated with a chemical like pentaersal to save it from termites.

So, a word for your "mistakes some beginners avoid"—is never use wood that may have been treated, I estimate I lost about 120,000 bees!

I washed all the frames with warm water, air dried them and put bottoms on the bodies of barnboards to use them as containers. I have had no further problems of this sort.

I hope my experience will help someone else.

John D. Hallahan
Media, PA 19063

Dear Editor:

As a beekeeper of twenty years and the pesticide administrator for the South Dakota Department of Agriculture pesticide program for the last ten years, it was with certain degree of concern that I read the letter in *Gleanings* Mail Box, Ocotber, 1983, page 513, by Jullo P. Diaz and Jack Meyer, Jr.

While it is gratifying to see beekeepers make use of your Mailbox column to provide important information to other beekeepers (and I personally applaud Diaz and Meyer for doing so) some errors occur in what has been reported. We want to also use your column to update readers on the situation as it now exists.

First of all the EPA disallowed all extensions of any state's emergency exemption for the use of Pydrin on sunflowers and did not sanction any state exemptions for the use. The reason being that pyrethroid residues of no level are allowed on oil crop sunflowers. Any residues that might occur as a result of use under any crises exemption could result in the contamination of the entire crop of sunflowers treated.

Another point that should be considered is that when the spraying took place in North Dakota for sunflower beetles the level of concern by public officials was not very high because the crop development state was at a level of less than 10 percent bloom. Additionally, the sunflower beetle is a lead feeder. The other sunflower pests of general economic importance feed either inside the stem itself or within the sunflower head. These are much better protected by the sunflower plant from exposure to any insecticide. Control of them require an application rate of at least twice as much insecticide as the beetle treated in North Dakota. The real stinger is that existing data indicates that pyrethroids at the necessary levels are extremely toxic to bees.

In summary we should say that problems that must be overcome before the class of pesticides known as pyrethroids can be registered for use on oil crop sunflowers are: Expected residue levels and allowable residue tolerance must be established; Rates of application for effective control of pests must be researched; and toxicity of pyrethroids to bees at various application rates must be found. When these things are known, we will then know if we can use the materials to protect the farmers crops from insects, the bees from toxic chemicals, and more importantly, leave our environment a safe place for us and future generations to live.

We do want to express our appreciation for Jullo and Jack's concern and their willingness to meet with public officials as advocates of the apiarian industry. It may be that we will not be able to accomplish all we want as soon as we would like. The system may not allow that. But with people out there like them willing to meet with and explain your needs to public officials, we will get there.

C. Ray Peery
Pesticide Program Administrator
Pierre, South Dakota

Dear Editor:

In your September 1983 issue, I read an article about "Pollen Marketing: Profit and Protection". In the article, Mr. Gollub stated, "After discussions with my lawyer, I decided to change my pollen label from

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Gleanings Mail Box

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a simple statement of contents to include a warning on how to take pollen and its possible allergic reaction. At the same time, I balanced the label by putting in a statement of the benefits of pollen."

I have been asked by some beekeepers if they should be putting similar warnings on their labels. This question was presented to the Food and Drug Administration District Office in Dallas. The responded in a letter that the Food and Drug Administration (FDA) does not object to the marketing of "bee pollen" as an ordinary food provided there is not nutritional or therapeutic claim made or implied for the product.

FDA said, "Nutritional or therapeutic claims such as 'complete and balanced food', 'nutritious food' and 'contains all of the essential elements required daily' are unwarranted and considered to be false an misleading. Labeling which recommends a specific pattern of consumption or dosage suggests and implies therapeutic usage and should not be present on labeling."

Concerning proper pollen labeling, they said, "The product marketed for use solely as food must bear all mandatory food labeling information, including:

"On the principal display panel: An appropriate identity statement, an accurate declaration of net quantity of contents.;

"On the principal display panel or information panel in one place: A statment of ingredients by common or usual name in descending order of predominance, the name and place of business of the manufacturer, packer or distributor.

"The declaration of net quantity of contents must be in letters and numerals not less than one-eight inch in height on the principal display panel which has an area of more than five but not more than twenty-five square inches."

Any statements other than those required should be dropped from the label or cleared through the FDA before being placed on the label.

Michael Vandeventer
Apiary Specialist
Oklahoma City, Oklahoma

[An Additional Comment About The Gollub Case]

Why did he [Gollub] make his label warning "sudden metabolic inbalance" instead of "possible allergic reaction" he intended in his letter? I can see the lawyer for the widow of the man who died from anaphylactic shock (with dictionary in hand) say: "metabolism has no relationship to the immune system or sensitivity." "What **metabolic** inbalance is fatal 15 minutes after its onset?"

Dr. T.S.K. Johansson
Flushing, NY 11367

Dear Editor:

I read Glen L. Stanleys' article on "wintering colonies" with great interest. About 20 years ago I started using ¾" of styrofoam under my bottom boards and in all my covers. I have since replaced it with ¾" Celotex for only one reason, although we do not have a lot of ants, there appears to be just enough to chew up the styrofoam.

John D. Bacon
Auburn, MI 48611

Dear Editor:

My friend Dr. Jack Ianuzzi, RFD 4, Ellicott City, MD 21043, needs only a few states to complete his collection of one pound queenline jars of honey. He is missing: **Idaho, Louisiana, Nebraska, Nevada, Oklahoma, S. Dakota, Kansas,** and **Wisconsin.**

Would your readers help him?

James Steed
Richmond, KY 40475

Dear Editor:

Questions that come to my mind while reading October, 1983 issue:

1.) Why do we spend so much time helping foreign countries increase their honey production when our own honey cannot be sold?

2.) How can a beekeeper(s) justify selling his honey to the government? If he can't back it—he should go out of business. Like Braniff Arlines, for example. Why import 90 million pounds when that's exactly what American beekeepers have sold to the U.S. Government. DOWN WITH **"WELFARE—BEEKEEPERS!"**

3.) As for Jim Powers' letter—It's **pathetic.** He is reducing my standard of living because my taxes pay for his apparently inefficient operation.

Don Eatz

Dear Editor:

"How little you know about the age you live in if you fancy honey is sweeter than cash in hand". Things have not changed since the last century A.D. when the Roman poet Ovid made this statement.

My letter calling for a new Producer-Packer organization dedicated to getting U.S. honey on the grocery store shelves has had mixed reaction, but many more in favor than against.

I thought for those of you who are interested, I could go into more detail as to what this organization might do.

I. Packing

1. Help a beekeeper buy the right packing equipment at the best price.
2. Help set up his packing line.
3. Provide the technical information necessary to pack a good product.

II. Labeling

1. Help design his label. Through good labeling his honey can acquire its own identity.

2. Make certain the labeling laws are enforced.

3. Get new regulations passed which force packers to give the geographic origin of honey, require identification of floral source, and state how the honey was processed. If it is a blend the label should say so, if it is from more than one country, the label might say: Produce of more than one country. We must restore consumer confidence in honey. One of the ways to do this is through good labeling.

III. Distribution

1. Advise whether to use a broker or not.

2. Help select a broker.

3. Help with warehousing and inventory control.

4. Help a beekeeper develop a buyer presentation kit to help lower the buyer's preception of risk in dealing with him.

IV. Pricing

1. Advise a beekeeper how to price his honey.

2. Give recommendations on how and when to promote his honey through special offerings, coupons, discounts, etc.

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IT PAYS TO KNOW

How to . . .

By P.F. THURBER
5522 127th Ave. N.E.
Kirkland, WA 98033

How To Work With Rounds

The ease in assembling Ross Round certainly takes a lot of the chore out of producing section honey. Ross Rounds or Cobana equipment which is similar merely has to be laid out on the bench. The rings set in each side of the holders, the foundation laid in place, and then you merely squeeze the two halves together and put them in an easily modified section super (4½). Finally you put a follower board on each side of the round's holders and put in the springs. That's it.

Let's contrast that with wood sections. First the super has to have some fixing to hold the square sections and there are T tins to nail in slats, separators, etc., have to be obtained plus follower boards and springs. Then the business of assembling the squares or rectangles that will hopefully be sections of honey begins. To get them together you have to wet the "V" joints and then put them in a squeezer press to put them together and finally you have to hot wax the foundation in place or wax two pieces of foundation— one at the top and one at the bottom. Look, it's a lot of work and takes more skill than I want to develop and takes more work than I want to devote to the project. Also it takes more equipment such as the press and the wax tube, etc..

The benefits of the Ross Rounds equipment does not end with the assembly of the supers. After all the bees have to fill the rounds or rectangular sections before you have something you can sell, and I do not think many people will argue the facts that first the bees seem to fill and cap rounds a little more readily than they do the rectangular sections. Second, when bees work on rounds, they seem to fill all of it and cap all of it where as one often has problem of getting the rectangles fully filled including the corners and then getting the corners capped.

The final benefit is packaging. Rounds you take from the holders, put covers on the front and back, and run a piece of tape (or go first class) label tape around the round after stamping on your name and address. With the rectangles you have a lot more work. You scrape propolis, and then wrap with special cellophane wraps with imprint of your name, address and weight on it, etc., and all the time you have to be extremely careful not to dent, cut or squeeze the cappings. It is a real hassle or as one chap claims, a real labor of love!

Let me put it this way. Assembling the rectangle sections, getting the section honey out and ready for the market is darn near an art. The few people who can produce the true sections to my way of thinking are at the top of the hill so do not put down their expertise. They have it and presumeably you do not, and I know I don't although I had until recently some rectangular section equipment.

Now if the equipment for rounds is easy to use and packaging is easy too and getting bees to work rounds is slightly easier than getting them to use sections, what am I writing this column for? It is this. Some clowns are trying to ruin the market for sections and rounds before it can be rebuilt. Remember once sections were widely sold and were,I guess, the preferred way to buy honey. The market is apparently coming back although millions of people I am sure never tasted section honey or honey in rounds, yet we can blow the market away real easy! How? Well, selling rounds that are not fully capped is one way. Another way is selling rounds with specks of ash in the honey which comes from improper use of a smoker. A third way is using medium brood foundation instead of the special very thin foundation made for sections and rounds. Look, eating section honey or cut comb honey made on a medium brood nest foundation means the customer has to chew up and swallow or spit out much too much wax. I agree the extra wax is not going to do the customer any harm, but it certainly does not add to the palatability of the product. Being blunt about the matter, all the extra wax just turns people off so use only the correct foundation.

There is one other turn-off you can run into when trying to produce section or rounds you should watch for and that is two different honeys in the same section. This occurs here and maybe in your location when the weather is poor. You, for example, put your rounds supers on at the beginning, say, of the blackberry flow because you anticipate (and hope) that the bees can draw out the combs and fill them and cap them before the flow is over. Then you get a typical Puget Sound late spring. It is too cold or rainy during the blackberry flow so, yes, you may have the combs drawn and filled and perhaps even partly capped. Then the flow is over. Any honey not capped can and often, (at least some,) is carried downstairs to feed brood. Later another flow starts, say fireweed or thistle, and the bees go back to the rounds and ill them and then cap them which you think s real neat till you hold the rounds up to a strong light and see two different colored honeys in the same round. You want a problem? Try explaining to each customer what happened. Look, you want to live long enough to sell that kind of a product because I think people doubt that all the contents of a two honey round is honey. I think they suspect that you filled the feeders with sugar water to get the rounds capped.

Well, I don't know all the answers because I do not for one moment consider myself an expert on sections or rounds, but let me suggest this. While you are learning all the answers, you remember to use the right foundation, and secondly use an aerosol smoke bomb if you cannot run a clean smoker. Sell a clean product. Keep in mind honey is not only a food but also can and should be a delicacy.□

GADGETS

To warm cold supers full of cold, thick honey for extracting, I stack them, staggered for air circulation, five or six high. I fasten a plug-in, variable-temperature thermostat to the side of the lowest super of honey, plug in pipe-warming electric tape and wrap the tape around the outside of the stack of supers. I set sheets of 2' x 8' x 2 inch thick styrofoam around the stack and hold them together by pushing in long nails. These can be easily removed. A top sheet of styrofoam roofs over this miniature warming room.

I check the inside temperature by inserting a metal dial thermometer thru the side of one wall.

This can be used even in a cold building, uses little current and can be assembled and disassembled quickly and easily, stored and used year after year.

William A. Gant
Richmond, MI 48062

A GLEANINGS INTERVIEW

ALPHONSE AVITABILE, CO-AUTHOR OF THE BEEKEEPER'S HANDBOOK.

As a boy in Waterbury, Connecticut, Alphonse Avitabile got his start with bees like so many others: by throwing rocks at hornet's nests to see what their stings felt like. Despite that, Alphonse did have a great appreciation for nature and lived most of his younger years near a wooded area in which he spent much of his time. In 1960, he and a student captured a swarm from a forsythia bush and, despite losing it during a lightening storm, took a beekeeping correspondence course from Cornell that winter. Partly as a result of reading Roger Morse's column in GLEANINGS, Alphonse took sabbatical leave in 1970 and worked with bees at Cornell for two consecutive summers, after which he seriously began to publish research papers on honeybees. In 1978, Peach Mountain Press published THE BEEKEEPER'S HANDBOOK, authored by Alphonse Avitabile and Diana Sammataro.Alphonse is currently director of the University of Connecticut Campus in Waterbury.

ALPHONSE AVITABILE

If you were to tell someone a few things that should definitely be kept in the head when going out to the beeyard, what would those things be?

Well, what season it is has to do with what the beekeeper is looking at and should be thinking about. If the trip is taking place in spring and it's warm enough to open the hive for the first time, I think that person should be thinking: where will the bees be? They are usually in the second deep if they are being wintered in two deeps. How many frames of brood are now in the colony? How populous is the colony? Is it queenright? Later in the year, say May or June, the questions are different: are there swarm preparations taking place, and if so, what can be done about it? Should I start supering and how many supers sould I put on? Should I requeen? On the part of beginners especially, but others, too, there is a lack of mental preparation and too often somebody goes out into the yard to work and things are done ineffectively. It is wise to say to yourself in advance: "I'm going to take my time and do one thing at a time!" If you have to rush, unless it is a dire circumstance, I'd say: "wait until another day." If you have to keep relighting a smoker when you could be long into a hive, it's easy to get frustrated and angry. I think if a beekeeper is thinking about what must be done, he or she will be better prepared to manipulate properly and will also be more likely to develop keener insights into what is taking place in the hive.

What are some of the most common mistakes you've noticed beekeepers make?

A mistake is sometimes made by people who are starting with package bees, in the spring, when they put them into a single deep brood chamber, put the second deep on and then start their shallows. At the end of the season they have two deeps and a shallow and they make the assumption that the shallow is filled with surplus honey which they take away without ever looking into the first or second hive to determine whether there is enough honey for winter. Then they are chagrined when their colonies starve out. We all think in terms of immediate gratification and it takes time to temper that a bit. Another error is, although everyone knows you must feed a dog or a cat, many people think you can capture a swarm and keep it without giving it some sugar syrup, or honey in the comb, in order to get it moving where the population becomes strong enough to sustain the colony. You also have to be aware of spring feeding needs. People are surprised when, in February, on a warm day, bees are flying and the colony looks alright, but three weeks or a month later, the colony is dead. The thing, of course, is that there was insufficient food. I feel you should spring feed for probably a month; and remember Langstroth's quotation: "take your winter losses in fall." What he meant is sometimes you will have a colony that can't make it to spring. There needs to be a critical mass to maintain heat. When it comes to removing honey, if you don't use an excluder, a bee blower will sometimes blow out a queen that got up in a honey super -- it's not necessarily true that the queen is bound in by the honey barrier.

It has often been suggested that the future of beekeeping hinges upon the success of marketing. How do you perceive marketing needs as they relate to the future?

CONTINUED ON NEXT PAGE

What surprises me, to some extent, is that in each state of the United States, and even in certain counties, there is not a beekeeper who's doing marketing on a large scale. The problem may be that someone who wants to establish a central distrbutorship may run out of his own honey to sell, and the costs of buying honey out of his own distributorship area are so great, and the profit either so small or entirely non-existent, that there is no incentive.

In terms of the future, I see the hobby of beekeeping growing in popularity. The growth of this hobby in Connecticut can be illustrated by the fact that there were 30 members in the Connecticut Beekeepers Association in the late 60's but, partly as a result of the earth awareness movement of the 70's, attendance rose to 200. I just feel that it's a good likelihood that the next group of people entering their 40's will probably take on a beekeeping position and will be as large, if not larger, than the group that entered beekeeping in the early 70's.

What have been some of the more exciting developments in the area of research? Especially with regard to information that beekeepers can apply in practical management.

Obviously, the discovery by Colin Bulter, in England, of the queen substance, was a great step forward in beekeeping. The isolation and identification, by Dr. Rolf Bloch, of alarm and assembly odors were tremendous steps in our understanding of the mechanisms used by honey bees for initiating aggressive behavior and gathering their kinds into groups. Both the assembly odor and queen odor interplay provided greater understanding of the queen's role in swarming and why we must use smokers. It cleared up that the queen is not necessarily the leader in an issuing swarm. To some extent, that has been translated to the work on bees in trees, discovering cavity size and the isolation of pheremones that can be used in bait hives to better collect bees. That may be a way of capturing Africanized bee swarms. The other thing that people have proposed, going off into outrageous thoughts, is that you could actually have a hives of bees without queens. The queen could be somewhere else laying eggs by the mass, which would then be transferred to the hive population, and all of this could be maintained and regulated using synthetic pheremones to keep the colony in a cohesive unit and the queen content. By raising brood in seperate compartments, you'd free paths that form in the hives. Foraging would increase and so would the honey surplus.

Could you say to someone: "There are some things I feel very sure about -- if you follow these suggestions, your chances of success as a beekeeper are greatly increased?"

Yes. Maintain good comb. If possible, requeen annually. Try to locate areas that have, not only an abundance of nectar plants, but where there is an abundance of each variety. That gives a beekeeper a nice variety and allows for several things: extracted honey and a chance for comb honey. Beekeepers should aspire to have locations with running water, good drainage; an area where, in northern locations, there's plenty of sun in the winter plus windbreaks of some kind. Obviously, read books and get to know other beekeepers; go to association meetings and try to visit other yards. Always have your mind with a clean sponge in it so you can continue to soak up information. Never think an idea is out until you have tried it yourself. Never get set in your ways.

EDITOR'S NOTE: Avitabile and Sammataro's book: THE BEEKEEPER'S HANDBOOK **is available from most major beekeeping supply companies and beekeeping education services. The 135 page book, in hard and paper covers, is an extremely useful beekeeping text for several reasons: 1.) it is organized in such a fashion that locating necessary information can be accomplished with great ease. 2.) the authors do a fine job in explaining management practices; in addition to general discussion, most major techniques are presented in an ADVANTAGES vs DISADVANTAGES format that helps the reader attain a thorough perspective of what is involved in making management decisions.**

"The Impact of Pest Management on Bees and Pollination

A report commissioned by the Tropical Development and Research Institute (College House), London, prepared at IBRA by Dr. Eva Crane and Penelope Walker. Foreword by the Rt Hon. Timothy Raison MP, Minister for Overseas Development. Price US$27.00, post paid

This report highlights a dilemma which is world-wide, but which is particularly acute in developing countries: pest control measures can greatly increase crop yields, but without proper precautions they may kill the pollinating insects on which many crops are dependent.

Until now, there has been a lack of unbiased information on the effects of pesticides on bees and bee-pollinated crops in developing countries, and the authors of the report attempt to fill this gap. They discuss the pollination by bees (and other insects) of important crops grown in the tropics and subtropics, and assess the damage to bees caused by pesticides commonly used on the crops. Tables are provided in which the pesticides ar grouped into four Use-Classes, according to their relative safety or toxicity to bees. Measures that cold greatly reduce the killing of bees are explained, and progress in integrated pest management is summarized.

The final secion of the report presents recommendations for action at national and global levels to improve the situation. The general conclusion is that this could be greatly improved by a program designed to spread existing knowledge of the dangers, and of ways in which they can be reduced, with damaging crop yields. This task should therefore be given the highest priority.

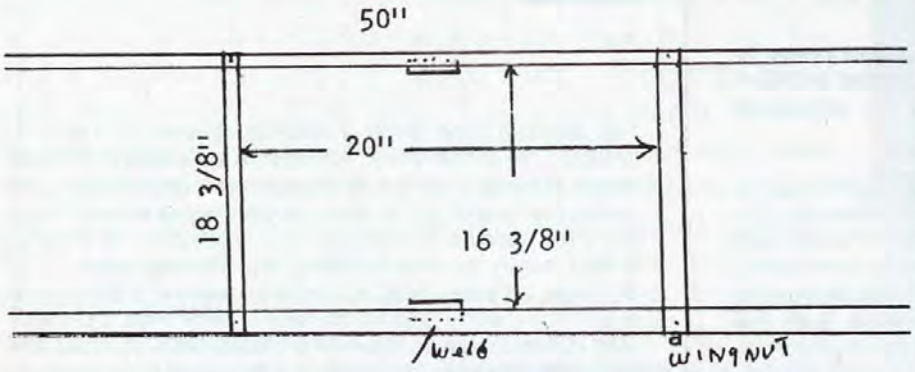
The report has two useful Annexes: an extensive annotated bibliography on bee pollination of crops grown in the tropics and subtropics, and a bibliography of laws and regulations (world-wide) to protect bees from pesticide poisoning.

The report is available direct from International Bee Research Association, Hill House, Gerrards Cross, Bucks. SL9 ONR, UK.

Materials:
one inch square tubing;
2 pieces 50 inches long
2 pieces 18-3/8 inches long

Bolt together with one nut being a wing nut. Weld ¼" x 1" flat stock 3" long sticking out 5/16" to grab handholds. All you have to do is unscrew wingnut, open up carrier and put it around bottom super with clips inserted in the handholds. Put on wingnut and two men can carry the entire colony to its new location or to a truck. The bottom board has to be stapled in place.

Made and used by Pastor Carlton Cockey
Derry, N.H. 03038-2497



The Beekeeper During Winter

photo by Mrs. Arthur Noakes

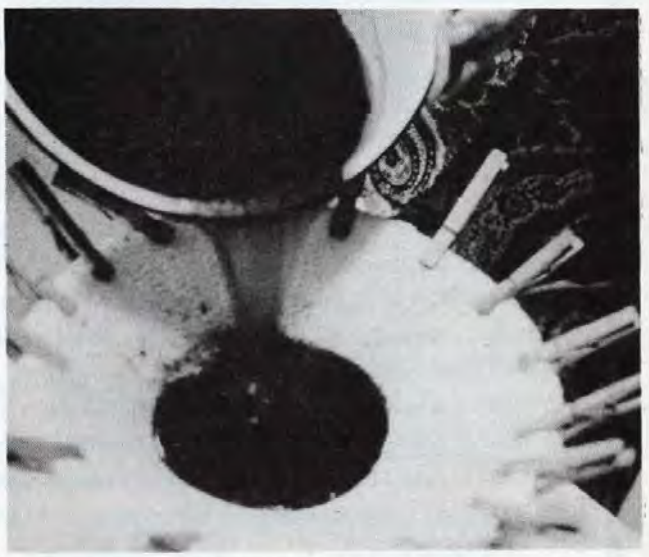
PREPARING BEESWAX FOR COMPETITION

Margaret S. Cooke
731 Miami Avenue
Terrace Park, Ohio45174

IF POSSIBLE, SEPERATE CAPPINGS BY HAND, LIGHT FROM DARK, AND DRAIN OUT AS MUCH HONEY AS POSSIBLE. THIS CAN BE DONE BY PLACING THE WAX IN A MESH BAG OR COLANDER. THE NEXT STEP IS TO WASH THE CAPPINGS. AS ILLUSTRATED IN THE PHOTOGRAPH ABOVE, I USE A COLANDER PLACED INSIDE A BOWL LARGE ENOUGH TO COVER WITH WATER. WATER IS ADDED AND THE LUMPS OF CAPPINGS ARE BROKEN UP AND STIRRED TO LOOSEN HONEY.

STRAIN OUT THE WATER AND REPEAT THE BATH AS OFTEN AS NECESSARY TO REMOVE AS MUCH OF THE HONEY AS YOU CAN. TWICE WILL PROBABLY BE ENOUGH. THE WATER WILL BE WAXY SO DO NOT POUR IT DOWN A DRAIN. I USE IT TO WATER TREES AND SHRUBS OR TO PUT ON THE COMPOST PILE. IF YOU DO THIS IN THE SUMMER, DON'T DUMP NEAR DOORS OR TRAVELED PATHS BECAUSE IT WILL ATTRACT BEES.

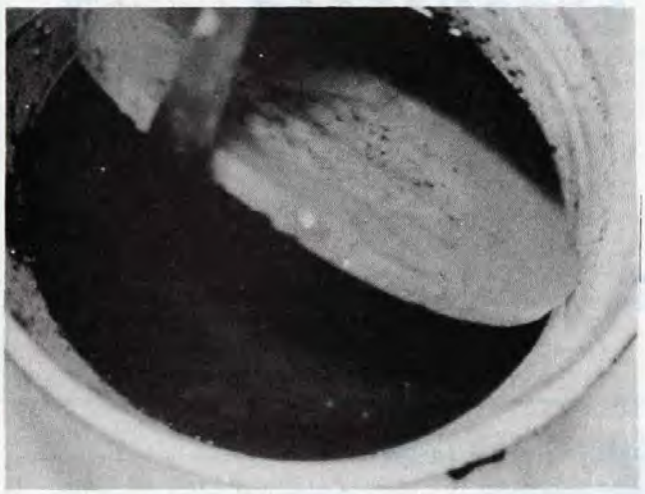
NOW PLACE CAPPINGS IN A PAIL FOR HEATING. DO NOT FILL MORE THAN ¾ OF CAPACITY. NEXT, POUR IN ENOUGH PURE WATER TO COVER AT LEAST 2 INCHES OF THE BOTTOM OF THE PAIL. TURN ON THE HEAT. ELECTRIC HEAT IS BEST. IF YOU MUST USE A FLAME, BE SURE TO COVER IT WITH AN AIR PLATE. USE LOW HEAT. CRUDE WAX MELTS AT 147.9° +/-. STIR FREQUENTLY, BREAKING UP ANY WAX THAT SOLIDIFIES ON TOP. CONTINUE HEATING UNTIL ALL IS LIQUID. A LID COVERING THE PAIL WILL DETER TOP SOLIDIFICATION. KEEP UPPER-MOST IN MIND THAT THIS IS A VERY FLAMMABLE MIXTURE SO CARE SHOULD BE TAKEN NOT TO SPILL OR SPLASH. IF POSSIBLE, KEEP A FIRE EXTINGUISHER HANDY. ALSO, COVER THE FLOOR AREA WITH SOMETHING SUCH AS BROWN PAPER OR PIECES OF CARDBOARD. NEWSPAPER CAN BE USED BUT WAX SOAKS THROUGH IT IF SEVERAL THICKNESSES ARE NOT USED. AND HOT WAX CAN ACTUALLY TRANSFSER THE NEWSPRINT TO TILE. HARDENED WAX DRIPS CAN BE REMOVED FROM MOST SURFACES BY HEATING WITH A HEAT LAMP AND WIPING WITH A PAPER TOWEL.



NEXT, FASTEN CHEESE CLOTH OVER THE TOP OF A SECOND PAIL. WHEN WAX IS COMPLETELY LIQUID, POUR INTO STRAINER. THIS IS A MESSY JOB AND MUST BE DONE SLOWLY SO AS NOT TO SPLASH. POT HOLDERS ARE A MUST. I ALWAYS WEAR A LONG SKIRT FOR THE JOB TO PROTECT

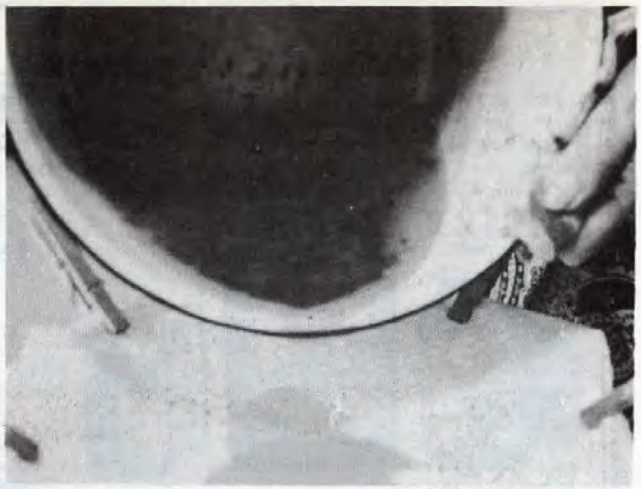
CONTINUED ON THE NEXT PAGE

AGAINST SPLASHES. ALSO, AT THIS STAGE, WAX CAN SOLIDIFY IN THE STRAINER AND SOME WAX CAN BE LOST. SOMETIMES IT CAN BE RETRIEVED BY BREAKING OFF THE SLUM GUM ("SLUM GUM" REFERS TO WHAT IS LEFT OVER AND HAS NO VALUE FOR THE AMATEUR. SOME WAX PROCESSORS WILL BUY IT, HOWEVER. IT CAN BE PUT IN THE COMPOST PILE BUT TAKES A LONG TIME TO DETERIORATE.) IF A LOT OF SLUM GUM HAS ESCAPED YOUR FIRST STRAINING, HEAT IT AGAIN AND STRAIN IT THROUGH THE CLOTH. YOU MAY HAVE TO STIR AND REMOVE SLUM GUM FROM THE STRAINER TO ALLOW ALL THE WAX TO GO THROUGH. LET STAND AT ROOM TEMPERATURE UNTIL THE WAX SOLIDIFIES. WAX HAS A DENSITY OF ALMOST ONE PER CENT AT 68° SO THE TIME NEEDED WILL BE CONTROLLED BY ROOM TEMPERATURE. FIVE TO SIX HOURS IS NORMAL. IF ONE PLACES IT WHERE TEMPERATURES ARE TOO COLD, TO HASTEN THE PROCESS, THE WAX WILL CRACK AND BE LESS LIKELY TO COME OFF IN ONE PIECE.



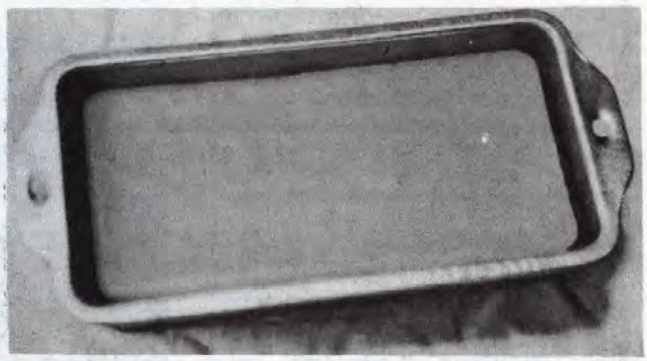
LIFT OFF THE WAX, AS SHOWN IN THIS PICTURE. I USE A HIVE TOOL.

SCRAPE OFF ANY LOOSE MATERIAL. THIS PHOTO SHOWS MORE HONEY THAN YOU WILL HAVE IF YOU PRE-WASH THE CAPPINGS. NEXT, PUT IT IN A CLEAN PAIL WITH WATER AND LIQUIFY IT AGAIN.



THIS TIME WHEN YOU STRAIN, JUST POUR OFF THE WAX. DO NOT ALLOW THE WATER TO GO THROUGH. WHEN WHAT IS LEFT IN THE PAIL SOLIDIFIES YOU CAN RETRIEVE A FILM OF WAX BUT IT WILL NOT BE FREE OF DEBRIS. SAVE THIS FOR ANOTHER TIME AND ADD TO A SECOND HEATING.

IF WAX DOESN'T GO THROUGH, PUT A HEAT LAMP OVER IT TO KEEP IT LIQUIFIED. ADJUST THE HEIGHT TO KEEP IT HOT ENOUGH TO GO THROUGH. THIS WAX SHOULD BE FAIRLY CLEAN. IF, WHEN UNMOLDED, YOU FIND SPECKS, THEY CAN BE SCRAPED OFF. IF TOO DEEPLY EMBEDDED PLACE THE BLOCK IN HOT WATER UNTIL IT LIGHTENS IN COLOR. IT WILL BE SOFT ENOUGH, THEN, TO SCRAPE OR SLICE OFF EASILY. THIS SHOULD THEN BE GOOD ENOUGH TO SELL OR USE IN MAKING WAX ITEMS FOR COMPETITION.



IF YOU PLAN TO ENTER IN COMPETITION, REHEAT WITH WATER, POUR INTO A MOLD, AGAIN. BE SURE NOT TO GET ANY WATER IN WITH THE WAX. DO NOT POUR TO THE LAST SECOND, BECAUSE THERE MAY BE A SPECK OR TWO IN THE RESIDUE. THE SKIM OF WAX THAT IS LEFT BEHIND CAN BE RECLAIMED FOR PROCESSING AT ANOTHER TIME. CLEAN UTENSILS AS SOON AS POSSIBLE.

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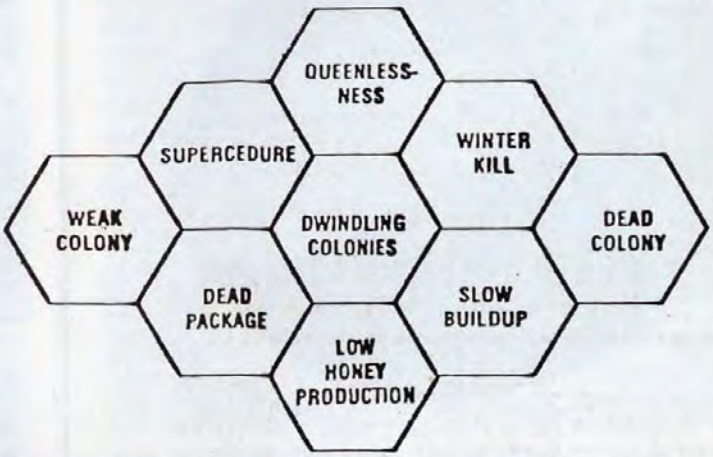

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MANAGEMENT TIPS CONTEST

Preparation Of Colonies For Winter

I have my colonies on pallets and they are approximately 12-14 inches apart. I used bags of leaves in between colonies with the top down to keep moisture from getting into the bags. I use ½ inch screening best as a 'V' to insert in the opening. I crack the inner cover with the use of a small nail. My colonies winter very well.

In the spring I use the leaves as mulch in the garden and they are tilled into the ground in the fall. My garden is richer and lighter through this use.

Thought up and used by,
Pastor Carlton Cockey
2 Crystal Ave.
Derry, N.H. 03038-2497

When harvesting our honey at a distant outyard, we found we have forgotten to bring our fume board and the bee brush. We were abel to improvise a brush from tall weeds, but found it too time-consuming to remove and brush bees from each frame of honey.

Since the bees had been smoked and were in a good mood, we set a telescoping cover, upside-down on the ground, held the super full of honey and bees crossways over the cover about five inches above the cover, and dropped the super on the cover. Most of the bees were jarred out into the cover and on the ground.

We found this did not irritate the bees too much, even when we dropped the supers two or three times, and did not damage the combs.

William A. Gant

EDITOR'S NOTE: We are currently offering a continuing *Gadget Contest, Management Tips Contest,* and *Honey Marketing Contest.* We will publish the best items received each month and will pay those writers $10 , $5 or $8 as applies to the contests listed in the order above. Mail to: GLEANINGS, Box 706, Medina, Ohio 44258.

MONEY TALKS

Hauser + Taylor's CPA CLIENT BULLETIN, October, 1983, mentions that "when temporarily away from home overnight on business, one can usually claim as tax deductions the cost of travel and away-from-home living expenses. Beekeepers who work outyards a considerable distance from home, or who make periodic deliveries of bulk honey or pick-ups of package bees, may, from time to time, be required to be away overnight.

Do you know what your current Social Security status is? You should, and you can find out at no expense. Simply write the SOCIAL SECURITY ASSOCIATION at: P.O. Box 57, Baltimore, MD 21203. Give your name as it appears on your Social Security card, address, date of birth, Social Security number and signature. If you have used other names in the past, inform them of that fact. If you are near a Social Security office, you can pick up a postcard for filling out an information request.

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HEADS OF GRAIN FROM DIFFERENT FIELDS

A Guest Column

The Disinfecting & Healing Properties Of Honey

by T.M. Dobrovsky, Ph.D.
Emeritus Professor of Natural Sciences
Flagler College
St. Augustine, Florida

During the Balkan War of 1913, when Bulgarians were fighting the Serbian army, a detachment of Bulgarian soldiers and their officer were surrounded by enemy forces and completely isolated. Among them were many wounded soldiers, but the detachment had run out of medicines, and the wounded were threatened with serious infections and subsequent complications. The officer, who was a veterinarian in civilian life, was desperate. He, therefore, ordered a number of his soldiers to search the nearby village for medicines, and to confiscate anything useful that they might find. The soldiers returned without any medicines; among the confiscated articles they brought back were some foodstuffs, including a small amount of honey. The officer decided, thereupon, that since the honey was not enough to provide a significant amount of nourishment for his soldiers, he would apply it on some wounds, not because he thought it might do any good, but to demonstrate to his soldiers that he was concerned about their welfare. Unfortunately, as the officer later recounted, there was not enough honey to treat all the wounds, and some of the wounded soldiers had to be left out. But nobody showed much concern at the moment because no one believed that the treatment would serve any useful purpose.

What happened subsequently, made history. A few days after the officer had treated wounds with honey, the treated wounds were clean; those that did not receive the treatment, had become badly infected. In addition, the wounds treated with honey were healing rapidly, while the non-treated wounds were showing little or no improvement.

When the war ended, the veterinarian wrote the story of the emergency honey treatment of wounds and published it in some obscure journal; for all practical purposes, his article was lost. Years later—during the middle twenties—an Austrian apicultural specialist discovered the article, and he published an account of the veterinarian's experience in an Austrain bee journal. At that time, I was an undergraduate student at the University of Wisconsin, majoring in Economic Entomology. Apiculture was the special love of the head of the Department, and he was receiving numerous foreign bee journals which he could not read. As I was working my way through school, and the Chief knew I could read several European languages, he put me in charge of his bee journals. One of my responsibilties was to review the European journals and to report to him on their contents. That is how, when the Bulgarian vertinarian's discovery of the disinfective and healing properties of honey was published by the Austrian apiculturist, I proudly reported the item to my Chief, being a Bulgarian myself.

That was also about the time when the Russian journal "Pchelovodstvo" reported that medical people in the USSR were experimenting with honey as a cure for ulcers, with encouraging results. A few years later—during the middle thirties—I had met in Wisconsin an immigrant Swiss beekeeper who was known for being a bit peculiar and rather difficult. For example, he disliked honey and never ate any. He had a serious case of stomach ulcers, but he hated doctors, he was "tight" with his money, so he stayed home and suffered. For the lack of any tangible means of helping him, I related to him what I had read in the Russian bee journal about the treatment of ulcers with honey. And that was how I left him. Several years passed before I saw him again. I had gone to his county as an apiary inspector, and one day I decided to look him up. But I had serious doubts about finding him still alive. However, as I reached his place, I found him very much alive and completely hail-and-hardy. When I asked him about his ulcers, he said proudly: "I cured them all by myself." Then he recounted how he had placed himself on a diet consisting of freshly squeezed grapefruit juice sweetened generously with honey—and nothing else. He drank it, he said, as many times a day as he felt the need of nourishment. After many gallons of honey-sweetened grapefruit juice, he decided that he was cured; and the ulcers never came back.

And now, here is an experience of my own. We have to go back again to my student days at the University of Wisconsin. In those days, two hobbies absorbed the hours which I designated as "free": photography, and participation in the University Symphony Orchestra, in which I played first string-bass—the "bull-fiddle" with strings as thick as ropes. One Sunday night, I was in the photographic dark room making black-and-white prints from a stack of negatives I had allowed to accumulate. At one point, I needed to cut some 10 x 12 sheets of sensitized paper into quarters. In the dim light, I placed a stack of the sheets on the platform-knife, pressed on the stack with my left hand, pulled hard on the knife, and cut the stack in two; and with it, I cut off the tip of my left index finger which obviously had been in the way. It was midnight, Sunday; I knew that the student infirmary was closed. The nearest hospital was far from where I was. I, therefore, wrapped a piece of clean cloth around my finger and went to bed. Next morning, the finger was treated at the student infirmary; in the afternoon, the finger started throbbing. I went to Music Hall on the University campus, showed the finger to the conductor of the symphony orchestra ad said: "Very sorry, Sir, but I shall not be able to play at the concert this Thursday evening". On the following morning I had another treatment at the infirmary, but the throbbing continued. That afternoon—Tuesday—I suddenly remembered what I had read about the healing qualities of honey. I threw away the bandage, got a jar of honey, dipped my finger in it, let it drip a bit, dipped again, then I wrapped my own bandage on it. In less than an hour, the throbbing stopped. Every few hours, then, I dipped my finger in the honey jar. To make the story shorter, on the following Thursday evening, I went to Music Hall, tuned my bass, and with only

Continued on page 656

Siftings

By CHARLES MRAZ
Box 127
Middlebury, VT 05753

I just received the October, 1983 issue of *Gleanings* and I must say that the editors seem to have done a good job rounding up some excellent articles. One article especially struck me like a bolt of lightening, on page 527, by G.W. Hayes, Jr., "A Barrel Hive?"

After some 25 years of experience working with tropical beekeeping in Mexico primarily, I know only too well, the problem of getting lumber for making beekeeping equipment in countries where there is no lumber, except at extremely high prices, way out of reach to most of the country people.

Not only is lumber high priced, but bee hives out in the country are just what termites love to eat. Hives made of pine in two to three years where termites are bad, will turn the hive frames to dust, a very short life for expensive equipment. Many of the country people in Mexico, for instance make hives out of grass mats rolled up into a cylinder. One end is left open for the entrance and a wood disc covers the back where the honey is stored and removed when needed.

I have seen the kenya top bar hive, but this also takes lumber, so the idea by Mr. Hayes of using a half of a steel drum for a hive is a stroke of genius!! It is true even in poor countries, steel barrels are used everywhere. Eventually they get old, rusted, leaky and dented. They can then be had for almost nothing. What better material than steel to make a hive in the tropics. So far, I haven't heard of any termites that eat steel drums, yet.

For topbars, many countries have lots of bamboo, even if they do not have lumber. A stick of bamboo about one inch to 1¼" in diameter, split in half would make an excellent top bar at very little cost. In fact, any piece of stick or wood over one inch in diameter can be split and made into top bars.

However, these top bar frames have a serious fault, combs break easily off the topbars, especially new combs, and the combs then cannot be extracted in an extractor. The combs of honey must be crushed and the honey drained out to produce both wax and honey. Mr. Hayes talks about using the other half of the drum to make another hive. However, it might be better to use the other half of the hive to make frames, steel frames for the barrel hive.

All that needs to be done is to slice the half barrel cross ways into pieces about 1"-1-1/8" wide. These steel strips are in the perfect half round shape to fit inside the barrel hive. By making the steel frames just 3/8" smaller in diameter than the inside of the barrel, the frames will then have a perfect bee space all around the frame. The ends of the steel strip can be bent horizontal for about an inch from the end and fastened to the top bar. Then holes can be drilled thru the topbar and thru the steel half circle part of the frame and wired vertically thru the topbar and the steel circle. Wax foundation could then be imbedded on the wires to make a solid comb that will not break out of the frame in handling and can be extracted in a regular basket extractor.

With another steel drum, and an old junk car, a shaft and bearings could be used to make a reel and a couple of "V" pulleys and a "V" belt to make a drive, for a servicable extractor. These steel barrels could really put these country people in the honey business to help increase their food supply. If a beekeeper in these "undeveloped" countries can fix up about 100 of these barrel hives with an extractor and with steel barrel frames, in an area where 100 pounds of honey per colony can be harvested, he could become independently wealthy.

How about it Mr. Hayes, or someone else, for that matter, try making some of these steel frames from the other half of the barrel and see how they work? Please don't ask me to try it, I already have enough things to do. This is a good job for these young fellows to get into, especially those interested in Peace Corps work in Beekeeping. A half barrel could also be flattened out to make a cover for the hive, rain proof and termite proof, as well as animal proof.

Some 25 years ago when working with Miel Carlota, in Cuernavaca, Morelos, Mexico, they were then collecting pollen by the ton, even in those days. I have never been interested in collecting pollen until recently when a friend of mine wanted to try it. I set up a dozen hives near his house. He bought two pollen traps each a different make to collect the pollen. I helped him a bit putting the traps on and to evaluate them. I must say, what a piece of junk those two traps are. How in the world anyone can collect pollen in these traps is beyond me. They are poorly built, leak bees all over the trays, and pull apart as soon as the bees start gluing things up with propolis.

This business of lifting a heavy hive off the bottom to put on a trap to me is foolishness. The Miel Carlota, their trap at that time was small, simple and easy to put on and take off by simply pushing it into the entrance. No need whatever to lift the heavy hives. Also, it did an excellent job of collecting a lot of clean pollen. Like the proverbal "better mouse trap", someone should make a better pollen trap. After all, I do believe pollen is great stuff as a supplement to the diet.

Page 542 of October 1983 *Gleanings* is an article by J. Iannuzzi on "Experimenting with Jumbo Frames Without the Use of Jumbo Hives." Mr. Iannuzzi may be interested to know that on Mainland Mexico, from the Gulf of Mexico to the Pacific and to its northern and southern borders, with most beekeepers the Jumbo Hive is standard equipment. Miel Carlota was operating 20,000 colonies, all in Jumbos and standard shallow supers, 5¼".

I worked with a beekeeper in Veracruz with 10,000 colonies equipped the same way as well and with a beekeeper in Puebla with 6,000 colonies. So if you want to experiment with Jumbo hives and shallow supers, Mr. Iannuzzi, that is the place to go.

We used to make a lot of divisions, with these Jumbos, by dividing the frames. Of course we never had enough Jumbo Hive Bodies so it was common practice for us 20 years ago to use two shallows, as they fit perfectly. This "experimenting" with Jumbo Hives has been going of for many years on a large scale in Mexico.

Some years ago I had a few Jumbo hives with 12 frames, a square hive. Have any of you tried to lift a 12 frame Jumbo Hive full of honey? They must have weighed at least 150 pounds. Totally impractical.

I personally like the Langstroth. It is interesting in Yucatan they use the standard Langstroth hive. It is true, one Langstroth hive body is too small for a good queen. It is necessary to use two hivebodies for enough room and enough honey reserves.

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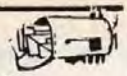

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3. Help beekeepers avoid pricing wars with packers of imported honey.

4. Help beekeepers in their effort to make certain their competition is playing fair. This would include financial help in any law-suits they are forced to initiate to keep their market clean.

V. Advertising

1. Develop advertising programs that can be used by different beekeepers in many markets. This could make advertising affordable for an individual beekeeper-packer.

2. Advise how to aim your advertising at specific groups.

3. Develop advertising to reach the people in this country who don't eat much honey such as Hispanics, Blacks, etc.

In conclusion, I would like to say that the long run success of the American beekeeper depends on three things:

1. Our ability to take honey out of the commodity business by giving the various types of honey an identity.

2. Increase the consumption of honey by getting people who now eat honey to eat more and get those who presently don't eat honey to try it.

3. Create an awareness by the consumer of honey's uniqueness and it's health-giving qualities.

Jim Powers
Babson Park, FL

P.S. I am very sorry I haven't had time to answer your many letter personally.

Research Review

By DR. ROGER A. MORSE
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Factors Affecting Package Bee Losses

During the past several years Dr. S.C. Jay has examined several aspects of package bee installation. he now reports on more concerns.

Jay states that if one must delay package installation it is best to hold the packages under cool conditions. His data indicate it does not matter if they are held in the light or dark.

If a package is queenless and is hived there will be a great deal of drifting and loss of bees. If the unit can be requeened at the time it is installed this loss will be greatly reduced. Buying large packages and dividing them does not do any harm provided both are given queens when the bees are placed in the hives.

"Regardless of the treatment that packages receive prior to hiving, the loss of bees during their first day of flight is relatively high", says Jay. In these tests the packages were installed at 10 pm. (in Manitoba, Canada). Jay has earlier advised that putting packages into their new hives at night gives the bees time to "settle down" and reduces the first day losses.

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How Honeybees Find Food

The honeybee dance language makes division of labor among forager bees possible: There are scouts and recruits. Until recently most studies in this area have been concerned with the dance language. The study cited below focused on the proportion of foragers that are scouts, and on the factors that control who does what.

The number of scouts can vary between five to 35 percent of a colony's active foragers, depending upon the time of year and the circumstances. When good forage is available the number of scouts drops. It appears that during a honey flow, when one type of nectar is easily abundant, most of the bees gather it, but there are still a few foraging bees (scouts) looking to determine if something better is available.

The present theory describes a honeybee colony as an information center. In this center the findings of the scouts are pooled. The recruits tend to go to the richest of the sources of food the scouts have found. In this way the colony makes best advantage of available resources by collecting the greatest quantity of food in the shortest period of time.

The cost of finding a rich food source by scouts is high because they spend much of their time searching and for the most part happening upon poor or only average sources. However, this is make up for by the occasional find of a new rich food supply that can then be quickly exploited through recruiting. How all this is integrated in the colony is now being studied by several researchers. Interest in foraging strategies is not confined to honey bees; other animals, especially a variety of bird species, are under close scrutiny.

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Removing Water From Honey

There is not much one can do to remove water from high-moisture honey once it has been extracted. Costly vacuum pans have been used by some large commercial firms but they remove flavor as well as water and are not practical for most beekeepers. The best thing to do with high-moisture honey is to blend it with a low-moisture honey.

However, before extraction one may remove water from honey in capped combs. Moisture may be reduced as much as one percent in 12 hours by blowing warm, dry air through the supers.

Recently, while reading some old *Gleanings*, I came upon the 1942 article cited below. It contains some actual figures of what can be done and how. The air should be warmed to about 100 degrees F., not more. In the tests reported the air was blown through the supers at a rate of 760 cubic feet per minute, though the author suggests a lower rate might be used.

The most practical device I have seen for drying honey consisted of a long, open-topped tunnel as wide as a super is long (20 inches), closed off at one end and with a fan at the other. About 10 stacks of supers were placed atop the tunnel; warm air from the heated room was forced into the tunnel and rose through the stacks. Honey dripping from the supers fell onto a slanted pan in the bottom of the tunnel, and ran to one end to be collected. Lifting supers full of honey on and off the tunnel was a nuisance, but the beekeeper was proud of his low-moisture honey.

In addition to removing moisture, warming the honey speeds up extracting since the warm honey flows from the comb more rapidly. I have always thought that a hot room for warming supers prior to extracting was a valuable item; many beekeepers find them useful even as far south as Florida. This is a good time of year to think about honey house modifications that might be helpful in future extracting seasons. □

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Beekeeping Technology

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

Honey Bees and Japanese Beetle Traps

by JAMES E. TEW and T.L. LADD

DO THEY MIX?

We've all become familiar with the yellow Ellisco traps that are used to trap Japanese beetles during the summer in areas of infestation. An estimated 1.5 million of these traps have been sold in the past four years. Numerous research projects have been undertaken to better understand the Japanese beetles. Some of these studies revealed that some of the attractants used to lure beetles also attract honeybees. Dr. T.L. Ladd and I looked at the attractancy to honeybees of joint lure for beetles, (phenethyl propionate + eugenol + geraniol, 3:7:3 (PEG) + Japonilure and its various components.) that is currently used.

In 1981 we exposed lures in yellow Ellisco traps hung 112 cm above ground on steel rods about 4.6 m apart in a single line 9.1 m from the border of an apiary containing 63 colonies of bees (about 900,000 workers). Lures were exposed 14 to 22 days during three different periods of bee activity: in late June, before emergence of beetles, when pollen and nectar sources were plentiful; during late July to early August, when beetles were plentiful and pollen and nectar sources in low supply; and during mid-September, when beetles had almost disappeared and bees were foraging on fall-flowering plants. Lures tested consisted of the joint lure, Japonilure, PEG, and its individual components, and a 3:7 mixture of phenethyl propionate + eugenol. The last is sold for use in traps without Japonilure. We included an unbaited control and a trap baited with anethole in each test. Food-type lures (25 ml) were evaporated from glass bottles with 1.27 cm above the caps. Japonilure was evaporated from Conrel dispensers consisting of 10 hollow fibers (10 mg per dispenser) attached to the inside of bait well caps. Traps were replicated once in the line of traps and randomly reassigned to positions there every two to three days to obtain six to seven replicates in time for each of the three tests. A fourth test, as described above, was carried out (18 to 30 June) in a patch of flowering raspberries where larger numbers of honey bees were foraging.

We concluded our tests in 1982, exposing traps baited with either PEG + Japonilure or anethole for 30 days in a randomized complete block (five replicates) in the hive area where workers numbered about 1,050,000. Blocks were spaced 10 m apart with 8 m in between traps in blocks.

Catches of honeybees from all tests were counted in the laboratory, data were analyzed statistically, and means were separated by Duncan's multiple range test. In tests where some traps captured no bees, data were transformed before their analyses (Steel and Torrie 1960.

Results and Discussion

Table 1. presents average daily catches of bees. During the first two tests in 1981, anethole attracted signifcantly more bees than any other lure. In the third test that year, anethole was significantly more attractive to bees than PEG, Japonilure, and PEG + Japonilure. No significant differences occurred in catches in the patch of flowering raspberries or in traps exposed in the apiary during 1982. Thus, in no

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Table 1. Average daily catches of honey bees in traps containing Japanese beetle lures exposed during indicated dates in 1981 and 1982 at Wooster, Ohio

Lure	Avg[a] daily catch/trap				
	Hive area				Raspberry plot;
	17–30 June 1981[b,c]	27 July–14 Aug. 1981[b,c]	8–30 Sept. 1981[c,d]	7–8 June 1982[e]	18–30 June 1981[b,c]
Anethole	1.4a	1.5a	2.0a	0.7a	0.2a
Phenethyl propionate + eugenol	0.7b	0.1b	1.3ab		0.3a
Geraniol	0.6b	0.3b	1.2ab		0a
Eugenol	0.5b	0.5b	0.8ab		0a
Phenethyl propionate + eugenol + geraniol	0.5b	0.1b	0.7b	0.5a	0a
Control	0.4bc	0.3b	1.0ab	0.5a	0a
Phenethyl propionate	0.4bc	0.3b	1.0ab		0.1a
Phenethyl propionate + eugenol + geraniol + Japonilure	0.2cd	0b	0.7b		0a
Japonilure	0.1cd	0b	0.6b		0a

[a]Means followed by the same letter not significantly different, 5% level.
[b]Six replicates in time.
[c]Means retransformed to original values to simplify comparisons.
[d]Seven replicates in time.
[e] Randomized complete block, five replicates.

instance, regardless of foraging period or the location of traps, did the currently used joint Japanese beetle lure exert an adverse effect upon bees, and none of its components capture significantly more bees than the empty trap.

During 51 days of exposure in 1981, the trap in the apiary area baited with PEG + Japonilure captured only 17 bees, an average of 0.33 bees per day. For an entire 8-week period of Japanese beetle activity, a trap in the apiary, a "worst-case situation," would only have captured about 18 bees, an insignificant fraction of the 900,000 insects in the hive area. Moreover, a similar trap in the heavily worked flowering raspberries captured no bees at all. The currently used lures for the Japanese beetle obviously possess a low order of attractancy, if any, to honeybees, and their extensive use in traps appears to present no threat to that species.

SUMMARY

J. Econ. Entomol. 76:769-770 (1983)

A joint lure for Japanese beetles, *Popillia japonica* Newman, phenethyl propionate + eugenol + geraniol (3:7:3) + Japonilure (the female sex attractant); its individual components; phenoethyl propionate + eugenol, 3:7; and anethole, an attractant for both Japanese beetles and honeybees, *Apis mellifera L.*, were exposed in Ellisco traps in an apiary and at a site where bees were actively foraging. Anethole attracted more bees than the other lures. Phenethyl propionate + eugenol + geraniol (3:7:3) + Japonilure, however, was unattractive to honeybees and appears to offer no threat to that species.□

Literature Cited: Ladd, T.L. and Tew, J.E. 1983. Attraction of Honey Bees (*Hymenoptera: Apidai*) to Traps Baited with Lures for Japanese Beetles (*Searabale dae*).

My Mental Image Of A Colony's Personal Life

BEE TECHNOLOGY by James E. Tew

The Agricultural Technical Institute just completed their third annual migratory trip to Forida. There's a certain sense of relief when we get back. The weather is always considerably cooler here in Ohio. As we stay near our home heaters, it's pleasant to think of our colonies all toasty warm and happy so many miles to the south. One can't help but conjure a mental image of all workers performing their functions — queens producing brood, while drones do their usual nothing. It's disappointing to realize that even though the bees work together very well, it's not always as we imagine. Take the queen for instance. She's the queen, supposedly the ruler. In reality, she has little to say about the affairs of the hive. If the season of the year dictates a population increase, some workers prepare cells while others increase the queens' food supply. The queen is able, therefore, to produce more eggs and begin an ambitious program of eggs production.

As the season ends, her food allotment is decreased, which has a corresponding effect in egg production. Under such conditions, she's hardly a ruler. If she is unable to produce eggs when directed to do so, and produce quantities of required body chemicals, she will be superceded. The workers seem to treat her more as a machine rather than a monarch.

Now, the impression is developed here that workers are going in all different directions, cleaning and building cells, careing for the queen, defending the hive and foraging. In fact, most workers do go through a series of duties beginning with brood feeding and ending with foraging. However, it's disconcerting to read reports that indicate that it's not uncommon for many workers to do nothing most of their lives. The best guess offered was that they are "reserve" forces — ready to go wherever they're needed. It also appears that environmental physiological conditions may affect the behavior of workers as they pass through their developmental stages, there by altering their job sequence.

Could it be that in their respect bees are more like humans than we have realized? It appears that some bees work incessantly while others do as little as possible.

Then there's always the drones, that only have the function of mating with queens. Other than that task, they have no function of any consequence that we know of.

The picture I get here is of a queen laying eggs when and where she's told to by a group of assertive, young workers that are running the hive. All these proceedings are being watched by a group of unemployed workers and drone bees (that rarely have much to do). This is not the usual picture of a hive with each member giving their all for the good of the hive. I wouldn't mind being wrong in this case. I prefer the other image of a colony engergetically working in the manner that all self-respecting colonies should.□

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a light bandage on my finger, I played my bass part in Ceasar Frank's Symphony in D-minor in which the left forefinger has a great deal of pressing to do on the heavy strings. But I did not feel the slightest pain or discomfort.

As the years went by, my information on the treatment of wounds with honey increased considerably. but I had never read or heard any mention of the effect, if any, of honey on burns. However, an opportunity to explore that problem presented itself one morning a few years ago, when I was in Dubrovnik, on the Dalmatian coast of Yugoslavia. Since hotel rooms were totaly non-available to us during the heavy summer tourist season, my wife and I had to settle reluctantly in a ground-floor room of a private home in th outskirts of the city. We were far from stores, restaruants, banks, and any other facilities a visiting stranger might need. But we wanted to see Dubrovnik, and were were willing to have some inconveniences for a few days. Since restaurants were nowhere around, we prepared breakfast in our room. My job wa to boil the water for tea on a small, one-burner electric hot plate. As the water started to boil one morning, I took a piece of cloth and lifted the pot with both hands; but one had slipped, and the boiling water spilled over the upper side of my bare right hand. I knew immediately from the intensity of the pain that I was in trouble. But what to do in a place like that? I had heard about smearing butter or margarine on burns, but we didn't have any butter: we do not use it on our bread. Then I rememberd that a few days previously we had bought a jar of honey. Surely, honey cannot harm me, I thought. Thus, out of desperation, I smeared honey on my hand which was intensely red by then. The thumb did not appear seriously harmed, and I did not put any honey on it. On the following day, the top of my hand was still red and painful, but blisters were absent. The upper part of the right thumb, however, which had not been treated with honey was blistered heavily. I continued treating the burned hand with honey during the following few days, the pain soon disappeared, and healing proceeded rapidly. That experience informed me in full about the effect of honey on burns.

The question arises invariably as to the reasons honey disinfects and heals. The disinfecting action should be easy to explain. Honey represents a supersaturated solution. If a bacterial cell is placed in any kind of supersaturated solution, plasmolysis takes place, that is, the bacterium losses most of its water, the cell,

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Beeswax Production And Use

By DR. MARK E. HEADINGS
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By this time of the year many beekeepers have harvested their honey crop and extracted it. With the holidays approaching, it is a good time to consider how you might make some attractive gifts with the wax cappings and old comb you have on hand. To make that gift even more meaningful, you may want to include a note as to how beeswax is produced. Beeswax is not collected by the honey bee from plants as is nectar, pollen and propolis. Aristotle and his contemporaries thought that was the case (Taylor 1977). So where does it come from? It comes from none other than the body of the worker bee itself. This marvelous material is produced by eight wax glands located on the belly of the bee. In other words, on the lower side of the abdomen (Figure 1).

WAX GLANDS — These glands are arranged in four pairs on segments four through seven of the abdomen. The outer surface or plates of the segments conceal these glands, thereby making it appear that when wax scales are produced, they originate from between the segments. These glands are derived from specialized cells and are best developed and most productive when the worker bee is approximately 12 to 18 days old (Dadant 1976). Following this wax secreting period in the bee's life, these glands degenerate and become nonfunctional. The wax scales produced by the glands are used in comb construction and capping. It is believed they are removed from between the segments by the hind legs. It requires much energy for the worker bee to produce wax. In fact, it has been estimated that an average colony will use eight pounds of honey or sugar water to produce one pound of wax. Worker bees fill up with honey or nectar and cluster together in preparation for producing wax. There also seems to be an optimum temperature range of 92 degrees to 98 degrees F for maximum wax production (Gojmerac 1980).

CHARACTERISTICS OF BEESWAX— This unique material is made up of a very complex mixture of organic chemicals and will not dissolve in water. As the beekeeper well knows, newly drawn comb has a beautiful lemon yellow color which sometimes borders on white. Over a period of time, the comb becomes travel stained and takes on a darker color. In fact, an old brood comb may appear nearly black in color. This is the result of pollen, propolis, honey, bee parts and whatever else may be on the feet or body of the bee, becoming impregnated into the wax. Pure beeswax wil begin to melt at temperatures ranging from 142 degreees to 156 degrees (Gojmerac 1980). This range may be a little higher for old dark beeswax which is contaminated with foreign matter.

Lower abdominal side of bee where wax glands are located

USES OF BEESWAX — Much of the beeswax used in the United States comes from Africa where it is harvested at the expense of the bees. Beeswax is used in a variety of ways. The cosmetic industry is a major user, incorporating it into products such as lotions, facial creams, ointments, lipstick, eye shadow, rouges and salves. Beeswax may also be included in crayons, chewing gum, adhesives and pills. Waxes and polishes of various wood and metal surfaces are other common beeswax products. Beeswax is used for dental impressions, for waterproofing items and for making structural models. The beekeeping industry uses considerable quantities for making new foundation to put into hive frames. Another important and fascinating use is for making candles. This can be an enjoyable and rewarding activity for the beekeeper at home. Candles are used for various occasions including church services, weddings, holidays, birthdays and many more. They make excellent gifts and represent something created with your own hands.

Beeswax candles have superior burning characteristics by producing a nice yellow flame which is nearly smokeless and by giving off a pleasant aroma. Hand dipped candles are made by repeatedly dipping the wick in melted wax. Another type of candle I enjoy making near Chrismas time is called a sand candle. The procedure for making the latter is as follows:

First purchase some candle wicking, candle coloring (or ordinary wax crayons or oil paint) and candle scent. Melt a chunk of beeswax in a double boiler and add the desired color and scent. Then obtain a bucket of sand (preferably white sand) and wet it slightly so the sand particles will stick together. You can make whatever shape you desire by making the appropriate hole in the moist sand. Impressing an object such as a food can into the sand and removing it will leave a hole the shape of the can. Hold the wick so the one end touches the bottom of the hole while you gently pour the melted wax into it. Allow the wax to harden and then lift it out and brush off the loose sand particles. The resulting effect will be a candle with a layer of sand particles embedded in the surface of the candle thereby giving it a very attractive appearance. If you have a shortage of beeswax, you can mix some paraffin with it and not greatly alter the quality of the candle. Beeswax is truly a remarkable material—one which man has not yet been able to synthesize.□

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HEADS OF GRAIN FROM DIFFERENT FIELDS

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thus, is dehydrated and dies. That happens to bacteria in contact with honey; and that is whyhoney is a good disinfectant. As far as the healing action of honey is concerned, although some studies of that phenomenon may have been attempted, nobody has yet succeeded in identifying, isolating, and analysing the healing agent. Just as in the case of the negative attitude of our medical authorities toward apiotherapy, particularly in the treatment of various forms of arthritis, so the use of honey in treating wounds, burns, ulcers, etc., will, apparently, remain in a practice among the few who are familiar with its benefits, but the reasons why honey heals remarkably well, will probably continue to remain unexplained.□

Siftings

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These two hive body hives have a great advantage over the one hive body Jumbo which is big enough for any queens. With two Langstroth hivebodies with brood in both, it is so easy to make divisions. One needs only to take the hive body with the most brood, put it on the bottom board and the division is made. No need to haul out frames. It is much easier to handle hivebodies than to handle frames.

Once we tried out hives with two Jumbo Hive bodies in Mexico. It was a disaster, the queen layed only in the bottom hive body and the top hive body the bees filled with honey. How would you like to lift off 6,000 Jumbo hive bodies full of honey on 6,000 hives to check the brood in the bottom hive body? We tried just a few in one yard and that was enough. Even in this "solid Jumbo Hive country", there is now more interest in the standard Langstroth, as well as there should be. It is really the ideal size for a hive body, and the standard 5¾" super is ideal to store and extract the honey crop. Nobody can improve on that.□

Learning Through Others

by GRANT D. MORSE, Ph.D.
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Can a beekeeper learn anything by reading on the subject, or by talking with someone who has had considerable experience?

Some say no. But I feel certain that while experience may be the best teacher, it is not the only one. Also, we are confronted with the fact that experience is often an expensive teacher. For example, take my own experience with selecting yards for my bees.

The year I began with bees I put my seven hives in my backyard, within ten feet of my house. They dirtied the sheets of one of our neighbors as those fine expanses of cotton hung on a nearby line. They frightened my wife. They were a threat to all visitors each of whom had to be told to keep a safe distance from the entrances. I had not yet discovered the fact that nearly everyone but beekeepers is very much afraid of getting stung.

My next yard was on a hill some 200 yards back of my house. I didn't seem to be bothered then with the fact that every item had to be carried that distance to and from the honey house. The terrain was not adapted to the use, even, of a wheelbarrow. Everything had to be carried, including the 60 pound supers of honey. What folly!

Since then, I've had almost innumberable locations for my yards. Bears found three of them. Cattle compelled the moving of two others. Lack of windbreak necessitated the removal of hives from two others. What does it all add up to? It totals to the fact that the selection of a yard is of primary importance. What are the essentials of a good yard? First, it need to be located where no one, not operating the bees, will get stung.

In these days of widespread vandalism and theft, it is almost obligatory to locate a beeyard near a dwelling where it can be watched. Of course, today's beeyard must be located where a truck can be driven to it, preferably even in wet weather.

It is substantially necessary in the North to place colonies of bees where the native trees or shrubs provide a windbreak except on the south side. But ideally, the trees to the east and west should not be so close as to shade them in the early morning or in the late afternoon. Where there is such shade, the bees are not encouraged to work for a full day. That means a smaller harvest.

A location that lacks such natural protection from the cold winds of fall, winter and spring, calls for a man-made fence or other protection. Packing alone will not provide adequate protection from the chilling effects of the wind. I've operated a couple of yards that lacked such barriers. The colonies developed diseases as a consequence of stress.

It is essential when choosing a beeyard site to make sure that the bees do not have to fly too far to secure nectar. However, if colonies are placed near good sized streams or swamps, they become vulnerable to predation by bears. These animals seem to travel along the borders of such waterways. Bears are a curse to beekeepers. It is unjust, in this beekeeper's judgement, to protect an animal for sport purposes yet be unwilling to compensate property owners for damage done by such protected animals. However, unless beekeepers become more vocal and demanding in pointing out this injustice to legislators, and to the public, it will continue to prevail.

If a beekeeper finds it necesary to place colonies in a field where cattle or horses are pastured, it is advisable to enclose the yard with barbed wire fence. These animals and bees do not get along well with each other. The animals tend to upsent hives occasionally, and when they come too close, the bees are inclined to sting them, sometimes fatally.

It is advantageous to place colonies not more than a mile from the cheif sources of nectar on which the bees in your yard will forage. Although bees will fly rather great distances to reach a good nectar source — perhaps 5-6 miles — they seldom do so. Most of their gathering is done within a half mile, or a mile, of the nest. Farms that feature growths of alfalfa and clover make good locations. It pays to know in advance of locating a yard what good nectar sources, if any, are available.

Saving Engergy

Earlier in this article I mentioned having a yard at one time where everything had to be carried for approximately two hundred yards. That is a waste of energy.

Even if a young beekeeper has what he regards as unlimited strength, common sense dictates that the energy be used more constructively. I have seen yards among growths of trees and on a rocky grade such that none could get close to them with any vehicle, including a wheelbarrow. It's best to avoid such locations if possible.

Also, the need for lifting and carrying full depths supers of honey more than a very few feet at most, should be avoided. Unless an operator has a lift of some kind to hoist the supers full of honey, he might well consider providing some device for bringing the level of the truck bed even with a natural, or man-made, loading platform. Sometimes there are tow levels in a yard location that help make this possible. Some operators are able without too much effort to dig channels into which the wheels of the truck may be backed.

Of course, two men working together can lighten the load and the strain from this kind of lifting. Much of the lifting problem can be lessened by using shallower supers for the honey crop, say those of 6 and 5/8" in depth. If I were beginning at beekeeping today, I would strongly consider standarizing on the shallower super for all purposes including the brood nest. Their use can possibly prolong by five to ten years the length of time an older beekeeper can perform most or all of his work.

Honey House

I can remember working all day in the beeyard, driving home toward dusk, and then having to carry a truckload of 60 pound supers full of honey down a flight of seven steps. What a waste of strength,

CONTINUED ON THE NEXT PAGE

and what a discouragement to the pleasure that ought to accompany all work with the bees.

It's a good idea to plan for the honey house wisely. Any building constructed for this purpose should be located and constructed with the thought in mind that it might eventually be used for other purposes, particularly as a dwelling or as an apartment. Placing such a structure back of one's house does not contribute to its value in the future for such a purpose. Change in use and resale value should always be kept in mind.

The floor surface should be chosen with the knowledge that honey is acid in nature and will eat a cement floor. For this reason, a tile or wood floor should be the choice.

Good lighting is essential in a honey house, particularly in all extracting and processing areas. It helps to avoid the use of excessive artificial light if adequate window lighting is planned. Since a few bees often remain in the supers when they are brought in from the yards, a bee escape would be provided at each window. Just outside each such escape it is a good plan to establish a colony with queen which the escaping bees can join. I once saw such a colony some ten supers high which was a source of pride to the beekeeper who had started in there with one hivebody. On one occasion when the beekeeper was ill and his work was being done by relatively inexperienced helpers, I saw a honey house in which there must have been festooned between 25 and 50 pounds of bees distributed over the available windows. They had been brought in in excessive numbers but had no way of escape. It is best to try to avoid bringing in excessive numbers of bees. Blowers help today in that regard.

The height of the unloading platform or of the floor on to which equipment and supers of honey are to be loaded or unloaded should be scrupuously planned to be level with the floor of the truck.

Much loss of energy as well as loss of honey in the extractor should be avoided by providing a so-called hot room in the honey house. It should be located near the unloading platform, if possible, as well as near the uncapping table. Beekeepers, even in a State as warm as Florida, will get more honey when extracting by first warming the combs that are to be giving up their stores. The use of a hot room also provides benefit by reducing the moisture content of the honey. Provision should be made in the hot room to circulate the air, thus adding benefits as just described. The fans should be placed at a low level, and the supers stacked so as to assure admission of the circulating air.

When it comes time to buy an extractor, don't consider any other than one produced by one of the major manufacturers. Anything but the best in an extractor is a sad mistake. I know from bitter experience. Its capacity should be in terms of the size of your operation—or what you plan it will become. A well made extractor has a good resale value.

As we indicated earlier, the honey should flow by gravity from the extractor. This not only reduces the expenditure of energy, but less air is added to the honey in the process.

All of the beekeepers with whom I have talked seem to agree that baffle tanks provide the best way of straining, clarifying, and storing honey. Many beekeepers store their extracted honey in 60 pound cans, but the commercial firms that purchase honey seem usually to prefer the use of barrels.

When storing extracted frames some beekeepers do not bother to have them cleaned up (robbed out) by the bees. Personally, I do not like to store wetcombs.If the beekeeper is careful in the selection of the location where the combs are to be robbed out, and the number of colonies doing the cleaning is not too great, robbing between the colonies need not be started.

It is desirable, if convenient, to have a separate room available for the storage of supers containing extracting frames. This makes it possible to keep rodents away, and to maintain the frames under constant fumigation with a repellent such as paradichlorobenzene.

I feel it is desirable, if convenient, to have a work shop in a room separate from the extracting area, and the extracting area separate from all others. Dirt and dust are thus kept from contaminating the honey and the frames.

Until one has made mistakes in planning a honey house, he is not likely to realize how advantageous it is to do it right. I'd make three suggestions: 1.) Consult a realestate agent to advise you on the location and general construction plan of the honey house so that it will have optimum resale value if and when it is converted to some other purpose. 2.) Secure honey house building plans from your county agent or from your State apiarist. 3.) Visit a few honey houses to learn what to do as well as what to avoid.

Experience is the best teacher, but it is foolhardy not to read all the available information; also, it is profitable to benefit from the experience of others. Usually they are willing to tell you where they made their mistakes.□

OLD PHOTOGRAPHS: NUMBER TWO

E.L. KINKADE FEEDS HIS BEES. POURING SYRUP FROM A CUP. I THINK HE LOOKS LIKE AN OLD SOURDOUGH PROSPECTOR POURING A TIN OF COFFEE INTO HIS BEANS. SOON HE'LL UNHINGE HIS OLD JOINTS: REEF UP HIS SUSPENDERS AND HEAD FOR THE COLD, SHALLOW CREEK BEYOND THE TREES. HE'LL DIP HIS CUP INTO WATER AND SAND, THEN HOLD IT ALOFT, GLEAMING LIKE SWEET METAL OR A SUN OF SUGAR. A HUM WILL SWARM FROM HIS HEAD LIKE A WORLD NEEDING KEEPING. HE WILL LOOK IN AMAZEMENT AT HIS CUP. "BEES!" HE WILL SAY -- "I'VE STRUCK BEES!"

BEEKEEPING FOLK ARTS

Honey & Hive Products For Cooking & Other Home Uses

by Amos Arbee

Skeps of Wit & Wisdom

It would seem that we are, by nature, truly a very strange lot. Sometimes we cannot see the "trees because of the forest". One thing in particular that demonstrates this philosophy clearly is how we all wanted small automobiles. Before too long we had them, but most all came from abroad.

The consequence being, of course, what to do with the auto makers in this country. Then we promoted honey (which was o.k.) as a health food being natural and nutritious for all of us to enjoy eating. Before one could scarcely say "Scat," honey is coming from abroad. Probably most all of us would be in agreement that helping our neighbor is find and perfectly o.k. But, by the same token, we should always make it a point to remember to keep at least one-half a loaf of bread on our own table, too.

Two Recipes of the Month

"Bak lava"

1 pound fillo pastry sheets
½ lb. butter, melted
1 pound walnuts, chopped
½ cup blanched almonds
2 cups honey (mild type best)
2 tsps. cinnamon (sumatron)
1 cup water
3 tbls. lemon juice

Arrange ⅓ of the pastry sheets, brush each sheet with melted butter in a baking dish suitable for pastry sheets. Combine nuts, ½ cup honey and cinnamon. Sprinkle ½ of mixture over fillo sheets. Place another ⅓ of pastry sheets, brushed with melted butter, over nut mixture. Repeat with another layer of nut mixture and remaining ⅓ sheets. With a sharp knife, cut into diamond shaped pieces. Bake at 325 degrees for about one hour. Remove from oven and cool slightly. Then combine 1½ cups honey, water, and lemon juice in saucepan. Bring to fast boil, lower heat, simmer until mixture thickens well. Pour, while still warm, over your Baklava, leave at room temperature until ready to serve. This recipe requires a little extra trouble, but is it ever worth it.

"Serbian Honey Cinnamon Cookies"

2 eggs, beaten
1 cup honey
1⅔ cups flour
1 tsp. cinnamon
⅓ cup blanched almond silvers
1 tbls. Real Lemon juice
2 tsp. grated lemon peel

Combine eggs and honey in a bowl, mix well. Add flour, cinnamon, mix again. Stir in almonds, lemon juice and lemon peel. Mix until ingredients are all well combined. Chill in refrigerator for one hour or more. Roll onto a floured board to thickness of about ¼ inch. Cut into 3 x ½ inch strips. Place on greased and floured baking sheet. Bake in preheated oven at 325 degrees for about 15 minutes or until baked well.

Note* These cookies keep well only if there are no children running about.

A Honey Shampoo

It would seem, nowdays, there are about as many types of hair shampoos with their many additives as one would probably care to think about.

Regardless of which one is your favorite, next time you are in the process of doing that shampoo, take about one-half shampoo and one-half honey, following regular directions as usual. It seems to produce good results and for some unknown reason helps eliminate that itching that sometimes accompanys scalp problems. □

Wintering The Honeybee Colony
Repositories Part II

by T.S.K. JOHANSSON and M.P. JOHANSSON
Queens College of CUNY, Flushing, NY 11367
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Bayside, NY 11364

ADVANTAGES

Gilbert saw no advantage in cellar wintering, since his outdoor colonies (in sawdust packing cases or groups of 12 wrapped in tar paper) survived and were in better condition. But in winters with long periods of extremely cold weather and piercing winds, the clusters in outdoor colonies may not be able to move to new combs of honey and starve. In 1882 and 1903, ¾ of all the bees in northern states were lost; those that survived were weak. In such circumstances, the fact that colonies from cellars were not as far advanced as outdoor colonies were in good years would seem less important. Any colony with the potential for building up would be welcome. The authors saw a teacup sized spring cluster develop to occupy six hive bodies and produce 150 pounds of honey. In good beekeeping areas such as Peace River country (Alberta), colonies established with packages develop so rapidly they are split before the major honey flow.

E.G. Brown with 1,000 colonies and 35 years of experience in Iowa wintered out of doors as well as in cellars, but the results confirmed his preference for cellars. Other beekeepers placed their average sized colonies in cellars, and packed their largest colonies outside[73]. This is a little like betting to "place" and "show" in a horse race, and hoping to have a winner in spite of the vagaries of weather. Gambling to "win" is a poor bet in any agricultural pursuit.

CLAMPS

Clamps are trenches into which stocks are placed and covered with straw and dirt, much as potatoes and other root crops are buried to protect them from freezing. The succinct description in the 1839 *Cultivator* appeared about the time beekeepers began putting bees in cellars. Robinson argued that cellars were a "half-way house between summer stands and clamps", and did not provide a suitable environment for successful wintering. Hutchinson's and Townsend's instructions can be consulted for specifications that must be met: thorough drainage, and a sandy soil for adequate ventilation. There were many disastrous losses when these conditions were not met[74].

When pipes for drainage, and ducts for ventilation were installed, the only amenity clamps lacked in comparison with cellars was the option of inspecting the hives during the winter. Whether clamps are used at present is not known. Porter modified the method by burying all except the front of the hives which was provided with a breathing tube. The bees could fly when weather permitted. In a colder climate, he would have covered the front with straw except for the entrance-tubes[75].

ABOVE GROUND REPOSITORIES

There is no easy way to trace the history of present beekeeping practices, but bee books and journals contain serendipitous material that helps to fill in some of the gaps. The interview with Lewis Farwell who had kept bees for 75 years is an example. We learn that two out of three farmers in Vermont kept a few hives of bees in the early 1900's to get honey for themselves, and to sell the surplus. He wintered his stocks in the closed up living room, and believed they fared better there than when he packed them with sawdust outdoors[76]. Other farmers may have placed their bees in barns, sheds, unused rooms in the house, etc.

Huish indicated such confining of hives in 'dark granaries or chambers" was scarcely known in England; and in his opinion neither advisable nor profitable. Apparently such practices were common enough elsewhere to have been known to him. Did he know that Swiss beekeepers made a practice of wintering their bees in a cold, dry, darkened room which they rented cooperatively[77]? In 1861 "P.L." reported that a darkened room did prove successful when large numbers of colonies wintered outdoors perished[78]. Dzierzon suggested that permanent above ground repositories could be used for other purposes after the bees were taken to their summer stands. If Dzierzon was the "brain trust" in Europe, Root considered H.R. Boardman "one of the brainiest beekeepers in all Beedom". He may have been the first to build a repository above ground for the specific prupose of wintering bees[79].

In 1980, 95 percent of the colonies in Quebec were overwintered with 85 percent in buildings; some of which doubled as hot rooms to heat honey combs for extracting[80]. Twenty years earlier, the use of insulated building for wintering in Canada was considered novel[81].

Some of the more extensive experiments with above ground repositories were with very small colonies (nuclei). J. Tinsley (1928) transferred 2-frame observation colonies that had been kept at 55-60 degrees F into 4-frame nucleus boxes in October, added two empty combs, and fed syrup. By March 15 one of these colonies had four combs of brood, and he concluded that: ". . . there is no doubt that, if bees could be wintered in a building at a uniform temperature of 50 degrees F, the problem of wintering could be solved. The idea that bees winter better during long periods of frost must be abandoned; the lower the outside temperature the greater the energy needed to maintain warmth, and the larger the food required, while the milder the winter activity is not so necessary and less food is consumed".

There was considerable interest in articles by the Diemers. They placed 400 3-frame nuclei in full sized hive bodies so they had room to spread out and attached a cage to the front. The bees consumed approximately two pounds of stores during three months of confinement[82].

H.N. Conner considered the climate in New Jersey too damp for cellars, and kept 150-200 2½-frame nuclei in an insulated, stove heated building to prevent temperatures going below 40 degrees F. At the end of November or beginning of December (when temperatures were 20 degrees F), the nuclei were brought into a room heated to 45-50 degrees F, and shaken or brushed onto a bottom board; empty combs were replaced with full combs of honey; then the nuclei were removed to the cool repository and stacked in tiers[83].

There had been a revival of interest in wintering nuclie indoors in the hopes of eliminating dependency on costly and sometimes unavailable package bees[84]. Elaborate blowers systems to forcibly change the air have been incorporated in recently constructed repositories but the basic elements of carbon dioxide, water vapor, and heat circulation as discussed under ventilation of cellars also apply to these buildings.

The operation as used by Cook and Beale, Inc. has been described in detail at beekeepers' meeting and in bee journals[85].:

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September 1, colonies are divided into 3-6 nuclei, screened, moved to a new location, and given ripe queen cells 3-4 days later. One nucleus is left at the old location to pick up flying bees. By October 1, the nuclei are weighed, and given honey from the ⅔ or more nuclei which will be disposed of.

After a few days of cold weather in December, 1,000 hives are stacked five high in a 30 x 30 x 10' building (back to back in double rows with a 2' walkway between the rows, and ½" between the stacks to avoid heat transfer). The bottom entrance is left open and no top ventilation is provided. Fresh air is foced into the room through ceiling ducts with a small fan running continuously, and a larger centrifugal fan running 15 minutes out of every hour (ventilation estimated at 100-150 cu. ft. per minute). Air is removed by a set of floor ducts on the assumption that the denser carbon dioxide settles to the floor.

An auxiliary heating unit runs three minutes per hour when the temperature drops below 20 degrees F, resulting in reduced food consumption and quieter bees. The nuclei (comparable to three pound packages) consume approximately nine pounds of honey during the confinement of 4½ months.

The bees are moved out as early as the second week of March, or as late as the first week of May depending on the season. A light-tight garage permits loading a truck during the day, but the bees are set out after dark to reduce drifting. The colonies are fed frames of honey and/or pollen substitute if needed to simulate brood rearing.

Losses have been about two percent. Investment in equipment and a building was $25,000 (1977), and the total operating costs of $8,600 were less than the $14,000 it would have costed to winter $1,100 colonies out of doors.

A 40 x 60' building to winter 1,000-2,000 hives in Nebraska was constructed for $.50 per colony[86]. A 12 ton air-conditioner, heater, humidifier, and control system cost $2,500. the colonies consumed an average of 20 pounds of honey per colony, and losses were less than one percent. There were ducts for air-conditioning and heating in the ceiling, and tubes in the floor were designed to remove carbon dioxide with a change of air every hour or less.

The Artesian Honey Company in South Dakota uses a large metal building divided in three separate, totally dark rooms, each holding 700-800 colonies; each with separate temperature controls kept at 42-44 degrees F[87]. The walls are insulated with six inches of fiberglass, and the ceiling with eight inches. The colonies in two brood chambers weighing a total of 80-90 pounds are piled in stacks three high. A small exhaust fan runs continuously to draw the "heavier carbon dioxide laden air" off the floor at one end, and a larger centrifugal fan with a cycle of ½ hour on and ¼ hour off forces fresh air in through a system of ceiling ducts (about 50 cu. ft. per minute).

D.L. Nelson and G.D. Henn in Alberta demonstrated that colonies overwintered in a single hive bodies had 20 percent less brood, 42 percent fewer bees, and used an average of seven pounds less honey compared to similar colonies given a second hive body of honey weighing at least 40 pounds when the colonies were last moved inside. In the spring, three of the 16 colonies not receiving a super of honey were dead, and the others required immediate feeding; those given an additional super of honey had adequate stores for 2-3 weeks. Colonies in two hive bodies (with a gross weight of at least 135 pounds) were moved into the repository at the same time as the single colonies described above. There was no significant difference between them and the single colonies to which a super of honey was given, except they consumed an average of 53.6 pounds (32.2 for singles with honey added). The doubles were harder to move into winter quarters, and the larger population often had consumed the honey in the top super, and were unable to reach the honey in the bottom super.

S. Pawlowski winters 1700 colonies in a 40 x 30 x 12' room with a jet fan system that maintains a uniform temperature and a slow air circulation. In earlier years he fed during the winter with Boardman feeders and picnic plates. Now he feeds the colonies October 20-25 before moving them, using 30 pound plastic pails with 40 mesh brass screeen a la Taylor[88]. The first pail is emptied overnight, but the second and the third are taken slower. The gross weight of the double hives is 140 pounds and of the singles 80-90 pounds. The doubles are stacked in tiers three high with the singles on top of them. The colonies with entrances reduced are moved out at weekly intervals between March 15 and May 15 to areas cleared in the snow; the last moved are the best and strongest[89].

The experience with a controlled atmospheric chamber in British Columbia illustrates some of the problems that may develop in preparing colonies for indoor wintering[90]:

1) Early cold, wet weather prevented proper feeding with some colonies refusing to take any of the 30 pounds of needed stores, although others took it well.

2) It was intended to keep the chamber at 47 degrees F with humidity at 50 percent. After placing the bees in the building, the temperature reached 55 degrees and the relative humidity 78 percent. It took two days to reach the desired temperature, and six days for the desired humidity.

3) When the equipment failed on two occasions, the temperature soared to 68 degrees F and was brought back to 47 degrees in 35 hours after the equipment was started up again.

4) When the colonies were brought out in early March to feed, wet, cold weather again hampered feeding and prevented building up the colonies on schedule. In April the colonies were fed syrup, but the continued inclement weather prevented the bees from gathering pollen for brood rearing. By the second week of May, 27 percent of the colonies had died, and of the remaining colonies ⅓ were rated as strong (brood chamber full of bees, brood and honey), ⅓ were rated as average (three combs of brood and equal to a package colony), and ⅓ were rated as weak.

When bees are prevented from collecting pollen, it is then critical that there be pollen stores in the hive, or that a satisfactory pollen substitute be available. Belous also reported brood rearing was farther advanced in colonies wintered outdoors rather than in buildings; hives on summer stands were less successful than colonies in twin hives, or in groups of 10 in a special casing[91].

Anyone comtemplating the construction of a repository should seek the advice of their local apiculturist, and visit facilities that are operating successfully. The recent article by Fingler and Small is an excellent source of the technical specifications that must be considered; although they include no references or documentation for verification[92]. They discovered that most beekeepers who originally installed refrigeration have discontinued its use, and instead depend upon fans and polyethylene ducts to exhaust and circulate the air. In spite of wide range of supplemental heat and ventilation rates, temperature and humidity conditions in the buildings were excellent; proof that bees have the ability to adapt to extreme variations in their environment.

A low rate of continuous ventilation controls the level of water vapor and carbon dixoxide. As a matter of fact, in rooms with 500 colonies or fewer, it is a problem to get fans of suitable size so the bees are not over-ventilated and subjected to relative

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humidities too low for their comfort. Fans intended for livestock buildings are satisfactory and available. Humidity control is needed only during very cold winter weather. With jet systems the fans can be located in any convenient place, without affecting the air distribution.

BEE HOUSE

Photgraphs of picturesque mid-European bee houses are familiar illustrations in bee journals. The largest such building visited by the authors was in Ulm, Germany with a capacity of 1,000 colonies; a blizzard of bees surrounded their outdoor feeder. But the bee houses are not unknown in the United States, with one for 150 hives built in 1848[93]. Root's *ABC and XYZ of Bee Culture* for 1920 has instructions for building and managing a "house apiary", including its insulation for wintering. Construction is similar to building a shed except provision is made for entrances through the wall, and it must be bee tight[94].

The possibility of performing necessary manipulations during inclement weather is the primary advantage of a bee house. Cross bees do not sting inside the building, and openings at ceiling level allow the bees to fly out. Some queen breeders use a bee house to assure keeping to a strict schedule. Where hives are likely to be stolen or damaged by vandals, the bee house may be the solution. Colonies in bee houses are retarded in their development compared to those wintered outdoors. But if the alternative is to find hives tipped over and combs smashed, a difference in population is good point[95].

Pirker has published specifications for the use of an insulated, heated, and simply ventilated bee house for the purpose of spring stimulation of colonies to be used to produce packages for sale. The temperature is maintained at 36 degrees F during the winter. During the build-up period the room is maintained at 58 degrees or lower during the day (to avoid the danger of the bees overheating), and 60 degrees at night. When the first pollen and nectar is available and the bees can fly, the temperature is kept at 70-72 degrees F day and night without risking loss. The adequate renewal of air is the most important factor in preventing the onset of panic reactions in the bees which cause them to overheat. When the relative humidity was experimentally increased to 85 percent, the colonies modified their behavior in a number of ways, including the rearing of brood. There are limitations as well as potentials to be considered in such a facility[96].□

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NEWS AND EVENTS

American Honey Producers Convention

ALBUQUERQUE, NEW MEXICO

As the honey production season comes to a close, it is time to look forward to attending the 1984 American Honey Producers Convention in Albuquerque, New Mexico.

Convention dates are January 9-13. The meetings will be at the Classic Hotel-6815 Menaul NE-Albuquerque, New Mexico 87110. Tel. 505-881-0000 or 1-800-545-6276.

An excellent program is being planned which will deal with current industry challenges. A variety of activities is being planned; such as a trip to old Santa Fe and an evening tram ride to the crest of the towering Sandias. Shopping centers for the ladies are located close to the hotel.

So plan now to attend the informative and fun filled Albuquerque Convention.

For further information contact Jack Meyer Jr., Box 98, Winfred, South Dakota 57076. Tel 605-485-2221.

Highlights Include:

Dr. Richard Davis, U.N.M. "Status of Hybrid Cotton and its Potential for Beekeepers"
Dr. R.L. Cowden-U.S.D.A., A.P.H.I.S., "Plans for Handling the Acarine & Varroa Mites & the African Bee"
Roy T. Cozart, Acting Deputy Administration, State & County Operations U.S.D.A. ASCS, "Grading Standards of Raw Honey taken over by ASCS."
Dr. Phil Gray, E.P.A. "Registration of Pesicides compatible to Honey Bees."
Jack W. Meyer, Jr. "Working for Special Exemptions"
Ron Frank, Shell Development Co. "Pydrin Insecticide and Bees—A Compatible Combination"
Dr. Joe Moffet, U.S.D.A., ARS-SR. "Stickers, Are They the Answer to Decreased Bee Mortality?"
Dr. Don F. Peer, Beekeeper, Nipawin, Saskatchewan, "Modern Methods of Beekeeping in Canada"
Glenn Gibson, Exec. A.H.P.A., "How to be an Effective Washington Lobbyist."
Dr. H. Shimanuki, U.S.D.A. National Research Director, "Beekeeping Research—Where It's Going"
Dr. Elbert Jaycox-U.N.M. Informal Questions & Answers Concerning Beekeeping.
Art Mercer, Pres. Texas Beekeepers Assoc. & Charles Engle, Director A.H.P.A. "How to get the Attention of your Senators and Representatives"
Robert Cook, Washington Consultant, "The Importance of Beekeeper Mail to their Congressman"
Tom Ed Burleson, Pres. Burleson Honey Co. "The Future of the U.S. Honey Market".
David Brinkman "The Computer Age Has Come to Beekeeping".
Dr. Basil Furgalia, National Leader, Extension Apiculture Program, "The Federal Extension Apiculture Program".
Chuck Dadant, Dadant & Sons Inc. "Pollination, Our Ace Card—Can We Play It To Our Advantage?"
David Cardoso, Allende, N.C. Mexico, "The Impact of the Acarine Mite on Beekeeping in Mexico"
Harry Sullivan, Agricultural Economics Specialist, Dept. of A.S.C.S., Washington, D.C. "An Overview of the Price Support Program. Is it going up or Down?"
Don Grigg, Silverbow Honey Co. "Can a Producer-Packer Survive in Today's Market Place?"
Richard Adee—"Washington Legislative Report".
JoAnn Weber, Chairperson National Honey Queen Assoc. "Opportunities to Bee a Promoter"
Jim Powers, Pres. Powers Apiaries, "A New Concept in Marketing Honey"
Steve Forrest, Brushy Mountain Bee Farm, Inc. "Promotion! Promotion! Promotion!
Marilyn J. Kiser, Manager California Honey Advisory Board, "A National Honey Promotion Program"
Orville Fager "New Ideas in Honey Extracting Equipment"
Dr. Richard Nunamaker—Research Entomologist, Laramie Bee Lab, "A New Virus affecting Queen Bees."

Progressive Beekeepers Association of Louisiana

22ND ANNUAL CONVENTION OF THE PROGRESSIVE BEEKEEPERS ASSOCIATION OF LOUISIANA

Louisiana beekeepers will be assembling in Alexandria for their 1983 annual convention December 3rd at the Holiday Inn, Mac Arthur Drive, which is located on US Highway 71, 165, 176-North. Program scheduled will be of interest to the whole beekeeping community, including the novice, experienced amateur, and the commercial or professional. Registration will start at 9 A.M. with a call-to-order at 10:00. A buffet lunch will be available to all attending.

The agenda will include a mixture of practical beekeeping, promotional and consumer interest, government programs, research information, and laws governing Louisiana beekeepers. Headlining the program will be Don Brouilette, Dr. Rich Hellmick, Bob Danka, Dr. Everett Oertel, Dr. Dale Pollet, and Dan Davenport.

A diverse range of topics, including techniques of retailing honey locally, how to organize an area beekeeping group, tips on queen rearing, and information for the beginning beekeeper will be covered by members of the Progressive Beekeepers Association of Louisiana.

All interested persons are warmly encouraged to attend this 22ND Annual convention. For further information and registration details write: Progressive Beekeepers Association of Louisiana, Rt. 1 Box 1448K, Breaux Bride, LA. 70517, c/o Ray Landry, Secretary-Treasurer.

News & Notes

The Apiary Inspectors will hold their 1984 Annual Conference in Tucson, Arizona, January 23-27th at the Hilton Inn, 1601 Miracle Mile, Tucson, Arizona. Registration is between 7 p.m. and 9 p.m. on the 23rd.

For further information, call Paul Jackson, 409-845-9713, Entomology Dept., Texas A & M, College Station, TX 77843.

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Highlights of the AMERICAN BEEKEEPING FEDERATION 40TH ANNUAL MEETING AMFAC HOTEL MINNEAPOLIS, MINNESOTA JANUARY 15-20, 1984

Sunday, January 15, 1984

9:00-12:00 a.m.
ABF Executive Committee meeting

2:00 p.m.
President's address . . . . . Philip Rossman, President, AFB
2:30 p.m.
Keynote address . . . . . "The Beekeeper and the Information Age". . . . Dr. Malcolm T. Sanford, Associate Professor and Extension Apiculturist, Dept. of Entomology and Nematology, University of Florida, Gainesville, FL.
3:25 p.m.
Presentation of American Honey Queen and Contestants . . . . Joanne Weber, Chairperson, American Honey Queen Committee, Clayton, WI.
4:10 p.m.
"Impact of USDA/ARS 6 year Implementation Plan on Bee Research . . . Dr. Robert D. Jackson, National Program Staff, USDA/ARS, Beltsville, MD.

Tuesday, January 17, 1984

7:00 a.m.
National Honey Packers and Dealers Assoc. breakfast meeting
10:15 a.m.
Honey Bee Mites—MODERATOR: Dr. H. Shimanuki
10:30 a.m.
"*Varroa* Mite Research Update" — Dr. Harvey L. Cromroy, Professor, Dept. of Entomology and Nematology, University of Florida, Gainesville, FL
10:45 a.m.
"APHIS Mite Program" — Dr. Glen Lee, Emergency Programs Coordinator, APHIS/PPQ/EPP, Hyattsville, MD
11:20 a.m.
"From Cylinders to Kenya Hives: Providing Bees to Earthquake Victims in Yemen" . . . . Dr. Elbert R. Jaycox, The Bee Specialist, Las Cruces, NM
11:40 a.m.
"A New Technique for Identification of Africanized Honey Bee' . . . Alan B. Bolten, Dept. of Zoology, University of Florida, Gainesville, FL
1:40 p.m.
Symposium — "African Honey Bees". Moderator: Dr. Anita Collins
"USDA/ARS Research Update" . . . Dr. Anita Collins, Research Scientist, USDA/ARS, Bee Breeding and Stock Center, Baton Rouge, LA
2:00 p.m.
"African Honey Bees in Argentina — Update" . . . . . Dr. Al Dietz, Professor, Dept. of Entomology, University of Georgia, Athens, GA
2:20 p.m.
"APHIS/African Bees — An Update" . . . Dr. Glen Lee, Emergency Programs Coordinator APHIS/PPQ/EPP, Hyatsville, MD
2:40 p.m.
"Impact of Africanized Bees on the Beekeeping Industry" . . . Dr. R. McDowell, USDA/NRED/ERS, Washington, DC
3:15 p.m.
"Current Methods of Diagnoses and Treatment of Patients with Honey Bee Sting Allergy" . . . Dr. J.W. Yunginger, Allergic Diseases Research Lab, Mayo Clinic, Rochester, MN
3:45 p.m.
"New Concepts in Pesticide — Honey Bee Interactions" . . . Dr. Eric Erickson, Laboratory Chief USDA/ARS Bee Lab, Madison, WI
4:15 p.m.
"Moving Bees — Hazards and Responsibilites" . . . Gene Killion, State Apiary Supervisor and Extension Specialist in Apiculture, IL
4:35 p.m.
"Honey Price Support Program — An Update" . . . Harry A. Sullivan, USDA/ASCS/Washington, DC

Wednesday, January 18, 1984

7:00 a.m.
ABF Membership Committee breakfast meeting
9:00 a.m.
Industry Symposium: Improving Our Efforts in Honey Marketing
Moderator: Binford Weaver, Navasota, TX
"Honey, the New Surplus Commodity" . . . Dr. Eric Mussen, Extension Apiculturist, Dept. of Entomology, University of California, Davis, CA
9:10 a.m.
"Committee for Honey Market Development and Promotion" . . . Binford Weaver
9:20 a.m.
"Proposed Bill for Freestanding, Self-help Marketing Program" . . . Binford Weaver
9:30 a.m. - 12:30 p.m.
Ladies Auxilliary Brunch
9:40 a.m.
"Developing a Honey Marketing Plan to the Beekeeping Industry" . . . Harry Rodenberg, Wolf Point, MT
10:30 a.m.
"Value of a Honey Marketing Plan for Product Promotion and Advertising" . . . Steve Keplinger S. Keplinger Advertising, Inc., Rochester, MN
10:50 a.m.
"Integrating Honey into Institutional Food Preparation" . . . Opal Blake, Director, School Food Service, Shreveport, LA
11:10 a.m.
"Potential for Increase in Institutional and Industrial Uses of Honey" . . . Joann Weber, Clayton, WI
11:30 a.m.
"How to Organize Local and State Beekeeping Associations" . . . Dr. John Ambrose, Professor, North Carolina State University, Raleigh, NC
2:00 p.m.
Panel "Apiary Inspection — How and What For?"
Moderator **Marion Ellis,** State Apiarist, NE;
Gene Killion, Apiary Supervisor & Apiculture Ex. Specialist, IL;
Judy Carlson, State Inspector of Apiaries, ND;
James Herndon, Chief Apiary Inspector, FL;
Richard A. Hyser, Supervisor Apiary Inspection, MN'
Don Dixon, Extension Apiarist, Manitoba
3:20 p.m.
"Have We Anything In Common?" . . . John W. Straub, W.F. Straub Co, Chicago, IL
3:40 p.m.
Panel "Value of Industry Periodicals to the Beekeeping Industry"
Moderator: **Troy Fore,** Editor, Speedy Bee, Jesup, GA' **Joe Graham,** Editor, The American Bee Journal, Hamilton, IL;**Mark Bruner,** Editor, Gleanings in Bee Culture, Medina, OH

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Thursday, January 19, 1984

7:00 a.m.
Mid U.S. Honey Producers Marketing Association breakfast meeting
National Honey Packers and Dealers Association
9:00 a.m.
"What is Beekeeping?"...Dr. S.C. Jay, Professor and Head Dept. of Entomology, University of Manitoba, Winnipeg, Manitoba, Canada
9:30 a.m.
"Effect of the U.S. Honey Price Support Program on the Canadian Honey Industry"....Dr. R. Robertson, General Manager, Bee Maid Honey LTD, Winnipeg, Manitoba, Canada
10:15 a.m.
"Chalkbrood of Honey Bees: A Disease Whose Time Has Come"...Dr. T.A. Gochnauer, Research Scientist, Entomology Section, Ottawa Research Station, ottawa, Ontario, Canada
10:45 a.m.
"Save the Bees—A Pragmatic Approach to Promoting Our Industry"...Steve Forrest, President Southern States Beekeepers Federation, Moravian Falls, NC
11:00 a.m.
Federal Extension Apiculture Program"...Dr. B. Furgala, National Leader, Extension Apiculture Program, University of Minnesota, St. Paul, MN
1:40 p.m.
"Recent Developments at the Carl Hayden Bee Research Center"...Dr. M.D. Levin, Center Director, USDA/ARS,CHBRC,Tucson, AZ
2:00 p.m.
ABF Business Meeting

Friday, January 20, 1984

7:00-9:00 a.m.
Honey Industry Council breakfast meeting
9:00-noon
ABF Board of Directors meeting
1:00-5:00 p.m.
ABF Executive Committee meeting

1984 AMERICAN HONEY SHOW Coming Up

Frank A. Robinson, Secretary
American Beekeeping Federation

Sponsored by the American Beekeeping Federation, Inc. the 1984 Honey Show will be one of the major attractions of our 1984 Convention in Minneapolis, MN January 16-19, 1984!

Start making plans now to enter some of your finest honey and bees wax in this show. Remember **only members of the American Beekeeping Federation can participate.** If you aren't already a member join now so you can compete for one of the beautiful silver trophies.

Copies of the Rules of the Honey Show and additional Entry forms can be obtained by writing to Walter Sundberg, Chairman, Honey Show Committee, Route 3, Fergus Falls, MN 56537 or from the A.B.F. Secretary, 13637 N.W. 39th Ave., Gainesville, FL 32606.

Promotional booth set up by Nashville Area Beekeepers Association at Hickory Hollow Mall, October 9-15. Carol Bearden, Cunningham, TN — Tennessee Honey Queen. Officers Nashville Area— Robert Maxwell—President, Alan Davis—Sec.-Treas. "Honey For Health"

GADGETS

I cut 1½"-2" strips from old inner tubes (length wise) and put them around the bee hive where the supers meet. I feel this cut down on wind entering the hive and maybe reduces propolis build-up.

Cut the strips from the tube long way, if they are too long, tie a knot in them.

James R. Reed
Bar Harbor, ME 04609

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Annual subscription postpaid in foreign countries. For individuals US $7.00 for institutions, companies and corporate bodies US $10.00 or it's equivilent, to be received in advance by IMO or bank draft, payable in Poona (India). TF

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For Sale — Bulk Pollen. Minimum order 300 lbs. 806-896-4552 12/83

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For Sale: Oil painting (1978) by Crossan Hays Curry Portrait of Lorenzo Lorraine Langstroth the "father of modern international apiculture". Included are a bust of Langstroth in clerical costume, his revolutionary beehive, his Oxford, Ohio home which is now a National historic landmark and other autobiographical details. Painting is on fine Belgian linen. Size: 30 x 40 and is mounted in a massive antique, gilt frame. Price $750. Contact C.H. Curry, P.O. Box 105, Oxford, Ohio 45056. TF

FOR SALE: Top quality Italian bees and queens since 1940; also 3 frame nuclei and single story colonies. Bring your cages and save. WALKER APIARIES, Rt. 1, Box 34-B, Rogers, Texas 76569. Phone: 817-983-2891. 6/84

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Colonies for sale in Florida. Call Evenings only, (904) 567-9495. No Collect Calls. Terms Negotiable. TF

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New Distributor for the Eastern and Southern sector of the United States for C.C. Pollen Company traps. Also handling Dadant Supplies. TURNER'S BEE SUPPLY, 588 Pennline Rd., Pierpont, OH 44082. Tel. (216) 577-1393 TF

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PURE FRESH Royal Jelly. 2 oz. bottle. $19 pp.; 1 lb. $120. Prairie View Honey, 12303 12th St., Detroit, MI48206 TF

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BEESWAX WANTED — Highest prices paid in cash or trade for bee supplies. The A.I. Root Co., Medina, OH 44256; Council Bluffs, IA 51501; San Antonio, TX 78204. Box 9153. TF

PROPOLIS

Propolis U.S.A. R.8 Hayward, Wisconsin is again buying good quality propolis — either concentrated (by cold water washing) or hive scrapings. Send 5-10 pound sample for evaluation and payment. Good propolis is worth up to $8.00 a pound. Hive scrapings guaranteed at least $2.00 a pound — we pay Shipping Costs. Phone: 715-634-4274. 2/84

BOOKS

CLASSIC REPRINTS: Miller's *Fifty Years Among the Bees,* **$7.95,** paperback. Root's *1890 ABC of Bee Culture,* **$11.50,** paperback, **$17.95,** hardcover. Shipping $1.00. **Molly Yes Press, RD 3, New Berlin, NY 13411. 12/83**

A System for Weighing Hives

by LARRY GAY

In the March, 1982 issue of *Gleanings*, Bernard Murtaugh tells how he weighs his hives using a bathroom scale and a contraption that looks like a fishing pole. Here is a similar method with the advantage that you leave the scale in the bathroom.

What you need is a sturdy plank, approximately 2 x 8, forming an 8 or 9 foot teeter-totter with a fulcrum in the middle. A half-round wooden fence stave makes a good fulcrum, but iron pipe or something similar would be just as good. Distances are marked off on the plank with a wax pencil for convenience. To weigh the hive you must find the point at which your weight balances the hive as shown in the diagram. Find the point where your weight just begins to tip the hive, then apply the equation:

$$\text{hive weight} = 2 \times \text{your weight} \times \frac{L2}{L1}$$

The factor of 2 arises because you are lifting only half the weight of the hive. Like Murtaugh's method, this assumes a symmetric distribution of weight in the hive.

Using a simulated hive which registered 113 pounds when placed directly on the scale, I compared the accuracy of this method against Murtaugh's. Here are the results of five weighings by each method:

Teeter-totter method		*Murtaugh's method*
115.2 lb.		*120 lb.*
112.1		*114*
110.5		*115*
116.8		*118*
113.7		*118*
113.6		*117*
	average deviation from the mean	
1.9		*2*

Clearly there is some reason why the teeter-totter weights are consistently too low. Perhaps the true balance point of the plank does not exactly coincide with the mid-point. Or perhaps I tipped the hive a little more than I intended, although this should have affected the other method too. No doubt I could improve the accuracy through various refinements, but it's not worth the effort to me because what I'm usually interested in is the change in weight as the bees fill a shallow super with honey. This change is found by subtraction and any systematic error cancels out.

The disadvantage of this method is the danger of tipping hives, especially tall ones. The beekeeper must be careful and weighing with a helper is preferable.

The big advantage of the teeter-totter is that it is fast. If you leave the plank on top of the hives, all you need when going to the beeyard is pencil and paper. A secondary feature of this method is that it helps the dedicated beekeeper keep track of his own weight. □

1984 GLEANINGS IN BEE CULTURE SUBSCRIPTION INCREASE

It has been several years since GLEANINGS raised the price of subscriptions, but we will be doing so effective December 31, 1984. The new rates will be as follows:

1 year GLEANINGS------$10.35
2 years ----------$20.50
ABC/XYZ and 1 year----$23.70 plus $1.09 domestic postage
500 Answers + 1 year--$10.75 plus .63 domestic postage
STARTING RIGHT WITH BEES + 1 year---$10.75 plus .63 domestic postage

Foreign postage rates: $3.25 per year

Association (if sent in by secretary):

1 year --- $7.76
NEW TWO YEAR DISCOUNT: $15.37

GLEANINGS IN BEE CULTURE 1983 INDEX

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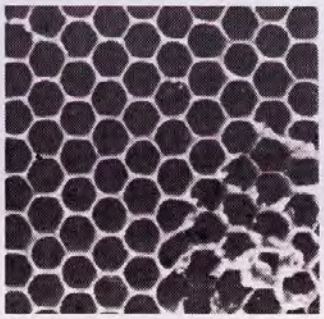

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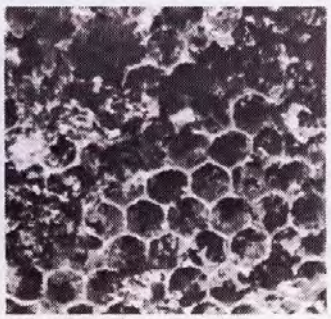

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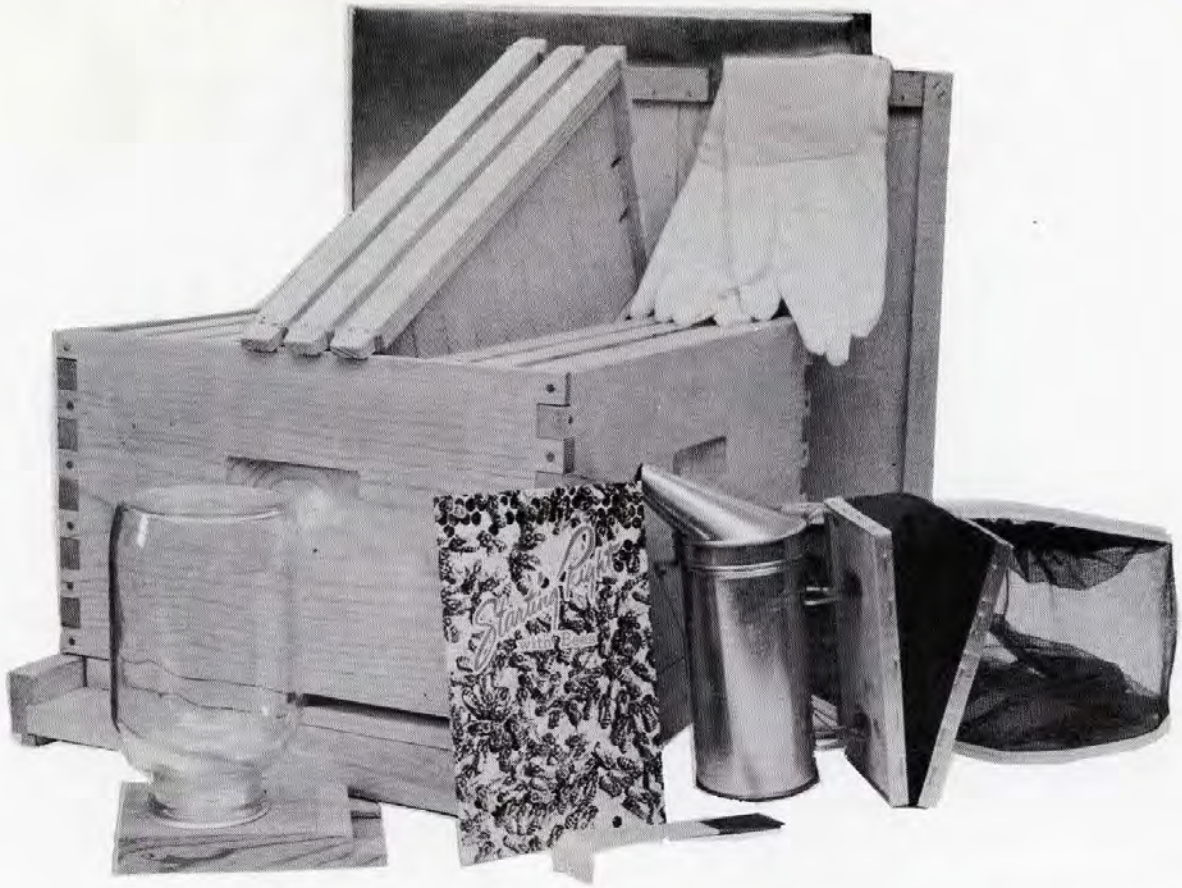

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