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## COVER STORY

This field is overgrown with one of the mustards (*Brassica, Barbarea*) which provided bees with forage for several weeks. Except for rape (*B. napus*) most of the mustards and cresses are regarded as serious weed pests by farmers.



# Gleanings in Bee Culture

May 1981

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# About Those Queens....

*"...Much has been written about the right ways to proceed in introducing new queens."*

By GRANT D. MORSE  
121 Ulster Ave.  
Saugerties, NY 12477

BEEKEEPERS HAVE NEED to introduce queens to three kinds of colonies: Those that have lost their queens, those that the beekeeper believes will be improved through acquiring a new and different queen, and nuclei.

In the case of a colony that has lost its queen, the beekeeper may have difficulty in making a successful introduction because of the presence of one or more laying workers — unfertilized females that have developed enlarged ovaries, and are attempting a role for which they are not equipped. Or it may be that queen cells have been started.

Most experienced beekeepers do not attempt to requeen a colony that includes laying workers. Instead, they shake the bees into another thriving unit, and use the equipment for other purposes. Beginner beekeepers, especially, are often subconscious victims of an inclination to rate their success by the numbers they operate, rather than by the number of producing units in their outfit.

Much has been written about the right ways to proceed in introducing new queens. One typical admonition has been that introduction is easier if the queen to be introduced is about the same age as the one being replaced. That kind of statement, though true, is largely a waste of words because one seldom desires to replace an old queen with another of equal age.

A more realistic goal is try to get a queen replacement that is laying at least as well as the one being replaced. A young queen in a mailing cage often fails to meet that criterion so she may be rejected by the bees.

## **Influence of Time of Year and Other Factors**

Experienced beekeepers tend to agree that the time of year when introduction is attempted is significant. The easiest time is when there's a honey flow in progress. One reason for this is that at such a period the older bees are preoccupied with the

labors of gathering. Even the young house bees are busy receiving and processing loads of nectar being brought in by the foragers. Also, it's possible that the odor of fresh nectar covers up offensive odors.

Early spring time seems to be an encouraging period also, to make queen introductions. Worker bees have an instinctual sense of the urgency of having a queen at the business of laying eggs to produce essential new members of the labor force.

Young bees are universally receptive to a new queen. That is why some operators shake the old bees off several combs, then place these combs to which young bees ordinarily cling, when the combs are shaken, into a separate hive body above a queen excluder (or a screen), and put it at the top of a colony after having introduced a queen — either by placing her on a comb among the bees, or introducing her through a mailing (or some other kind of) cage. But at some times of year, particularly when a nectar flow is not in progress, older bees may soon travel up through the excluder and ball the queen.

However, the inherent disposition and inclination of the members of a particular colony, or even of an entire strain of bees, may render introduction difficult at any time. Even some races discourage introduction more than others.

## **The Nucleus Method**

But a beekeeper can scarcely afford to be restricted in his introductions to a particular time of year. A small-scale operator recently wrote me inquiring if he should be obliged to avoid introductions of queens in August when the main honeyflow was over and the hives were brimming with bees.

He said he had used the nucleus method of introduction but that his percentage of acceptance was low. (The nucleus method entails placing a young queen right unit over one that the operator wishes to requeen). He

admitted that he had not bothered to hunt out and eliminate the old queen in the established unit to be requeened.

This operator had depended on the old claim so often seen in the literature to the effect that the vigorous young queen in the nucleus would usually overcome her more aged, and assumedly less agile adversary in the lower to-be-requeened unit.

I commended this beekeeper for his professionalism in marking his queens so that he actually knew which queens had survived. The beekeeper who fails to do this is operating in the dark. It makes little difference whether he clips a different wing each successive year, or whether he employs the identification of a tiny dab of paint.

Beekeepers who do not mark their queens may be quite amazed at how often the older queen survives the contest. I like to compare these two queenly adversaries (anthropomorphically) with two human females, one 18-20 years old, the other 35 years old. I think we would be amazed at how often the thirty-five year old matron would best her presumably more athletic competitor.

Here's another feature of the situation that may escape the attention of a typical beekeeper (if there be such) who assumes that the queen in the upper unit usually prevails. I believe that such a one underestimates the customary vigor of the queen in the lower unit. The very fact that she is there, and has not given evidence of needing to be superseded, is somewhat significant testimony to her good qualities.

Such a beekeeper may be victim, too, of underestimating the loyalty of the bees in the lower unit to their queen. They've been together longer than the members of the nucleus above.

If we may, let us indulge ourselves in a little more comparison of the honeybee colony morale with that of



the somewhat comparable human unit, the family home. Can you imagine the resentment that would be evidenced if some agency should presume to replace the dominant matron of a human family with any other female? The dominant matron might not rate 100% on a community poll, but in her family, that matron is sacrosanct. She's not even judged against potential competitors. She is, instead, taken for granted. She has earned her place, her rank, her status. Not until she is physically no longer in the situation are the family members going to consider a supersedure.

This is one reason why, when uniting two colonies with the chief purpose being requeening with the queen from the upper unit, the queen below should first be disposed of.

Strategically, the workers in the upper unit are in a slightly better position to defend their queen than are the workers below. But the advantage is not overwhelming. The queen above can be assailed, as well as the one below.

And what researcher has as yet declared that it is always the two queens that determine which queen shall reign? If the queen below is not disposed of by the beekeeper, I venture the guess that the workers as often dispose of her, as does her queen rival. To believe that the determination of survival is always based on combat between the two queens, is to assume that the two colonies are 100% compatible shortly after both sides have penetrated the newspaper barrier that the beekeeper placed between them when he put them together.

Each unit is going to remain loyal to its queen for a considerable length of time, especially if the beekeeper has not disposed of one of them.

Added to these facts we have the matter of size and numerical strength. The members of the lower unit may subconsciously be quite aware of their numerical superiority. Further, they have no awareness, no knowledge, of the quality of the queen upstairs. That is why, when the lower unit of the proposed union is not active in gathering, and is numerically strong, as in August, the strength of the nucleus must be great enough not to permit their being immediately overwhelmed by their competitors.

Under no circumstances should the operator open such a united colony too soon after the two parts have

been placed together. Workers that might not be prompted to ball an introduced queen while the colony is quiet, become aggressive when the hive is opened. At such a time they vent their distress against any object with which they do not identify perfectly.

If the operator actually sees a queen being balled — as every experienced beekeeper has — he may be able to save the queen by dropping the ball into some water; or by pouring some sugar syrup on the bee mass; or by smoking the ball of bees, being careful not to bring too much heat directly upon the queen. But the operator is often not equipped at the moment to perform these manipulations. Some think that closing up the unit provides the best solution.

#### Using the Mailing Cage

If a colony has not acquired laying workers, and if it has no queen, it will usually accept a young queen by way of a mailing cage.

Most operators advocate removing the escort workers that were shipped in the cage with the queen. Their absence encourages the queen to solicit food through the wire mesh of the cage from the workers of the unit of which she is being introduced.

The cover over the candy hole should be removed, and a small nail thrust slowly and carefully through the candy to expedite the release of the queen, that is, unless the operator prefers to allow a longer period (say approx. 6-7 days) before the queen's release.

Some operators place the wire side of the mailing cage face down over the frames so that it will be exposed to bees coming up between two frames. I prefer to place it, candy hole up, **between** two frames in the brood area so that the screen is totally exposed to all interested members of the colony. This placement sometimes necessitates the removal of a frame from the super, and often results in the building of a bit of brace comb. But this is not a serious matter. Plenty of space should be left between the top of the mailing cage and the inner cover so that workers may have access to the candy.

#### The Push-in Cage

If the beginner beekeeper is enterprising, he or she may want to use a push-in introduction cage. The operator can construct such a cage from wire cloth made of eight wires to the inch, with over-all dimensions of

approximately 3 by 4 inches, one inch in depth when the sides have been bent over.

Such a cage should be pushed into an area of a brood comb that holds some worker cells about to hatch, plus a bit of honey in some other cells. The queen, removed from the mailing cage, is placed beneath the push-in cage and room is left between the face of the cage and the comb so that she can move about freely. Soon, young workers will hatch to become her companions.

There are a myriad of ways of introducing a queen. Some operators dequeen a colony, give it 2-3 hours to learn that it is queenless, then run a queen right onto one of the frames, first coating her lightly with a semi-bath of warm sugar syrup.

This plan has some good features. It provides a queen when the workers are fully aware of their loss. It assumes that not enough time has elapsed to permit the development of laying workers, or in the building of queen cells.

Of all the methods of introduction, the push-in cage procedure is doubtless the most foolproof (provided the operator is able to manage getting the queen out of the mailing cage and under the push-in cage). This is true because it gives the young queen a chance to lay a few eggs, in some instances, before being thrust into the midst of her new hive members. As we have noted before in this article, readiness to lay eggs is in many situations prerequisite to acceptance.

It's true that the push-in cage method is superior because it provides contact between the young queen and her workers — contact of a perfectly safe nature that thwarts any danger of her being balled. It's true because it gives her time to acquire colony odor while being perfectly protected. It provides all the advantages of the mailing cage method of introduction plus those that we have listed.

The nucleus method is doubtless just as good a device, though quite different. One of its best features is that it provides an opportunity for the queen to be productive while she is awaiting for an eventual introduction to a larger unit.

The nucleus method, however, is probably not nearly so successful a procedure as thought by those who do not definitely determine which queen survives (provided the queen



below is not disposed of prior to the two colonies being united by the newspaper method).

### Introductions under the Two-Queen Colony System

I have one northern commercial beekeeper friend who very successfully practices the two-queen plan.

He's a methodical fellow who knows what he's doing and is able to teach his workers to follow the system of two queens to a colony (during part of the year).

His queens are contracted for a year or more in advance of approximately the first of April. Because of volume of purchase, he's able to secure queens with alternate wings clipped in successive years at no extra cost. They come from southern Florida.

His colonies are wintered in two hive bodies. As he, or a worker, approaches each colony about April 1st he uses little smoke while attempting to locate the queen. If he is successful in doing so within the short span of time he allows for the purpose, he sets the hive body containing the queen on the colony bottom board. Above this hive body he places a super of good quality drawn combs.

Upon this super of drawn combs he puts an inner cover with the center hole screened above and below with regular fly screening. This inner cover, with an exit cut in the front rim, becomes the bottom board for the second hive body from the wintered-over colony. To this now queenless portion he gives a young queen in a mailing cage, prepared as previously described in this article. Above this hive body he places a super of good drawn combs.

The colony now consists of four hive bodies. If either half of the colony needs honey or pollen (he judges purely by weight), he supplies it from the truck on which at times he carries a supply providentially saved at close of the previous fall season.

If he has difficulty in locating the queen, he inserts a hive body of brood combs between the two hive bodies that made up the wintered over colony, then elevates a half dozen frames of brood, bees, and honey to a fourth hive body which is supplied with a screened inner cover as its bottom board. To this he gives a queen.

My practitioner of the two-queen plan finds upon subsequent examina-

tions of the colonies he has made up in this way, that only in an unusual year does he need to give either part of the two-queen set up additional supers prior to the beginning of the main honey flow.

When he does find the addition of supers necessary, he removes the inner cover that has been serving as a bottom board for the upper half of the unit, and allows the two parts to mingle, and to determine for themselves which queen shall survive.

My friend declares that in those instances in which he finds the queen in the lower unit has survived, she has survived in most cases, he believes, because she was the better physical specimen of the two.

One or two additional details: My friend always temporarily blocks the exit in the rim of the inner cover which serves as a bottom board for the upper half of the set-up, with green grass to discourage too many workers from immediately leaving the upper unit.

Also, this commercial operator usually finds it advisable to reverse the two hive bodies that make up each half of the two-queen unit, at least once subsequent to its establishment.

As a rule, my friend says that the only supers needing internal examination subsequent to each unit being made up are the hive bodies of the lower part of those units in which he did not find the queen at the time of setting them up. Sometimes they build queen cells in the third hive body. This is not a major task since there are usually only a few such units, and these he has identified with an external chalk mark.

He finds he can tell by looking at the pollen carriers at the entrances whether the queen in the upper part of the unit has been accepted, and is laying.

My friend resolutely claims several advantages from practicing his two-queen system. Most important, he says, swarming is almost totally eliminated annually. A larger work force is almost invariably present to gather his crops which exceed those secured by any of his colonies to which he has not applied the two-queen system. His colonies thus treated, winter more successfully since they are usually headed by a young queen — certainly by the more vigorous of two queens.

### Introducing Queens to Nuclei

A nucleus made up, chiefly of

young bees, seldom rejects a queen when she is introduced by way of a mailing cage. If it were not for the occasional mature worker among their number, a nucleus would seldom reject a queen, no matter how introduced.

One problem, perhaps, stands out for the beginner, however, in making up nucs. It's in avoiding chilling the brood (or permitting it to become chilled) while establishing these small colonies in the cool days of early April.

Here are a few precautions: Don't leave the cover of any hive body containing brood off longer than strictly necessary, even if it is somewhat convenient.

The brood nest occupants normally enjoy a temperature of approximately 92 degrees F. If the temperature of the air outside the hive in early April — or any other time — to which brood is exposed, is much below that, the brood may be damaged.

It's important not to set frames of brood into a waiting super without keeping them covered there. Also, it is seldom good practice to attempt letting a nuc provide fully for its warmth during the first few weeks after it has been made up. It is desirable, too, that it should be fed sugar syrup. Let an established full-strength colony help provide the heat it needs by placing the nuc over a screened inner cover above the old colony.

It is believed by some good authorities that brood may be able to endure a temperature as low as 80 degrees F. for short periods without being irreparably damaged. But it's not a good idea to tempt fate by extending the exposure period. And 80 degrees F. is far from the 60-65 degrees F. temperature an operator often finds as "nice and warm" for him in the out-of-doors of early April.

Another detail to watch when building nuclei is not to put too many frames of precious brood into a nuc unless it is accompanied permanently by an adequate cover of bees. This is not always easy to accomplish. Further, it isn't necessary. Brood can be added **after** the nuc has become established and proven itself.

In conclusion, we may say that there are many ways of introducing queens to various units. The beekeeper needs to study all the factors involved in advance of trying out the few that he believes will work for him, then check his results carefully to determine how successful his performance is. □



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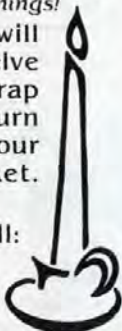
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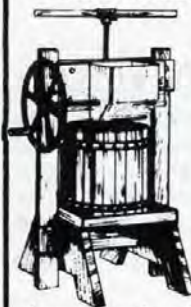
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# Monthly HONEY Report

LAWRENCE GOLTZ

April 10, 1981

The following figures represent the current prices reported by beekeepers and packers over the country. They are based on reports from many states averaged out for each region. Where insufficient information is received no price is shown. The retail prices represent the price of each size jar.

## Wholesale Extracted

## 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	45.00	36.00	33.00	36.00		35.50	32.50	35.00	32.80
60 lbs. (per can) Amber	45.00	35.00	31.80			33.00	29.25	35.50	31.20
55 gal. drum (per lb.) White	.60		.55	.53	.53	.60	.52	.52	.53
55 gal. drum (per lb.) Amber			.53		.49	.57	.46	.51	.52
Caselots — Wholesale									
1 lb. jar (case of 24)	25.50	24.00	23.50	24.00		23.00		22.00	22.50
2 lb. jar (case of 12)	26.50	23.50	22.00	25.50		22.00		21.00	21.75
5 lb. jar (case of 6)	29.50	26.95	23.10			24.50		23.75	23.60
Retail Honey Prices									
1/2 lb.	.80		.79	.73	.79	.85		.78	.89
12 oz. Squeeze Bottle	1.35		1.09	1.05	1.25	1.15		1.15	1.20
1 lb.	1.35	1.35	1.23	1.25	1.23	1.35	1.29	1.20	1.35
2 lb.	2.55	2.60		2.35	2.45	2.40	2.39	2.25	2.10
2 1/2 lb.	3.15				3.09	2.90		3.05	
3 lb.	3.80		3.27			3.60		3.50	3.49
4 lb.	5.00	4.50		4.50		4.55		4.45	
5 lb.	6.00	5.60			4.99	5.20	5.50	5.85	5.85
1 lb. Creamed			1.27					1.40	1.59
1 lb. Comb			1.89	1.55	1.87	1.65		1.50	1.80
Round Plastic Comb		1.35	1.50					1.25	
Beeswax (Light)	1.95	1.90	1.90	1.90	1.90	1.95	1.90	1.90	1.85
Beeswax (Dark)	1.85	1.80			1.80	1.85	1.85	1.85	
Pollination Fee (Ave. Per Colony)	25.00	22.00					20.00	16.00	20.00

## Misc. Comments:

### Region 1

Winter losses variable. Up to 20% losses reported in Connecticut, much less in other areas. Weather in late March and April was moderate and bees building populations rapidly. Pollen is plentiful. Good demand for nucs and package bees. Swarming may be a problem.

### Region 2

Bees building up fast for beginning of honey flow in May in Maryland. Bees have wintered well in this region; losses were about 6 - 8% in Pennsylvania. A good honey season is expected. Bees wintering well in New York State. Ground moisture conditions improved. Honey sales reported down a little with no change in prices on grocery shelves. Light honey in bulk in short supply.

### Region 3

Weather is mild but dry in Wisconsin in early spring. Bees wintered well



in all of this region but some feeding has been necessary where fall stores were short and bees active. Moisture short in Illinois which could affect nectar and pollen plants. Eastern Ohio has ample moisture, western Ohio and southern Illinois short on moisture. Most colonies showing a strong spring buildup.

### Region 4

Winter losses very light in Minnesota. Temperatures on moderate side through Nebraska and bees are very active. Warm dry winds have added to moisture shortage with only oc-

casional showers adding much needed moisture during March and April. Bees are reported to be in good condition throughout the region. Honey sales reported good at retail.

### Region 5

Bees in good condition in North Carolina with assist from early spring bloom. Some feeding required. The citrus honey crop in Florida was spotty due to freezes. A good nectar flow was found in areas where the citrus trees were left in good condition, but poor nectar flow where trees were badly damaged.

### Region 6

Very dry conditions in Kentucky and Tennessee. Bees have wintered very well and the colonies are strong, but prospects for a very good honey flow may be diminished by lack of moisture. Forest fires numerous in Kentucky. Honey plants are blooming ahead of normal.

(Continued on page 287)



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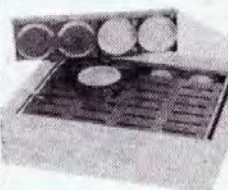
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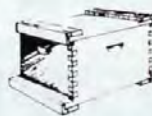


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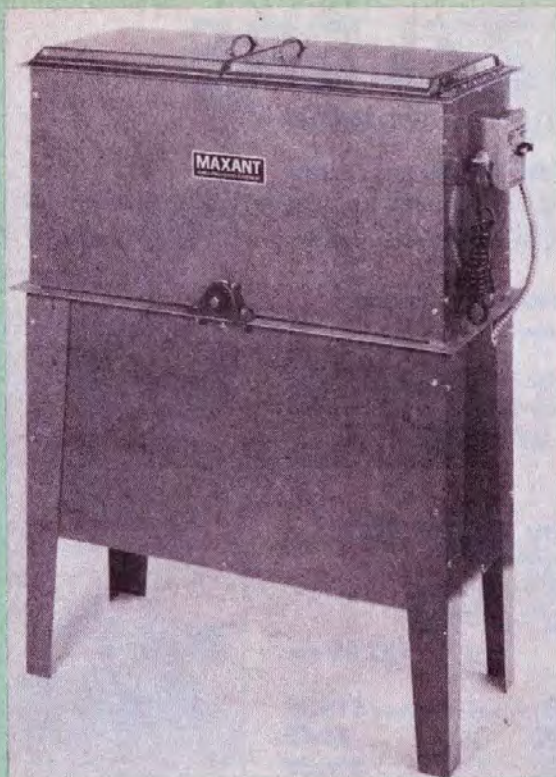
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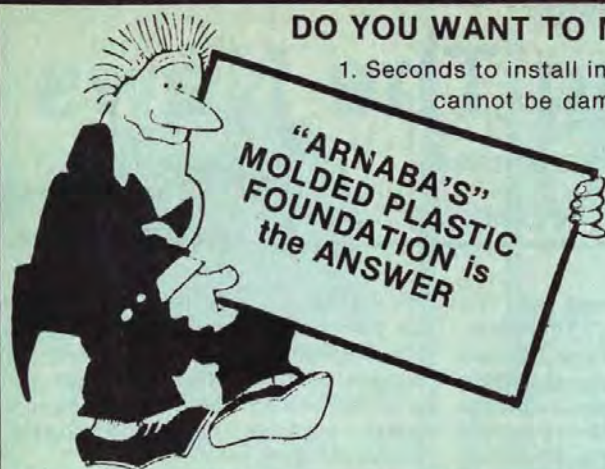
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# Capping The News

THE EDITORS

"Beekeeping Small Talk"

On this page we bring you, in effect, "beekeeping small talk" — a kind of person-to-person communication about what is going on in the beekeeping world, as seen from the editors' desks.

The topics are not so much editors' opinions as they are simply observations on current news, trends and events. Above all, we shall heed the admonition not to "...multiplie words without knowledge" (Job 35:16).

## BEE SCHOOLS

With the return of spring (according to my calendar, if not in fact) bee schools are bursting out all over. Some classes meet one night per week for up to ten or twelve weeks, while others schedule a concentrated period, such as a one, two or three-day weekend of teaching with lectures and demonstrations. There are advantages and disadvantages to each. The once-a-week meetings over several months allow the student more time to assimilate individual lessons, organize and study notes and do supplementary reading along with the instruction.

The one, two and three day courses, on the other hand, are concentrated in both content and time with emphasis on instructors presenting lectures and demonstrations in rapid succession on diverse subjects. Sessions are lively and exciting, with everyone keyed into the spirit of a group adventure. These short sessions are usually held in educational centers with eating and living facilities available on the campus. To many these schools are a mini-vacation and a unique learning experience combined. The disadvantage is that the student may be diverted from serious learning by the atmosphere of intense instruction and social diversion.

## HONEY INDUSTRY COUNCIL PLANS ACTION ON HONEY ADULTERATION AND BOTULISM PUBLICITY

The Honey Industry Council of America, Inc., meeting in Seattle, Washington during the ABF conven-

tion with representatives of the American Beekeeping Federation, National Honey Packers and Dealers Association, American Bee Breeders Association and associate members passed motions to accelerate action on such industry problems as honey adulteration and dealing with publicity concerning honey and infant botulism.

Honey testing to detect the adulteration of honey is available at Honey Tech. Inc., Navasota, TX 77868, but to continue this service a guaranteed payment for a minimum of 100 samples in 1981 was made, contingent on fund availability. The possibility of a NHPDA program to partially subsidize the testing of their suppliers was discussed. The American Beekeeping Federation will fund the testing of bulk honey for large users but this defense fund is limited.

## "We cannot please everyone so we seek information..."

Robert Rubenstein, with offices at 6 E. 43rd St., NY, NY will continue as counsel for the Honey Industry Council in 1981. He indicated that the revised self policing policy of the Council includes notification of the sender of the honey sample of its receipt and of the test results.

A report on the testing of 100 samples during 1980 revealed that 22 out of 71 (31%) of the samples of honey from retail packs and 3 out of 29 (10%) of the samples from bulk containers were found to be adulterated. (it should be pointed out that this report covers an adulteration percentage among samples highly suspected of being adulterated; NOT a random sampling taken from honey in trade channels.) A representative from Mexico reviewed the prevalence of adulteration in retail honey packs in Mexico.

The Council will ask the FDA to include additional specified lists of foods in their stated testing for *C. botulinum* spores. Honey has often

been singled out in the public media as the single offending substance. The original medical research reports suggested that infant botulism may also be linked to other foods and other sources of contamination besides honey.

Other items of business at the Honey Industry Council meeting dealt with raising fees to \$500.00 per voting member and accepting the Eastern Apiculture Society as a voting member.

David Sundberg, Fergus Falls, MN is Chairman of the Council and J.W. White, 217 Hillside Drive, Navasota, TX 77868 is the Executive Secretary-Treasurer.

## American Honey Show Making Plans

Although the 1982 American Beekeeping Federation Honey Show is many months away, ABF publicity chairman Troy Fore tells us Honey Show Chairman Jim Wheeler, ABF-Savannah 1982, PO BOX 1982, Jesup, GA 31545 would like you to be aware of this coming annual event.

The 1982 ABF Convention will be in Savannah, Georgia January 19-22, 1982.

## POSTAGE INCREASE

*Gleanings* regrets having to make the recent increase in the foreign postage rates, especially to our Canadian friends and subscribers. Our second class foreign magazine rate more than doubled recently and increases of this magnitude simply cannot be absorbed by *Gleanings*. The US postage on first class letters mailed either to the US, Canada or Mexico are the same. Letters with first class postage mailed to the US from Canada are the same as are domestic Canadian rates, as one reader pointed out, but our *Gleanings* bulk rate from the US to Canada is another matter.

## POLICY ON ARTICLES

Readers sometimes express interest in submitting articles for possi-

(Continued on page 279)



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*By Joe Moffett*



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# Siftings

By CHARLES MRAZ  
Box 127  
Middlebury, VT 05753

*"Whenever a new pest becomes established in anything, it will usually cause much damage and destruction."*

IT IS ALWAYS interesting to read Roger Morse's experience in research with bees and beekeeping. In addition to a good scientific background, Roger is also a good practical beekeeper and knows beekeeping first hand. It is a handicap for a scientist to not have practical experience as it helps greatly to put their knowledge to more practical use. I am specially interested in Roger's report from Brazil on the Varroa mite. I recently received a letter from a friend in Germany that is working with the Varroa mite in that country.

Whenever a new pest becomes established in anything, it will usually cause much damage and destruction. It is interesting, for example that the Asian bee does not have much of a problem with the varroa mite and seems to "live with it" very well. It would be interesting to know how the Asian bees can resist the invasion of the mite.

Roger mentions this of a beekeeper he visited two years ago, and two years later the infestation did not seem to be any worse. Apparently this beekeeper did not lose too many colonies. My friend in Germany also told about inspecting apiaries; in some hives there would be perhaps only 100 mites or so and other hives in the same apiary would have thousands of them. He also mentions that when he removed drone larvae from cells just before they were sealed, he found mature mites in the bottom of the cells that had "drowned" in the food for the drones. These dead mites cannot be seen after the drone hatches, as they are covered with the cocoon the larvae spins. The cocoon is almost the same color as the mites making them nearly invisible. Was this drowning of the mites intentional or accidental? An interesting question.

One method of control being tried in Germany is to feed the bees a miticide when there is no brood in the

hives. The bees lick up this material and it gets into their "blood", but doesn't kill the bees. When the mites "suck the blood" of these bees, it kills the mites, and if there is no brood for the mites to perpetuate, it is possible to eliminate them. It is not certain yet if the kill is 100%. It may be possible a few "tough mites" might be immune and live to perpetuate the immune strain. So it is going to be quite an interesting running battle with these varmints. After

**"It would be very interesting to know how the Asian bees can resist the invasion of the mite."**

all, beekeeping seems to be a perpetual battle.

Page 114 is another example of our battles, with insecticides. Demethoate, a systemic insecticide not only can poison the bees by contact, but it will also poison the nectar in the blossoms and kill bees. The insecticide industry never seems to run out of ideas how to destroy our bees. What many of us seem to overlook, is that it is only the beginning; as they are destroying the bees, so are they destroying us. Systemic poisons may be just as deadly to animals and humans as they are to bees. Perhaps more so.

Just because we don't drop dead on contact, does not mean it is harmless. Even in parts per billion many of these chemicals can and do cause birth defects and malignant disease over a period of time. And there is not "safe" limit. Even just a few molecules, theoretically, can start growth of malignant cells that may take 10 to 20 years to develop. But develop it does! We all do not die of cancer, because something like heart disease kills us first. And who is to say but that it may not also be responsible to some degree for heart

and vascular diseases, just like smoking is.

Page 138 is an article, "Can Beekeepers Live With Pesticides?" The authors say they can. All I can say is, "Why should beekeepers or anyone else have to live with pesticides? These pesticides are far more dangerous to us than the bees. There is no question but that every pest on crops can be controlled by non-toxic biological methods of many kinds, with our present knowledge. The questions is, "Why are not pests controlled with these alternate methods, if it is possible?" The answer is simple, and a very good reason if you are in the insecticide business; there is no money in it. The insecticide industry cannot stay in business if there is not money in it. So, obviously, only pest controls that make the most money and are not self eliminating are being promoted.

You will hear the remarks that biological controls are not effective and all that nonsense. They are effective. In fact, they are too effective; after they do their job it is not necessary to use them anymore, or at a much reduced rate. We cannot expect the insecticide industry to promote pest controls that will reduce the need of these controlling agents and reduce sales. The main objective of the industry is to INCREASE the use of pest control agents, not reduce them. Toxic insecticides are made for this type of control: the more you use, the more you need, stronger and stronger and more expensive insecticides as time goes on. After these insecticides become ineffective, the bugs may still be here; fatter, stronger and healthier than ever. Toxic insecticides have never eliminated even one pest. By killing off beneficial parasites and predators, it greatly increases the pest problems. And so it goes, a real rat race in which we are the sure losers.

*(Continued on page 277)*



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# Free Bees

*"Do you know of a bee colony in a tree or of one in the side of a building?"*

By DEWEY M. CARON  
Department of Entomology  
University of Maryland

**BEEES CAN BE FREE!** It is possible and practical to start a new bee colony without spending a lot of money. You can capture a swarm, transfer bees from a bee tree (or side of a building) or divide an existing colony. You will not require special equipment or knowledge. And you do it without paying for the bees.

A bee colony consists of one queen and a large population of worker bees. The workers care for their queen, build the beeswax comb and then collect nectar to store as honey in the comb cells. To comply with state law, the bees must be housed in a box with movable combs. As the beekeeper, your colony management involves population manipulation. Size of population is important in starting a bee colony.

As a home for the bee colony, you can purchase or make a bee hive. National bee supply firms have free catalogues and there are local bee supply dealers in all fifty states. Unless the basics of a hive are well understood, it is unwise to build your own bee hive. You can also buy a queen and 2, 3 or 5 lbs. of worker bees from over 200 package bee suppliers. Obtaining free bees is where you can also reduce your costs.

## Capture a Swarm of Bees

Honeybee colonies swarm to reproduce the colony unit. A bee swarm contains a queen, thousands of worker bees and usually some drones. A swarm is temporary and the cluster of bees will not remain long. Scout bees from the swarm search for a new homesite and the temporary cluster site. Since the workers take extra food reserves with them before leaving the original homesite, a bee swarm is usually very gentle. If you find out about a swarm you can intervene and obtain free bees. To capture a swarm you need to get the queen into your capture contraption — the bees will follow their queen. Bees prefer bee smell so if you have a hive that has had bees or some beeswax comb to place inside the capture box, the job will be much simpler. Using an empty hive is the



**An empty hive in place ready to capture a swarm. If the queen stays in the hive when the swarm is dumped or brushed into it you have free bees.**

easiest method of capturing swarms. Place the hive. If the swarm is clustered well above the ground, you might shake the bees into a bucket and then lower the collecting bucket and dump the bees into a waiting hive on the ground.

You should avoid swarms that have been clustered at one spot for 3 or more days. The bees in such swarms may be low on food stores and they could be aggressive. How are you going to find out where swarms are located? Let others find out for you! Police, firemen, extension agents and public agencies get telephone calls from homeowners and citizens who see or have swarms on their property. Leave your name and telephone number with these people and you will surely get a call to come capture a swarm in May or June.

## Transfer a Bee Colony

Do you know of a bee colony in a tree or of one in the side of a

building? With the expenditure of a little time you might be able to transfer the bees into a hive. The techniques are not as simple as capturing a swarm but you may realize free bees for your time.

If the bees are in a tree that can be cut, you should secure the portion that has the bee nest. Place this at the location where you want to keep your bees; your apiary site. Secure a bee hive on top of the tree, close all entrances to the bee tree and force the bees to exit and enter through the hive at top. Because bees normally expand upward, the colony will move into the hive as they rear brood and need expansion room. By late spring, the queen and most of the bees should be in the top hive. You can now remove the bee tree and place the hive with your active colony on a normal bottom board.

Some bee trees can't be removed nor can bees in the side of a building.



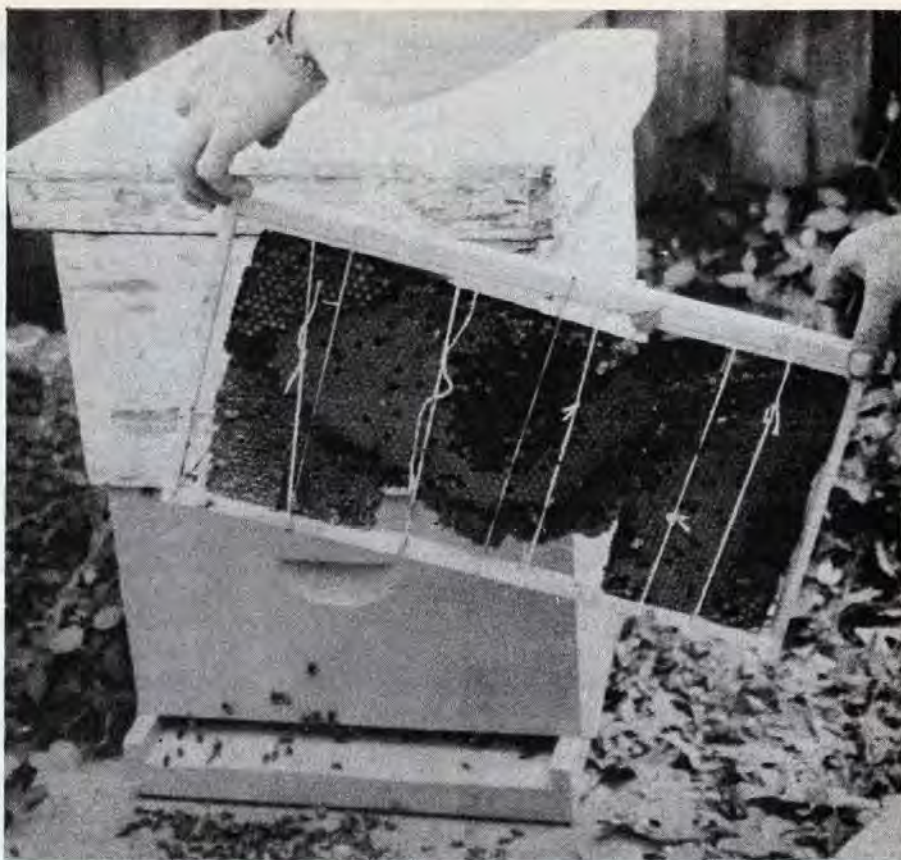
It may be possible to expose the bee nest by removing part of the tree or a part of the siding from the building. Attempt removal on cooler days and with proper protection from stings (a bee smoker, veil, gloves, and coveralls). Carefully remove the comb and brush the bees into your hive. Next place the comb into empty frames securing the pieces by string or rubber bands. You want to transfer as much brood as possible and some honey (put the rest of the honey in a bucket for your harvest). Attempt to get all the comb (except the honey you take) and as many of the bees as possible into the hive. When finished, carefully move the hive to your apiary site. Although the transfer may be messy, you again have free bees.

Another method of transfer involves trapping worker bees outside their nest and offering them a hive to adopt. This may be a means of obtaining a colony when it isn't possible to expose a nest. Start by closing all entrances, except a single remaining entrance over which you should construct a cone of window screening. This cone should be wide at the base and extend 6-8 inches outward tapering to a  $\frac{3}{8}$  inch opening. Place an empty hive on a temporary scaffold or platform near the cone opening. As worker bees leave their nest to go to flowers, they fail to learn how to get back inside the  $\frac{3}{8}$  inch opening and will drift to the empty hive. If you add beeswax comb or use a hive with bee smell, the worker bees will adopt the new home more rapidly. After 2 or 3 days of good weather, thousands of bees will be in hive. Now you must give them a queen or a frame of brood from another colony to rear a queen. Leave the bait hive and screen cone in place for 2-3 months. You should now have a strong active hive ready to move to your apiary site.

#### Bait Hives

Most large beekeepers stack unused equipment in the apiary and every season swarms move into such equipment. If you have extra equipment you might leave an empty hive in a sunny dry area and perhaps scout bees from a swarm will discover it and a swarm will move in.

A more reliable method of getting free bees is to construct bait hives. A bait hive should ideally be 10 feet or more above the ground and highly visible (on a dead tree or pole). The entrance should be  $1\frac{1}{4}$  inches, near the base of the box, facing southward and should have a nail or wire across the opening to keep birds out. The box should be about 1.4 cubic feet or approximately the size of a standard bee box.



Pieces of beeswax comb from a "wild" nest tied into a standard wooden frame. Bees will be brushed into the hive along with these combs to start a free colony.

If a swarm occupies a bait hive it must be transferred to a standard hive (a hive without movable frames is illegal) before the bees get completely settled. If the bees have become established, place the bait box beneath a hive and allow the colony to expand upward into the hive. Rapid transfer can be accomplished by flipping the bait box over and

**"Unless the basics of a hive are well understood, it is unwise to build you own bee hive."**

drumming on its side. Drumming is a regular beating on the side of the flipped box. The bees and queen will abandon their comb and walk upward into your bee hive. When all the bees are in the hive, place a queen excluder between bait box and hive to allow all the brood to emerge. Remove the emptied box after 3 weeks.

#### Divide a Bee Colony

If you already own a bee colony or know a friend with one, you can divide that bee colony one or more times. In fact, during the spring months, dividing a colony can be used as an

effective management technique in that it helps avoid swarming and therefore insures a honey harvest. Dividing a strong colony is good beekeeping because you split a colony at your own convenience and the divide will have a good chance of surviving.

It is best to divide colonies in the spring. You can build up the population in over-wintered colonies by feeding them sugar water or dilute honey. Most colonies build up naturally but feeding sugar water will help insure that they become strong enough to divide. A good method of dividing is to remove 3 to 5 frames with adhering adult bees and place these in a new hive at a new location. A queen can be purchased to place in the new hive (cost about \$5.00) or the bees can raise a new queen from eggs you include in your brood transfer. It is necessary to manage the divide through the first season to help insure that it stores enough honey to make it through its first winter. You may have to feed sugar syrup to the new colony both right after you divide and again in the fall.

#### Save on Hive Costs

Most states require that bees be

*(Continued on page 275)*



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# The Old Timer Recalls A Strange Incident...

*"...I found I was in a shed of the lean-to style (about ten to fifteen feet) made of cedar slabs."*

This old world is full of unexplainables, and most times it's downright fascinating when presented with such a phenomenon to try guessing its true circumstance. A handful of paper scraps (wilderness jottings) extracted haphazardly from an over-full carton produced several such riddles of which the following stands out rather vividly with me and my family.

SUMMER 1951 — about an hour after daybreak. A mountain opposite the one on which I had just deposited my small apiary (24 colonies) intrigued me so much that I couldn't seem to take my eyes off it. Sitting before my breakfast fire with porridge and tea, my hypnotized gaze feasted on those verdant slopes capped by pearly snow fields. It was one of those unique (at least hereabouts) mountains containing softly rounded foothills ascending gently for a mile or more to its base. All through the day as I readied my summer camp and puttered around the colonies, my head would turn often as though drawn by a magnet to that lush green mantle and my heart soared at the prospect of the morrow when I should spend a full day there exploring. So it came to pass that dawn had just tinged some of the higher eastern facing peaks down range and was slowly creeping valleywards, when I crossed the road which had brought me and my little charges to this district. I lost no time, for I found I could stride right along on the flat, slab like rock formations which were arranged in gigantic steps and led one gradually up through park-like copses. All along the way grew an amazing variety of berries, attracting birds and animals of all kinds. At one point I stopped and looked back at my blue painted hives shaded by tall conifers and at the slopes of purple fireweed which abounded there. Reaching the mountain proper my way now of course becomes much steeper and incidentally I encounter denser vegetation. The absence of impediments, e.g., boulders, logs, sink holes, etc., enables me to saunter along without the usual time-consuming detours.

Enjoying myself immensely on such a warm, still morning — air

redolent of pine — it suddenly and quite shockingly dawned on me that I was walking on an overgrown path that had been modified by human hands, for quite obviously the rocks and boulders on each side of me at this point, had been rolled and tossed there to clear the way. It was while I stood there mulling over this surprising turn of events that I perceived the unmistakable outline of a moss covered tree stump which had been SAWN a few inches above the ground. Now I was really on tenter hooks, not knowing exactly what to expect further on. Clearly the "road" had not been used for many years. So, paying more attention underfoot now so as not to stray I continued and had traversed about another hundred yards when head down, almost ran slap-dash into a small building. Surprised and excited I rounded a corner to my right in search of an entrance and discovered an opening — the door, leather hinges and wooden latch lay weed grown beneath my feet as I was about to enter. Cobwebs fastened the windowless interior and I experienced the same feeling one gets when entering a sacred place, especially a church. Examining my surroundings I found I was in a shed of the lean-to style about ten by fifteen feet, very soundly made of cedar slabs. By this last I mean that a tree about a foot diameter was simply split down the center then each of the half logs placed vertically in the wall round side out with its bottom set into the ground and its top, wooden pegged to a cross member. An idyllic abode full of memories, my heart soared at its ancient smells and lonely tranquility. To find such a treasure way out here in the truly "Back of Beyond", is surely evidence of man's indomitable spirit and fortitude — restores one's faith in humanity. Sheer ecstasy prompts me to sit down, back to the hay manger, legs stretched out on the dirt floor and I notice in only two insignificant places where there is evidence of leaks in the birch bark roof. From ancient mildewed droppings I deduced that at least one horse and goat had occupied the stable — and for a number of years — as ascertained later by the fact that a grassy mound nearby proved to be manure pile,

which must have been quite substantial at one time. I estimated the building to be at least sixty years old and wondered what had prompted this kindred fellow creature to journey so far from civilization and settle, when even today it's surrounded by thousands of square miles of awesome wilderness. Infatuated no end by now and oblivious to anything else, I stepped out into dappled sunlight and began my search in ever widening circles, fully expecting to find a cabin close by — but at days end and after what I considered a very thorough search, no other dwelling or evidence of any, had I found. I even poked and pried into the messy forest floor in likely places, and especially a level area where raspberries grew in abundance in relatively straight lines — not as nature does it. Now this was puzzling and a very confused old timer pensively made his way over to the stable to view and touch my remarkable discovery — rather as one would "pinch himself to see if it was all a dream", — it was NOT so with a smile of delicious frustration, made for "home".

I didn't dally over supper, just a jar of my wife's good stew, a pail full of berries, tea, then grabbing a blanket hurried back — arriving just at dark. A warm night settled around me as I lay down in the little stable with its enchanting atmosphere and quite sleepless, my high strung run-away imagination whirled in ecstatic speculation. Presently, a huge white moon floated serenely from behind a peak, flooding the land in illusive brilliance and adding still further to the aura of mystery surrounding my discovery. Hopelessly lost in the past, my kaleidoscope of thoughts drift back to the past — my boyhood and beyond. In an age of iron men the builder of this shelter in which I now owe life but also those of his animals. His strength and wisdom literally permeates this little building, surrounding woods and mountains — invading even my very senses. It's a privilege to be here. No winds astir, but aspen and poplar leaves nearby whisper softly as morning approaches — I finally doze off.

To make a long story short — two



days later and a little further up the valley, I came across a number of home made honeybee supers (no frames) in the lee of a huge rock outcropping. They were scattered over a wide area and unwittingly, I stepped on several broken shards before my astonished gaze fell on one nearly whole super astride a four inch thick plank bottom board. It was though a cyclone had struck the little apiary, for bears and other animals had through time completed the work of destruction — teeth and claw marks decorated almost every board. As near as I could ascertain when I had gathered most of the bits and pieces, there had been 27 square supers made of rough planks about 2" thick, hewed from fir legs. Six bottom boards about 4" thick and the remains of huge cedar shakes which I took to be covers. To the west of this find as I returned by another route I came across a number of poles on skids and four piles (about seven cords) stove wood. Two of the latter had fallen or been knocked over. There were a goodly number of stumps scattered throughout the surrounding weeds. Now although I went over the area with a fine tooth comb, as might be expected — during the rest of my summer sojourn, I uncovered only one more intriguing part to the riddle. A hay-stack site enclosed by a heavy log moose fence. The

### "...it suddenly and quite shockingly dawned on me..."

same story when my excited family returned with me that same autumn for a weeks 'outing' while a neighbour did chores. The missing cabin and the lack of — well, just simply more evidence — intrigued us so, that in the late autumn of '54 I journeyed back alone on a whim that certain area which we had deemed unlikely — might prove otherwise. It did not. After a full day prowling around a rather forbidding landscape amid snow squalls, returned to a lonely campfire on the site of my earlier apiary (1951). No snow down here yet — but the heights — fast disappearing in the evening gloom, are heavily sprinkled. I sense rather than see the massive, vibrant bulks of the Coast Range surrounding me. Flat rocks — used to level hives, bring memories. These two for example, there by the scrawny, leafless bush supported the colony which provided me with a comb shortly after arriving — squeezing the warm, fragrant liquid into a gallon jar for porridge and tea. The new fire flickers and flashes in the faint night wind and I pull my wool tunique lower — buttoning my parka. Its getting colder, I think abstractly —

really nippy tonight. I'll have a red nose tomorrow. Day-dreaming, my mind skitters way, way back to the era of the old mountain man of whose domain I am trespassing. He lived a dream and has passed it on to me and my family. Wisdom is more precious to me than gold (money isn't everything) and we have absorbed a ton of it from folks like him. I'm convinced he wanted no part of this rotten world with its phony civilization so he made one of his own, living life to its fullest — and as far as I'm concerned — that can only be achieved in the wilderness. A man after my own heart in that he held only God in awe — for a man does not live long in the wilds without sensing Creation. One is never alone in the wilderness — furthermore, there is no happier place: A 'fat' pine knot sputters white-ly sending shadows dancing and whirring wings aloft announce the presence of ducks as they scale hurriedly in from the north searching the small pond below. Drawing a deep breath I rouse from my reverie and pour more tea from the steaming pail

— then on an impulse raising my cup aloft extolling aloud "here's to you sir, the likes of whom will not be seen again, more's the pity. Wherever you are in the next world — I'm sure you're doing just fine. All the best —and THANKS."

## Varroa Update

By GERHARD GUTH  
Manchester, NH

ARTICLES FROM THE German Bee Magazines *Die Biene* and *ADIZ* and a personal talk with a German beekeeper shed some more light on Varroa infections. Varroa in West Germany has spread to more locations, mostly through illegal migration. Migration had been outlawed in the affected areas. On the other hand some of the infections have been cleaned up through destruction of bees and hives. In at least several states of West Germany it is the law to have what they call "diapers" in the hives for diagnosis and inspection. The diapers can be made in different ways. One way is to make a frame that fits into the bottom board, with a heavy paper stapled to the bottom and a 3 millimeter nylon mesh stapled to the top. The frame has to be recessed in the front to allow the bees to enter and exit. The idea is to trap any dead mites that fall off the bees or the frames, through the mesh, so that the bees can't remove them. With some of the old fashioned hives

there is almost no way to insert the diapers.

After trying formic acid for the treatment of Varroa in 1979, West Germany is having large-scale field tests this fall with an acaricide called K-79, made by Farbwerke Hoechst. K-79 does not have general approval yet. They are actually feeding this acaricide in a solution to the bees, and the mites take up the acaricide through the hemolymph and die.

To make it work the bees have to be treated during the broodless period, which in Germany is between Sept. 15 and Nov. 15. The beekeeper is obligated to see that there is not brood in the hive, through removing the brood and/or caging the queen. That way there should be no infected brood present during the treatment. The only mites present will have to be on live bees. They expect excellent results from K-79. They have had small scale tests in 1979.

The average beekeeper has different ideas about Varroa than the scientists. He says that inspection (which is a polite word for killing the bees and destroying the hive) has killed hundreds of colonies in Germany, but Varroa itself has not killed a hive in Germany yet. This is true at face value, as it takes Varroa several years to kill a hive, and Varroa hasn't been in West Germany that long. The beekeeper says that they will probably be able to live with it, but that it will mean another added treatment. □

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# Strictly Backlot

"Rule number six is even easier to forget...."

By CARL CALLENBACH  
135 College Avenue  
Elizabethtown, PA 17022

IT IS LATE March and the snowgeese pass overhead twice daily — on their return flight to the Susquehanna River. Too early to garden seriously, too early for any reasonable inspection of the backlot hives, but I fear that the 1980 summer and fall drought and harsh December cold may have left me two or three hives poorer.

Time to hide my impatience in books and magazines: January/February (No. 67) *The Mother Earth News* contains an article called **Beekeeping Basics** (*Gleanings*). Lawrence Goltz, the *TMEN* editors note, helped gather much of the information in the article; there's also a quote from Richard Taylor's *The Joys of Beekeeping*, my favorite bee book) and a half page or so of the article focuses on people's — potential backlotters — fear of bees. "Getting stung" is discussed briefly and then preventive measures are listed (page 79). Rule number one, for instance, suggests that the backlotter "Eliminate any 'crawling' spaces between your garments and skin by tucking your pants legs into your socks and, possibly, wrapping rubber bands around your shirt sleeves." Number six: "Try to make all your movements calm, evenly paced, and efficiently purposeful." The authors note that "such poise may not come naturally at first. Keep trying, and your skills and demeanor will soon improve."

I would like to illustrate how suggestions one and six are related and, perhaps, along the way, tell how I've arrived at a kind of rational relationship with honeybees which do, after all, sting.

Two or three years ago, sometime in May, a friend called and told me there was a good-sized swarm hanging in a sassafras tree beside his driveway and "Are you interested?" I was. My daughter wasn't doing anything, so I invited her to come along and help me — with the understanding that she'd pack a couple of sandwiches and fill up my Mickey Mouse thermos with lemonade. While she was hunting up the sliced baked ham and rye bread, I got my bee equipment and a spare hive body with drawn foundation

loaded into the back of the truck. With daughter and lunch I headed out into the country.

We found the swarm hanging maybe sixteen feet off the ground, and it looked easy. I drove the truck underneath the cluster, got my gear on, grabbed smoker and hive parts and climbed onto the cap, ready to go. I reached up and tossed a piece of rope over the limb and after placing the readied hive beneath the swarm, yanked the rope vigorously. The mass of bees landed on the hive, mostly, many spilling over the edges to the top of the hive, mostly, many spilling over the edges to the top of the truck where they began crawling, almost instantly and wonderously, toward the hive entrance where, just as suddenly, bees were arched and fanning. I understand, a welcome aroma to their fellow bees.

Except for those bees, and I didn't have time to contemplate the number, which were crawling up my bare legs. I'd forgotten to tuck my pants inside my socks. So much for rule number one.

Rule number six is even easier to forget, under those circumstances. A year or so ago a *Gleanings* reader queried me, and I paraphrase: which did I think funnier, a bee in her husband's trousers or a bee inside her veil? I believe I took a sexist stance. I suggest that either, if you're a neophyte backlotter, would, to paraphrase Robert Frost's poem, suffice. The point I wish to make here is that if these circumstances had occurred several years earlier, I'm sure I'd have given in to a very primal instinct to scream and dance mightily atop the truck. Indeed, poise and purposeful demeanor would have been lost in my wild shuffle!

I'd be a liar if I denied any need to howl and prance in this instance, but I choked it back and calmly smoked the bees away from my sneakers, gently tugged at my pants legs to release pressure from the bees now approaching my knees, and gingerly climbed down from the truck, cap to cab roof, to fender, to ground. Whereupon I lay down very gently on the driveway, on my back, and extend-

---

"I'd be a liar if I denied any need to howl and prance in this instance, but I choked it back..."

---

ed my legs to the sky. Four bees and probably more — it's difficult to count in that position — flew out my pants legs. My daughter, who was witnessing the debacle from beside the house, told me later that she hadn't seen any bees leaving my feet. She was wondering what I was doing lying on the driveway with my feet in the air; she'd never helped me hive a swarm before. Was this, she thought to herself, some ancient ritual backlotters performed after hiving a swarm?

Still on my back I felt little or no bee movement inside my pants, so I stood up and pressed the jean material against my legs. One bee had failed to avail itself of the opportunity to escape and paid dearly. As did my kneecap. Altogether I took five or six stings.

"Is this how it usually goes, Dad?" my daughter asked as I dabbed meat tenderizer paste on my knee. "How did you stay so calm?" Her voice was not filled with admiration, rather, incredulousness!

"No, this wasn't your classic hiving," I answered with a chuckle. A sense of humor helps with honeybees and teenage daughters. We sat then and ate our sandwiches and drank lemonade and watched my kneecap puff.

What has happened over seven years or so to my fears of "getting stung", to my "relationship" with bees? I suspect I have passed into what I label a rational backlot respect for honeybees. What exactly have I passed through? Picture a pendulum which dips into fear of the innocent-paranoid variety — on one end of the swing — and a blustery, stupid, fearlessness on the other end. I've approached both places since I've been a backlotter.

The former: Because I take my observation hive each fall and spring into a nearby first-grade classroom, it's possible for me to relive vicariously some of the egocentric symptoms I manifested in my early beekeeping. In the fall first graders are full of horror

(Continued on page 273)



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# Infant Botulism:

*"This toxin is the most poisonous substance known. The disease is currently 25% fatal."*

C. CARR, MD.  
Wabasha, MN

THE FOLLOWING article is in response to the *Siftings* article (February 1981, Page 95) which contains some inaccuracies in my estimation with regard to recommendation on honey consumption in infants and treatment of infant botulism. First, however, some background information is necessary.

Botulism is a disease caused by a chemical toxic to nerves which is produced by an organism, *Clostridium botulinum*. The disease is produced as follows:

The spores (or "seeds") of the organism are everywhere and commonly contaminate many foods, fruits, and vegetables including honey, but the spores themselves do not produce botulism. In an environment without oxygen such as in certain canned goods or in meat, these spores can turn into mature organisms and produce the toxin which can then be eaten by humans, causing the disease. It is important to note the distinction that botulism is caused by the TOXIN, not by the actual infection.

This toxin is the most poisonous substance known. In adults it causes progressive paralysis of muscles with inability to swallow, breathe, and carry on normal functions. The disease is currently approximately 25% fatal.

Although it is rare, once in a while these spores develop in a particularly bad cut or puncture wound to produce the mature organism which can then produce the toxin causing the disease.

Thus you need three conditions to produce the disease: 1. *Clostridium botulinum* spores; 2. proper environment without oxygen; and 3. someone to consume the toxin.

It is of no great surprise that honey contains the spores for *Clostridium botulinum*. However, honey has NOT been proven to provide the proper environment for the development of the mature organism. Thus, honey has not been proven to cause any cases of botulism. One could hypothesize,

however, that a very susceptible individual such as a small baby could ingest the spores, become infected, have the toxin produce in his body, and develop botulism. This is possible but I estimate very unlikely.

The original controversy concerning honey's role in botulism developed as follows. Investigators were trying to solve the problems of a disease called Infant Death Syndrome or "crib death". This is a syndrome in which previously healthy infants are put to bed only to be found dead when their parents return. The cause is unknown. An astute observer noted botulism spores in honey and noted that some of the infants who died of Sudden Infant Death Syndrome had honey in their diets. Of course they certainly shared other foods but when children's lives are at stake we pursue any possible cause. It should be emphasized that honey has not been proven to cause infant botulism or Sudden Infant Death Syndrome.

The very important point to be made here is that it is doubtful if honey or botulism will be found to be the cause of Sudden Infant Death Syndrome; but in the meantime, we should recommend that babies and small children avoid honey. We cannot stick our heads in the sand and reason that because our forefathers gave infants honey that it is not the cause of Sudden Infant Death Syndrome. A lot of children have also died in the past. If the unlikely were to occur and honey were a factor in infant botulism or Sudden Infant Death Syndrome and we were not taking the most prudent and conservative stand, our creditability as an industry would be destroyed. Sales would plummet. Thus we must be united on this recommendation.

More specifically now in reference to Mr. Mraz's article: Honey is unnecessary in infants' diets. Mother's milk is by far the best diet. The primary reasons for inability to nurse children are lack of desire and anxiety over whether the child is getting enough milk. This anxiety can diminish milk production and can create a problem when there might

not have been one in the first place. Physical limitations do occur but they are relatively infrequent, and of course, Mrs. DiGiovanni would not let a baby starve for lack of mother's milk. Modern formulas are by themselves adequate when properly used.

I must ask Mr. Mraz for proof of his statement that honey and goat's milk are "vastly superior" to commercial formulas. This was possibly true in the remote past. I do not wish to imply that honey-goat's milk is not an adequate formula for some children (each is a fine product), I just lack any scientific evidence supporting it. It would at first glance seem to be unwise to provide a significant percentage of calories as "sugar" calories when foods higher in protein and vitamins could be used. This is in addition to the problem of dental cavities with a high sugar diet.

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**"...Sales would plummet...we MUST be united..."**

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In reference to our "super pasteurized" milk: How soon we forget the health hazards of years gone by which were eliminated by processing milk. The natural product IS preferable if it's in a state that it does not cause disease, but producing raw milk for 200 million people would likely be a health calamity.

In reference to honey-raw milk curing botulism poisoning better than antibiotics, without proof I can only conclude that this is an unfounded, possibly dangerous statement. Antibiotics themselves play a very small role in botulism therapy as the real treatment is elimination of the toxin and its paralysis. The bacteria usually never infect the patient in the first place. I would find it highly unlikely that honey-raw milk would have any effect whatsoever on the organism producing the toxin.

It should also be pointed out that honey's antibiotic properties depend primarily on concentration and much

(Continued on page 267)



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## Acarine Mites in Mexico — What Does it Mean?

THE MEXICAN GOVERNMENT has confirmed that acarine mites, *Acarapis woodi*, have been found infesting honeybees in that country. The identification has been checked here in the United States. As a result, Canada has ceased permitting the importation of bees from Mexico.

I discussed the extent of the infestation with Professor Antonio Zozaya of Mexico at the recent meeting of the American Beekeeping Federation in Seattle, Washington. On the west coast of Mexico the contiguous states of Nayarit, Jalisco, and Michoacan are infested. On the east coast the mite is found in the adjoining states of Veracruz, San Luis Potosi and Tamaulipas. The heaviest infestation in Mexico is in San Luis Potosi. Tamaulipas borders Texas from about Laredo to Brownsville but the infestation in Tamaulipas is over 200 miles south of the U.S. border. Various methods of controlling the problem are under investigation in Mexico. Professor Zozaya indicated that no one has yet noted any adverse affect on honey production.

James Smith, commercial beekeeper from Yuma, Arizona, told me that bees only 200 miles south of him are infested. He also said there was no real barrier that would prevent their moving into his area. No one knows how soon that might be and much depends on the migratory beekeepers in Mexico.

The acarine mite was first found in England in 1921. The problem it caused was dubbed "Isle of Wight Disease". Some authorities have estimated that between 1900 and 1920 nearly 80 per cent of the colonies in that country were lost; however, that figure has been a hotly debated subject and many feel the losses were much less extensive. Others have said the losses were primarily due to nosema disease and, perhaps, dysentery, complicated by poor weather and the mite infestation.

### Distribution

Within a short time after the problem was identified in England, the mites were also discovered in Germany, France and Switzerland. However it was not until many years later that they were found in Spain, Portugal or Italy. Even today they are not present in the Scandinavian countries, as far as we know. In 1957, the mites were found in India; they were reported from Argentina in 1974

# Research Review

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



and Columbia and Mexico in 1980. The only major honey exporting country infested is Argentina, which contributes a great deal of high quality honey to the international market. Australia, New Zealand, Canada and the United States remain uninfested. All of these countries enacted strong legislation to prohibit the importation of bees soon after the mites were found in Europe. The U.S. did so in 1923.

with one leg, from which vantage point they may attach to the hair of a passing bee, which is in turn infested. Only young bees may become infested, though why this is so is not clear. It may be that the hairs that cover the entrance to the air tubes harden with age and prevent mite entry. Mite infestations are at a maximum in the spring when there are many older bees and fewer younger ones in the hive.

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*"Acarine mites live and breed in the large breathing tubes..."*

---

I have discussed the problem with Professor Moises Katzenelson from Argentina. He tells me the beekeepers in his country do not consider the mite a major problem, nor does it appear to affect honey production. Katzenelson thinks of it as a stress disease, something like nosema and chalk brood. The best protection is strong colonies. However, it is clear it is another problem we in the U.S. could do without.

### Life History

Acarine mites live and breed in the large breathing tubes in the fore part of a bee's thorax; technically these are known as the prothoracic tracheae. We presume these are the ducts that supply oxygen to the flight muscles. Mites may also be found in air sacs in the thorax and abdomen. The mites live on the bees' blood, which they suck after penetrating the breathing tubes or air sacs with their mouthparts. As a result of mite feeding the blood of infested bees has a higher than normal bacterial count. One may find all stages of the mite — eggs, nymphs and adults — in older bees. It is interesting the mites are sometimes found in the breathing tubes on both sides of the thorax, and sometimes on just one side.

Mature, adult mites leave the breathing tubes and climb to the tip of a body hair. They grasp the hair

There is general agreement among researchers that acarine mites may cut several days from an older honeybee's life because they block the breathing tubes. However, whether or not older foraging bees are slowed or otherwise affected is debatable. Most people agree that when the infestation is light, or in its early stages, the bees behave as if not adversely affected.

### Control

There is a great deal of controversy among researchers and beekeepers over the best method of controlling the mites. This leads me to believe that none of the methods is good. The favorite method has been to fumigate the bees, when they are locked in the hive, with a chemical that is presumably strong enough to kill the mites but not the bees. It doesn't sound to me like the kind of treatment I would like to use, or that I would suspect is very effective. The favorite chemical has been chlorobenzilate, sold under the trade name Folbex.

### Related Mites

There are three species of mites closely related to *Acarapis woodi* that live externally on honeybees. These mites also feed on the bees' blood, but by puncturing the exoskeletons. No one has ever said that these exter-

*(Continued on page 265)*



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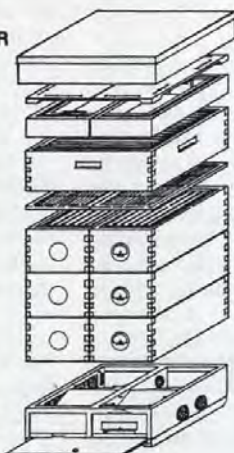
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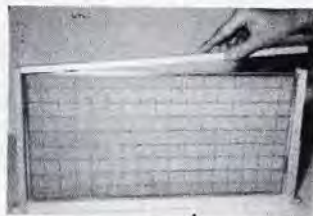


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## Honey — Syrup Distributors Indicted

LEGAL ACTION has been initiated by the Human Resources Department against honey and syrup products sold by six distributors in Kentucky because the products are misbranded, a department spokesman said today.

Analysis by the department's food control branch has revealed that honey labeled with the names of four Kentucky distributors and one Mississippi distributor was misbranded because the products contained from 65 percent to 85 percent added cane or corn sugars, according to John Draper, food control, branch manager.

The Kentucky Food, Drug and Cosmetic Act prohibits the receipt in commerce or the offering for sale of misbranded and adulterated food. The act also authorizes the department to detain or quarantine any such food.

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# Convention Review

*Lois Moore takes us all to the American Honey Producers' Convention.*

By LOIS MOORE  
Marysville, OH

On Saturday, January 10th, interested beekeepers started to gather at Las Vegas, Nevada, to attend two important meetings of the year, the Apiary Inspectors of America and the American Honey Producers Conventions.

Meetings started at 6 p.m. Sunday with the Inspectors' get acquainted hour. For the next two days, distinguished men of the industry brought forth valuable information.

By Wednesday morning everyone had toured THE STRIP enjoying the sweater weather while painlessly losing their allotted and unallotted money to the crowded casinos. Many took in the beautiful historic areas of the Grand Canyon and Hoover Dam. Expensive live shows left longstanding impressions.

Jack Meyer, Jr., President of the Association, called the convention to order with prayer by Jerry Cole and the salute to the flag.

Floyd Hilbig, Nevada State Apiarist, welcomed the Association with the statement, "You the beekeepers are our boss, if it wasn't for you all we wouldn't have a job."

President Jack Meyers, Jr., gave the president's address pointing out the importance of working together to cure the ailments of the industry and thanking those who spent their own money on trips to Washington, DC to further the cause of beekeeping.

Dr. M.D. Levin, Acting Association Administrator, SEA, USDA, reported on the "Save the Bee" workshop, held the day before. He thanked the AHPA for the opportunity to explain the problems of the scientists of the seven labs and to hear the opinions of the beekeepers. He also explained how the federal money was divided between the seven labs.

Richard Adey, South Dakota, explained the effects of lobbying and the need for more pesticide and pollination research.

Tim Dadant, Dadant & Sons, Inc., spoke on the equipment needed for production and marketing honey on a small scale.

Dr. Allen Sylvester, Breeding and Genetic Stock Center, Baton Rouge, LA, told the beekeepers that a good queen equals good stock management.

Dr. W.T. Wilson, Director, Laramie Bee Lab, gave an update on pesticides and bee diseases. "Pesticides are necessary in modern agriculture BUT should be applied with increasing care." It may come to the colony rental fee being increased to cover care of the bees from pesticides. Research to detect pesticides in honey is being done. This will help detect low-level pesticide damage. Dr. Wilson noted sunflowers are becoming a major honey producing crop. PennCap M<sup>®</sup> plus sticker is proving a large reduction to the capsules being found in the pollen in the hive as found in the case of PennCap M<sup>®</sup>. Sevin XLR (with sticker) is preferred to sevin 80W on field corn. Sodium sulfathiazole has been removed from the market. Sulfadimethoxine, a new sulfa, shows promising results for AFB but is not approved for honeybees.

Dr. Wilson also reported on his visit to Mexico. Seventeen locations were checked for the acarine mite and nosema. No AFB or sac brood was found, some EFB and a lot of chalk brood was found, also no *Varroa Jacobsoni* mite was found. The acarine mite is bad if stock is susceptible. It doesn't show up in the summer but the hive will not winter over. It survives in England and Switzerland but not the Scandinavian countries. It was found on the eastern side of Mexico.

Dr. Eric Erickson, director, Madison Bee Lab., spoke on selecting apiary sites. The honeybee is a flexible creature, he said because it can withstand extreme heat and cold, therefore able to survive in many climates. It is important that the nectar plants grow as close to ideal conditions as possible to produce the best quality and quantity of honey. Good seed bearing plants make good nectar bearing plants. A soil map of the location can be very helpful. Clay soil may not be best soil — best may be mid-way between clay and sand for nectar. Moving a location a short

distance may bring forth a good honey crop.

Richard Adey, South Dakota, spoke on moving bees. Of his 24,000 colonies, some are wintered over, some are moved to warmer climate, and some are killed off because of high feed cost and replaced with packages in the spring. Bees are moved because of various reasons: Temperature, time of year and distance must be considered before moving takes place. For short distances, move bees early in the morning. Smoke lightly, load, move and unload before temperatures climb and bees become more active. For long distance moves, load early in the morning (sun up) and unload late at night. Use a bee net on truck, secured tightly. Unload in the morning. There will be drifting of bees between colonies if temperature is warm and sunny. Avoid unloading at night. Don't load and unload at night by yourself (bees crawl faster at night than they fly in the daytime). Always smoke lightly before loading. Be sure to have ventilation. Keep vehicle moving to ventilate the load. If going a long distance water bees several times a day. Never plug entrance of hive completely if there is a chance of suffocation.

Jim Smith, Yuma, AZ also commented on moving bees. Each year eight to ten thousand colonies are moved in and out of the desert. Most are handled on pallets holding 4-6 hives. "One electrifying phrase I learned in life was from my Dad, 'We have a little dab of bees to move,' which usually meant one or more truck loads. From this experience I learned you can take honey off at night and see better to move bees in the morning." We do not move bees, we work bees. I too found bees crawl at night. In the desert we use lots of water moving bees. They are watered when we start to prepare them for loading, before we load, and on the road if needed. The purpose is to keep the bees from leaving the field and get the bees in from the field and keep them there. The stress of moving a colony is mostly overcome by feed and moisture in the hive. We have found there is less balling of the queen if they are moved during the day. If the load is enroute on the 2nd



day the bees will become restless from 2:30 to 5:30 p.m., a good time to water them.

Hank Martin, Honey Market News, USDA reported that the HONEY MARKET NEWS purpose is to supply information on current prices, supplies and market condition throughout the US and foreign markets. Any beekeepers may obtain this monthly report on honey by requesting it from Agri. Marketing Service, 2503S. Agri. Bldg., Washington, DC 20250. Current honey prices may be acquired by calling 202-447-2599. The tape is updated every 24 hours. Weekly reports are updated and sent out at 10 am, Washington DC time, every Friday to field representatives.

Dr. Barbara Ross, Room 444, Laramie Bee Lab, commented on the budgetary limitation of bee pesticide research and the total outlook of the beekeeping industry as a research scientist. As slides were introduced, cost of testing equipment and manpower was presented. The cost analysis of the Pine Bluff study of PennCap M<sup>®</sup>, using four locations, 24 hives, 24 packages of bees, 12 dead bee traps, and 12 pollen traps, with no labor cost was \$8,118. Dr. Ross went on noting facts presented by others which stood out in her work. There are scarcely enough commercial hives (4.5 million) to pollinate US crops. Currently pesticides are killing 2% a year. Dr. Ross noted that without honeybees food prices would leap upward to the point where American families would be forced to spend greater than 40%, rather than the current 17%, of the income on food. Dr. Ross warned, "Don't let it be forgotten how beneficial economically the honeybee is to our American agriculture." Consideration for protection of the honeybee should be of top priority in integrated pest management. Even though most beekeepers are considered "Small Farmers," American agriculture can't survive without them. Beekeepers represent a strong and vital link in our agricultural chain. Beekeepers income depends primarily on honey production while their bees provide the essential service of pollination. Honeybees stressed with pesticide will not produce well and the farmer loses.

Dr. Basil Furgala, Dept. of Entomology, Univ. of Minnesota, reported on sunflower pollination and pest control. Dr. Furgala is "our man in Washington" for a six month trial of the new position named National Apiarist. In 1979, 5 million acres produced sunflowers, in 1980 5 million acres. Hybrid sunflowers are being

developed that have high oil content, short stalks for handling, a tolerance of pests and self fertility. Minnesota, North and South Dakota are the largest producers of sunflowers. Sunflowers are a three quarter billion crop, reports showing a marked increase in production with honeybee pollination. Two thousand pounds of seed yielding 50% produces 1,000 pounds of oil.

Phil Gray, Office of Pesticide Programs, Environmental Protection Agency, Washington, DC took questions on the pesticide regulations affecting honeybees and his department. Ten offices in the US conduct the business of the department; however, all decisions and actions must come from the head office in Washington. If samples of bees and pollen are sent to the lab, through the local office, for analysis of pesticide kill, and the report is not returned within a reasonable time report it to

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### "By Wednesday morning everyone had toured THE STRIP..."

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Phil Gray. For this service request Pest Protection Monitoring System (PPMS) forms. A reminder — EPA is a monitoring system.

Robert Longanecker, president of the Washington Beekeepers Assoc., spoke on lobbying by state associations. The state of Washington has 90 to 110 thousand colonies of honeybees. Thirty eight to 40 beekeepers migrate. The state's bee income is 4.5 million, 1.3 million from almond pollination; 1.6 million from fruit pollination; .5 million from seed pollination and 1.2 million from honey. There are fourteen local organizations. Pollination is very important to Washington State. Without the Federal Indemnity Program the pollination fees would be increased. Washington's special event was the ash of Mt. St. Helen. The first explosion drift took a path from center state to eastward. The ash damage was reported to and assessed at the state office. Bees were moved immediately. After 2nd explosion, moving was again required. The research report showed bees died within 4-6 hours rather heavily covered or just dusted. The dust effected the coating of the body. Field bees continued to die on small scale.

Glenn Gibson, Sec. AHPA, gave the annual Sec.-Treas.'s report. The resolutions were set in order and the meeting adjourned.

Tim Dadant was master of ceremonies for the banquet. After a delicious, elegant dinner, some beekeepers entertained with their rendition of bureaucratic red tape.

The Executive Committee met Friday morning selecting Orlando-Tampa, Florida as the location of the 1982 American Honey Producers Convention.

The officers for 1981 are: Pres., Berna Johnson, Box 734, Socorro, N. Mexico 87801; Vice Pres., Robert Longanecker, Route 2, Box 2075AA, Wapato, Washington 98951; and Glenn Gibson, Box 368, Minco, Oklahoma 73059, Executive Secretary. □



How to make mead (honey wine) is the subject of a new book by Roger A. Morse, Professor of Apiculture at Cornell University, Ithaca.

Mead is an ancient drink. It has been called *ambrosia* and *nectar of the Gods*. It was the national drink in England and Poland for centuries. The Norsemen, too, praised its special virtues.

To make mead, one dilutes honey, adds nutrients and yeasts and gives the fermenting mixture the time it needs to mature. Morse's 128-page, hard cover book, in step by step fashion, indicates what is needed to make an excellent mead. Chapter titles include "Equipment for mead making," "Recipes and formulas," "Fermenting, aging and racking," "Sparkling mead," "Bottling and closures," etc.

Morse has kept bees, studied, taught and written about them for more than 40 years. He has done research and education projects in Africa, Asia, Europe and South America. He is also the author of *Bees and Beekeeping*, *Comb Honey Production*, *Rearing Queen Honeybees*, and has edited *Honeybee Pests, Predators and Diseases*.

*Making Mead* by Roger Morse. Wicwas Press, 425 Hanshaw Road, Ithaca, NY 14850. 128 pages. 6 X 9, hard cover, \$9.95 postpaid anywhere in the world.



# Forage In New Zealand

"Eating blackberries while wearing a veil takes a bit of thought..."

By NICK WALLINGFORD  
Box 2067  
Rotorua, New Zealand

THE YEARLY succession of nectar and pollen sources around Rotorua, New Zealand, is an interesting example of the interplay of cultivated and wild, indigenous and introduced, that typifies a lot of the life in the South Pacific island group.

Located on the North Island about 185 Km. (115 miles) south of Auckland, the country's largest city, the area is marked by its volcanic origins. Thermal areas complete with geysers, boiling mud pools, and hot mineral baths make Rotorua a spectacular place to remember for the many tourists who visit each year.

Pasturelands for sheep, dairy and beef alternate with native bush forests and "exotic" pine forests (*Pinus radiata* is not a native plant in New Zealand, though large acreage is grown for the timber-related industries). Warm summers and mild winters with generally adequate rainfall encourage the clover (*Trifolium repens*) growth so necessary to the maintenance of good grasslands. While clover might produce the main crop for the beekeeper around Rotorua other plants produce honey of much more selective appeal and add a distinctive flavour to all honey blends, and give a special enjoyment to beekeeping in this attractive region.

The very early spring flowering of gorse (*Ulex europaeus*) gets brood rearing underway. Introduced by the early settlers as a hedgerow it is now considered a noxious weed, spreading easily when not carefully controlled. Though without nectaries the flowers yield much-needed pollen throughout the critical build up period for bees.

Five finger (*Pseudopanax arboreum*), a common native tree, flowers in late winter making nectar available to hives if weather permits. Many colonies are brought into the area for this and other early bush flows.

Sometimes when carrying out the early spring work in a hive the pollen of tree fuchsia (*Fuchsia excorticata*) makes a showy appearance. Bright blue and so sticky that it often strings behind the bee in an eye-catching

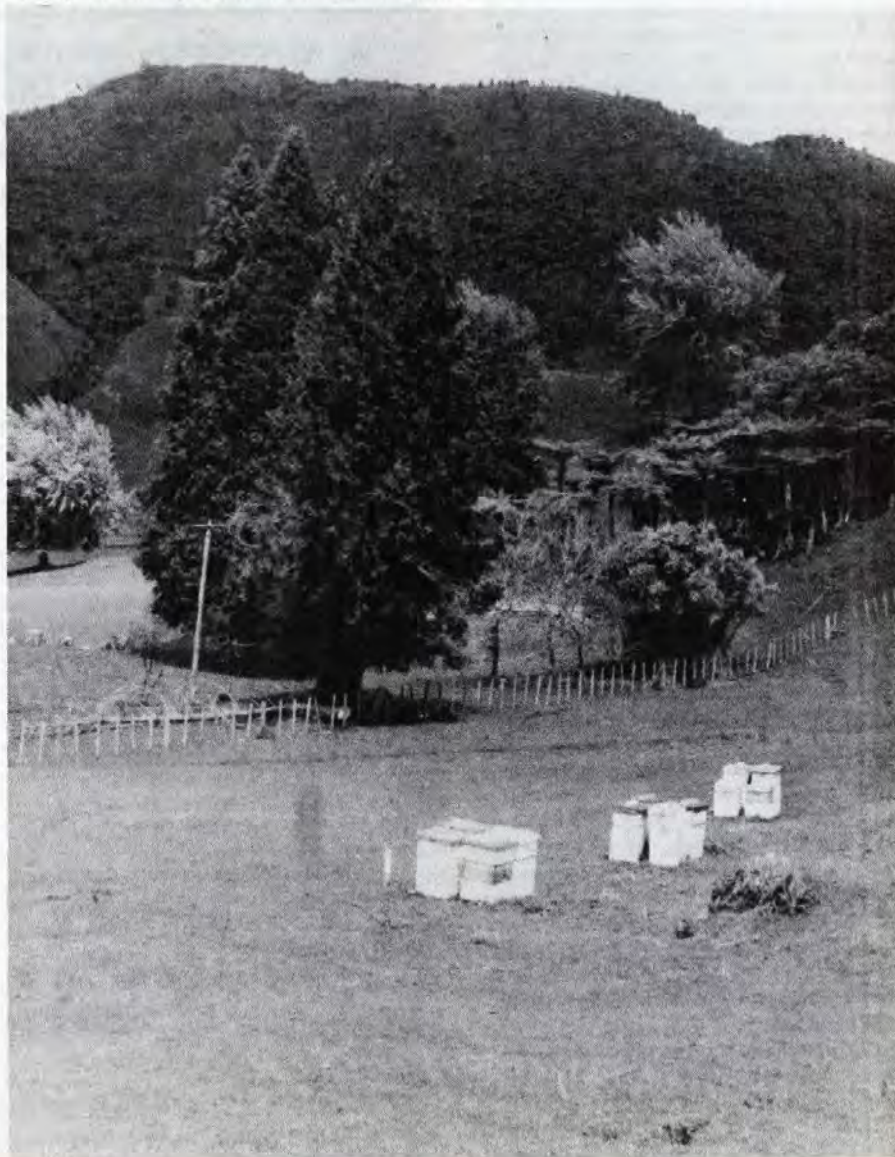
flash of colour not soon forgotten and quite distracting when looking for queens. The Maori name kotukutuku is not nearly the tongue twister that it looks at first and the berry formed later in the season is called konini and is quite tasty.

Kowhai (*Sophora sp.*) puts out large numbers of golden blossoms early in the spring, covering the tree with colour, and only later do the leaves appear. The nectar from this tree has in

some seasons a narcotic effect on the honeybees gathering it. It seems the bees drink their fill from the nectar-laden flowers and fall to the ground on their homeward flight. Though they recover in a few minutes the chilling often leaves them unable to resume their return to the hive, resulting in a dwindling of colony strength.

In the late spring graceful panicles of bloom hang from the leaf clusters

Apiary on sheep farm near native bush.





of the cabbage tree (*Cordyline sp.*), wafting a delightful aroma on a warm day. The honey has a slightly salty flavour but is often insufficiently ripened by the bees causing it to ferment even under its cappings. The tree is a member of the lily family and is one of the memorable and unusual trees remarked upon by visitors to New Zealand.

Hedges of barberry (*vulgaris*) with small yellow flowers are used on many farms as fencing and wind-breaks. Though a dark reddish-brown in colour and not a pleasant flavour at all, the honey comes at a time when colony stores are at a low point and strong colonies can store a 20 kg., surplus if blustery wet weather does not interfere. Immediately after a barberry flow can be a prime time for swarming, so it comes as a mixed blessing.

Manuka (*Leptospermum scoparium*) begins its massive flowering in about November, and a hillside of the scrubby growth is transformed into a white wonder of honey production. The clustered lacy blooms give the illusion of a sprinkling of snow on the dull green foliage. The considerable nectar yield is not without its drawbacks, however, as the cloyingly sweet strong-flavoured honey is thixotropic in nature; that is, it is jelly-like rather than being viscous or thick. Combs often are crushed and torn in the extractor and still the honey refuses to come out. When it does it may even retain the hexagonal shape of the cells momentarily, a sort of six-sided pellet of honey! Complicated schemes and equipment have been developed by enterprising beekeepers to assist extraction, but many beekeepers prefer to put these frames aside before uncapping and using them for feed honey.

The pervasive flavor of kamahi honey comes through in many samples of North Island honey, the South Island trees giving a milder flavoured honey. One of the most abundant of the native trees it becomes a roar of activity as bees work the numerous racemes of blossoms.

Tawari (*Ixerba brexioides*) can give a surplus of very white citrus-flavoured honey, quite strong and a surprise to many who expect the relatively insipid taste of clover from light coloured honeys. The flowering is so flashy the Maori have a special name for it when it was in flower: whakou. High moisture can again be a problem so beekeepers must be careful not to extract uripened honey.

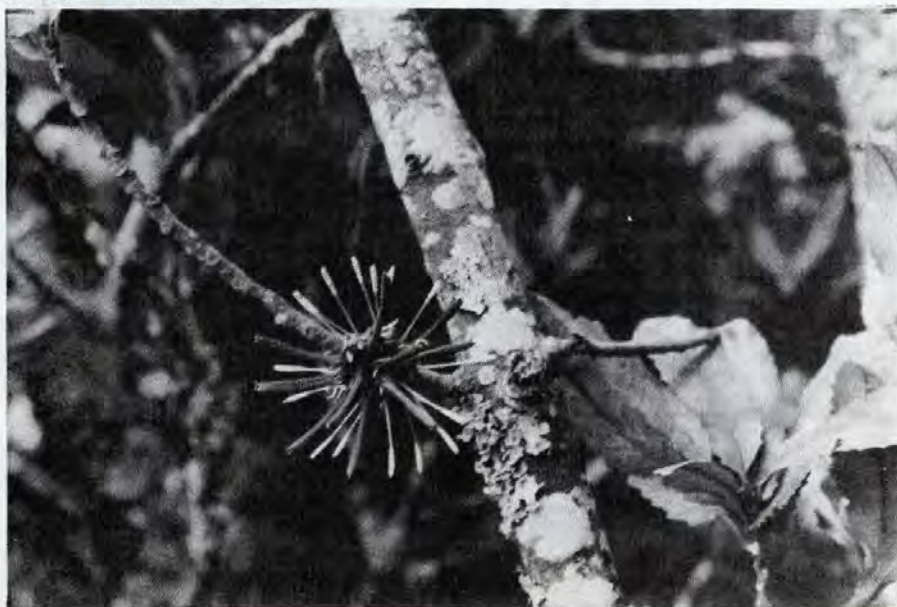


Cabbage tree. (*Cordyline australis*).



Kowhai (*Sophora microphylla*).

Rewarewa flower (*Knightia excelsa*).





**"...graceful panicles of bloom hang from leaf clusters..."**

Rewarewa (*Knightia excelsa*) is a quickly regenerating tree that grows to 30 meters in the lower montane forests, and its abundant nectar secretion gives rise to the common name honeysuckle. The bright red flowers of early summer yield dark but particularly pleasant honey shared by the honeybees with a number of varieties of nectar-feeding birds.

By Christmas these flows have built the hives up to strength and most should have a surplus before the clover flow begins. With favourable weather this mild white honey can be gathered almost until the end of January in the Rotorua area, and the full boxes warm the hearts and strain the backs of many beekeepers.

Two adventive (or introduced) species that have spread to become a problem to farmers but a boon to the beekeeper are blackberry and the thistles. Both give a late summer and autumn flow of light coloured honey that generally gets packed around the broodnest for the bees' winter use. Eating blackberries while wearing a veil takes a bit of thought; backing into a thistle in the beeyard can give rise to a real dislike for these weeds even though the bees DO like them.

The succession and variety of these flows are easily seen in the flavours of honey and the colours of pollen carried in by the bees, and an awareness of beekeeping's relationship to botany can be an asset and a pleasure when keeping bees. Every area is different, each with some interesting stories and many with tales of "that year we ran out of boxes to put on the hives". Learning the plants of your area and their flowering times can broaden your appreciation of both beekeeping and botany, as well as give tasty honey. □

**Gorse** (*Ulex europaeus*)

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**JAMES J. DORAN**

St. Jude's Mooncoin Waterford, Ireland





# Snellgrove Swarm Control

*"We have been using this modification of the Snellgrove method of swarm control for the last ten years, with great success."*

By **ANCEL GOOLSBEY**  
Spokane, WA

THIS SWARM CONTROL method utilizes the principle of raising a young queen within the hive, mating that queen, and then when that young queen is laying, using her to head up the colony, giving maximum honey production.

With this method not one day of egg laying is lost from the old queen. For a short period of time you will have the egg laying production of two queens. So this fulfills our objective of **HAVING THE MAXIMUM NUMBER OF BEES POSSIBLE IN THE COLONY AT THE START OF THE SURPLUS HONEY FLOW.**

It also fulfills our objective of **HIGH MORALE OF THE BEES FOR HONEY GATHERING**, due to the stronger morale building pheromones put out by the young queens.

Let's remember it takes bees to make honey, and it takes honey to make bees. So sufficient feed in both units are a must. As you bleed off the foraging bees from the old queen upstairs, you are also draining off their ability to store honey, so having enough feed in this unit can be critical. This top unit will have no way of replenishing the feed used to rear brood. Combs of honey can be moved up from the bottom unit if necessary.

To set up and accomplish this method of swarm control we will follow the following procedure.

1...About the tenth of April or as soon as your colony has four or more frames with brood in it, go through your colony and find the queen. Set the comb with the queen on it alongside your hive towards the front of the hive, so that you will not get her up in your new unit. After you have completed setting up the hive you will put the queen back in the old colony downstairs.

Now take a clean super, (one that has no Nosema signs or one that has been fumigated) and place one comb containing **EGGS AND UNSEALED**

**BROOD**, with adhering bees on it, in this super. Alongside of this brood place one or more frames of honey and pollen with adhering bees from the old colony. Now shake in several frames of bees, so that after the old bees drift back downstairs, you will still have enough young bees to care for the brood and raise a good queen cell. Fill out the super with clean combs or frames of foundation.

2...Place this super on top of the hive with a Snellgrove Swarm Board between it and the parent hive. If the weather is hot crack the rear entrance a little for ventilation but keep door closed for 24 hours. After 24 hours open door to the top unit to make a small entrance for the bees at the back of the hive.

---

**"Let's remember it takes bees to make honey, and it takes honey to make bees."**

---

3...This top unit will now make several queen cells and raise themselves a queen. In about 22 days this queen should be laying and at 28 days there should be sealed brood from your new queen in the top unit.

4...When the new queen has sealed brood in the top unit, you can then exchange places with the top and bottom unit. This puts the young queen on the bottom board and the old queen upstairs above the Snellgrove swarm board. With the entrance still in the back of the hive, all the field bees will now fly back to the bottom entrance, giving additional support to the young queen.

5...After four or five days you can now close the back entrance to the top unit and open a side entrance. At the same time you will open the back entrance to the bottom unit in the Snellgrove swarm board. Allowing the foraging bees flying out of the side entrance from the top unit and returning to the back entrance to enter the bottom unit with the young queen, giving her even more support. Add

supers on the bottom unit as necessary by raising up the top unit and swarm board. **DO NOT ADD SUPERS** to the top unit.

6...Every four or five days again open and close doors to bleed more bees down into the bottom unit with the young queen. Be sure top unit has enough feed. Frames of honey can be transferred from the bottom unit to the top to keep this unit going.

7...About one week before the start of the main honey flow, kill the old queen in the top unit. Move that super of brood down on top of your bottom brood chamber. Remove the Snellgrove swarm board from the hive and put on supers for honey storage.

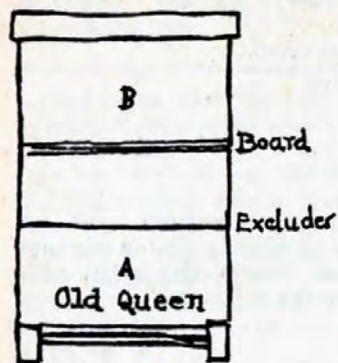
With this young queen raised within the colony that year heading up your colony, and the reduction in egg laying of the old queen, caused by this reduction in supporting bees, you will have averted swarming, without losing a single days egg production. You will have the emerging bees from both the brood nests to replace the honey gathering bees, lost in the field each day, thus keeping your foraging bee strength at a very high level for 21 days, into the main honey flow. With a declining egg production and less brood to take care of, more nurse bees can now join the nectar gatherers, further increasing your honey production.

If in this process the old queen upstairs does decide to swarm, due to the solid barrier presented by the swarm board only the limited bees in the top unit will go with the old queen. Whereas, if a queen excluder were used in its place, the old queen would take the bees from both units, leaving very few bees to gather your honey crop.

As an alternative to opening and closing doors, one can move frames of brood and bees from the old queen to the new queen. This way you can use a side by side hive figuration or a back to back one. □

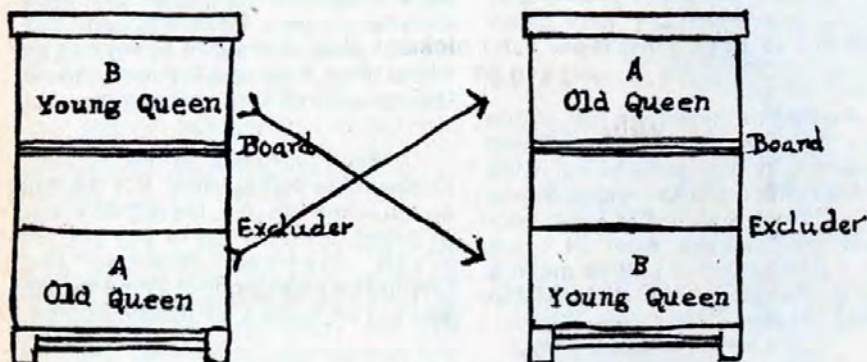


# MODIFIED SNELLGROVE SWARM CONTROL



## Step 1 to 3

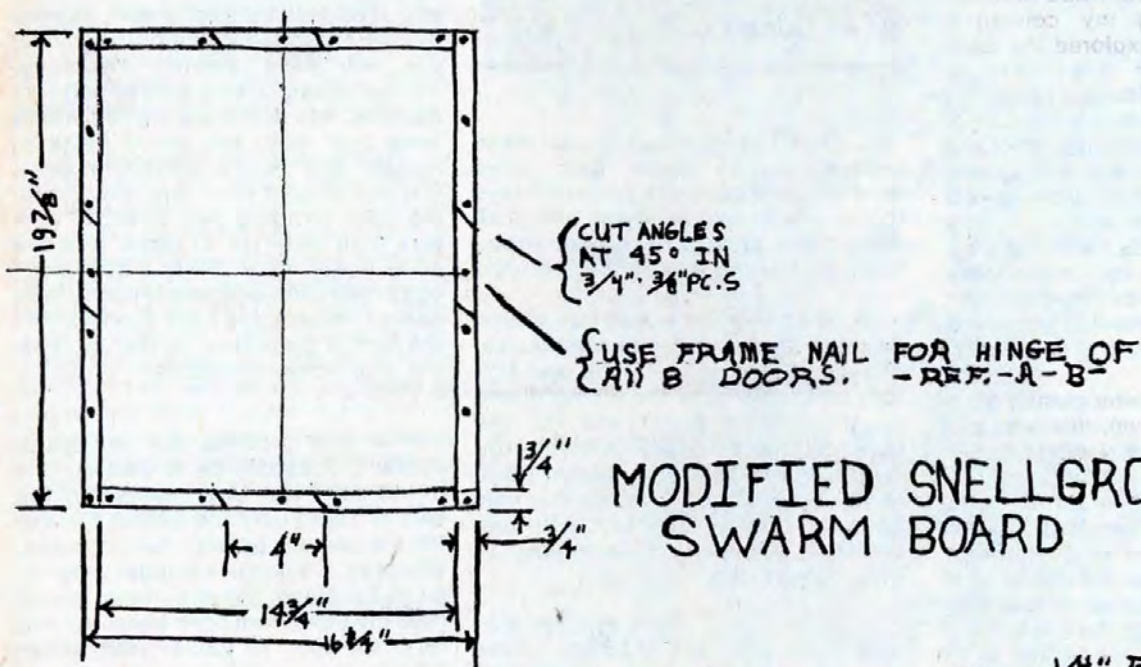
From the broodnest A. take 1 frame of brood containing eggs and young larvae, along with one frame or more of honey and pollen, with adhering bees and in B.



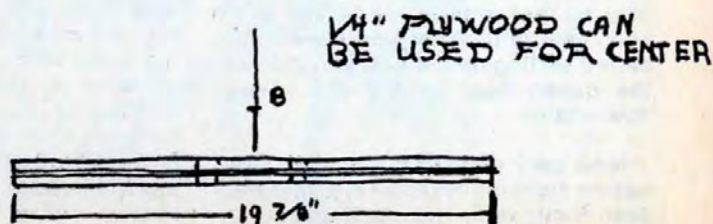
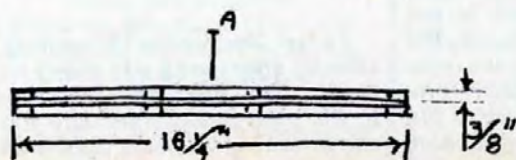
## Step 4

When young queen is laying and has sealed brood, exchange brood nests. Put broodnest B with young queen on the bottom.

Put broodnest A on the top of the swarm board.



## MODIFIED SNELLGROVE SWARM BOARD





## RESEARCH REVIEW

(Continued from page 256)

nal species are serious pests, though it has been recorded that they may cause wing loss or damage in older bees. I have not seen any reports indicating these mites may, like those that feed internally, cause bacterial infection. Each species attaches to a particular area of a bee's body. One species is found only in the vicinity of the neck. The other two species are found only on the thorax and forepart of the abdomen.

What is especially curious is that the three external species are found everywhere honeybees are kept. How then does one explain the limited distribution of *Acarapis woodi*? Those who have examined the question

**"They grasp the hair with one leg, from which vantage point they may attach to the hair of a passing bee..."**

have suggested that climate may limit where this species may live; however, as the mite expands its range that theory is exploded. I am much more inclined to think that *Acarapis woodi* is a recent product of evolution, an idea that has met with skepticism among my colleagues with whom I have explored the idea.

### Checking for Acarine Mites

Old bees infested with mites behave in much the same manner as those infected with noseema and in some cases those suffering from pesticides. They may be seen crawling at or near the hive entrance. The only way to check for an infestation is to kill a suspected bee and to remove the "collar" that is the forepart of the thorax. This is done by placing a small knife behind the front pair of legs and pulling them, and that part of the thorax to which they are attached, forward. This will expose the two thoracic tracheae, the largest in a bee's body. Uninfested tracheae are white and clear. Those with mites are obviously dark and discolored. A microscope is necessary to see the mites in the breathing tubes.

### Plans For Our Protection

At the present time it is not clear what federal agency has responsibility should acarine, or some other disease, appear tomorrow somewhere in the U.S. APHIS (Animal and Plant Health Inspection Service) feels it does not have the authority to

attend to honeybee problems; however, that agency is seeking clarification of existing legislation should a need arise.

Dr. H. Shimanuki and the staff at the USDA's Bioenvironmental Bee Laboratory in Beltsville, Maryland, is making a limited survey in this country looking for acarine. The laboratory is always glad to examine bees suspected of being diseased, whatever the problem, from anywhere in the world. □

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# Notes From The Straw Skep



By BESS CLARKE  
50 Lycoming Street  
Canton, PA 17724

THE NEW JERSEY BEEKEEPERS are planning to have an official flag for their organization and they hope to have it ready by the time of the Eastern Apicultural Society meeting which is scheduled for Rutgers University in August.

Michael Valosin of Lakewood is in charge of the design for the banner. His sketch won the approval of the organization at its winter meeting. It incorporates a bee superimposed on an outline of the state of New Jersey flying above the world — leading the way, so to speak. The banner will be green and gold, with the world and the honeybee in multi-color.

Patches and a pin will be manufactured in the same design.

The honeybee is the official insect in New Jersey. Dave Prudden, of Long Valley, has his own flag attesting to that, and he has very kindly shared a picture of it. Several years ago Dave's friend, a commercial artist named Hugh Fairness, made the flag for Dave and presented it to him as a gift. Dave has been using it at beekeepers' meetings and honey shows ever since. He was upset during the state meeting because he had loaned it for an exhibit at the Chambers Bridge Road Mall in South Jersey and it had disappeared. Fortunately it had not been stolen. Bob and Dorothy Harvey, who were in charge of the show, had packed it safely away. They apologized for their tardiness in returning it, and then threatened to keep it unless Dave promised to lend it for the next show. It will be on display at the EAS meeting.

My husband has a honeybee flag too. It was a gift to him from our daughter who made it for him after she saw the original at the William Penn State Museum in Harrisburg. It was used in the Civil War as the left guidon of the 72nd Pennsylvania

*"Last year I wrote about a needleworked wall-hanging of a bee..."*

**"My husband has a honeybee flag too."**

Regiment. It has a bee in a white oval on a blue field. We fly it at beekeepers' meetings.

Last year I wrote about a needleworked wall-hanging of a bee which won a blue ribbon at the Pennsylvania State Farm Show. There must be many other flags and banners around the country. You might be interested in making one for yourself or your organization. Why not give it a try?

## RECIPE

I altered a recipe from Heloise for Pickled Beets and they turned out

well. In fact they have a deliciously different taste.

### Bachelor Bob's Bermuda Beets

1 (one pound) can small whole beets,  $\frac{1}{4}$  cup honey,  $\frac{1}{3}$  cup vinegar, 2 teaspoons cornstarch, 8 whole cloves, 1 tablespoon catsup, 1 tablespoon salad oil,  $\frac{1}{2}$  teaspoon vanilla,  $\frac{1}{2}$  cup beet juice. Drain the beets and combine  $\frac{1}{2}$  cup beet juice and all the other ingredients except the beets in a small sauce pan. Mix well and cook over medium heat until the mixture thickens. Pour over the beets. Chill before serving. It would be easy to double the recipe. They're good with cottage cheese.

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25-99 .....	\$6.20	\$18.75	\$24.50	\$30.50	\$34.75
100 & up .....	\$5.90	\$18.00	\$23.50	\$29.25	\$33.50

## HONEY AND INFANT BOTULISM

(Continued from page 254)

of that capacity is lost by dilution. Anyone who has bottled unripe honey only to find bulging lids and fermentation in a month or two will realize that there are limitations to the antibiotic action of honey in relation to organisms such as certain bacteria and yeasts.

In summary:

1. Do not recommend honey for infants until the honey-infant botulism question has been resolved.
2. Do not try to cure botulism with honey-raw milk.
3. Honey-raw milk formulas are possibly adequate for some children but are unnecessary and currently not medically recommended.
4. Let us try to stay within our fields of expertise when writing articles for *Gleanings in Bee Culture*.

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## Bee Talk

By DR. RICHARD TAYLOR  
Trumansburg, NY 14886

I SPENT A couple of weeks down in Virginia, in an area where I'd never been in my life, and I soon got a reminder of the spirit of brotherhood that unites all beekeepers, from whatever part of the world. I asked around about beekeepers, as I always do when I'm in a strange place, and I was soon put in touch with Mr. Hugh Hawley, senior beekeeper of the county, and we had a great talk that very day. Next thing I knew he was lending me his TV set, so I could watch the evening news during my stay, and a day or two later he had arranged for all the beekeepers around there to take me to dinner. So in no time at all I had made a whole lot of new beekeeper friends. And that got me to wondering! Would it have been like that if, instead of bees, I had a passion for coin collecting, or tropical fish, or anything else? I really doubt it. Beekeepers have a common bond stronger, it seems to me, than can be found in almost any other pursuit. It is awfully easy for beekeepers to be friends very quickly.

Well, April is here, and that means, for me, getting supers ready. That's a job the comb honey beekeeper has which other beekeepers are more or less spared. We have to prepare every super all over again every year. When I was running apiaries for strained honey I would just back my little truck up to the honey house each spring, load on the supers, and away I'd go.

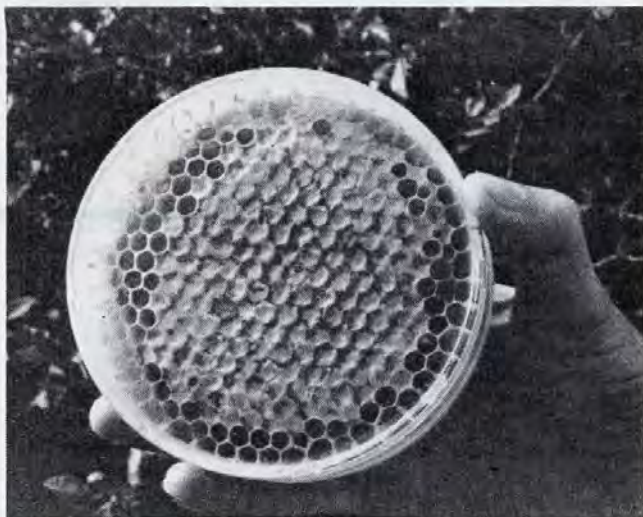
But there are advantages to starting each super anew each year. It gives me a chance to check everything over, and of course I don't get a great accumulation of darkened combs, as I used to. It isn't much trouble assembling a super of round sections. I can do seven or eight in a couple of hours, so by spending a little time now and then through April, I can have a couple hundred ready when they are needed. It all adds up, and doesn't seem like too big a job, if you string it out that way. I can listen to the radio or play my records while I

work or just enjoy my own peaceful thoughts all alone out there in my honey room. Ah! And it's good seeing the supers piling up, all fitted with fresh foundation, and in my imagination filling with honey!

I put a bait section somewhere near the center of each super, at least to the extent that I have bait sections

on hand. That gets the half-filled sections from the previous year used up. Actually, it doesn't much matter where you put the bait section in the super. It's apt to get travel stained if you put it in the center, since it will then be the first one finished and capped. But still, I try not to put the bait section on the side, if I think of it in time.

Unfinished sections can be cut up for chunk honey, rings put back without foundation.



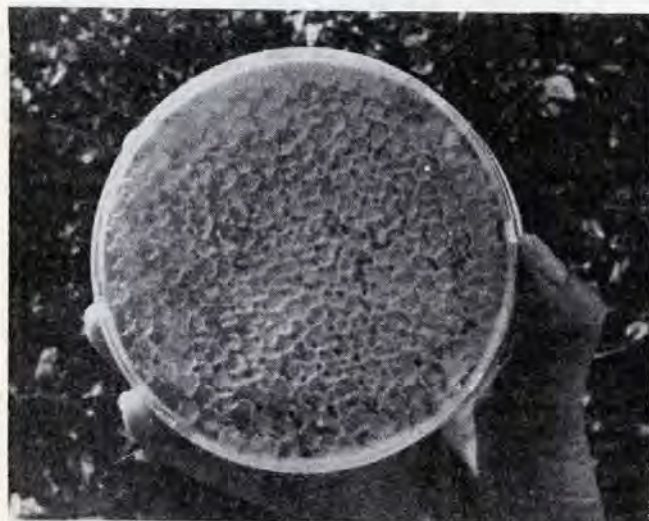
Section from which center has been cut out.





A bait section shouldn't have any residual honey in it. You'd think that a little honey would entice the bees up into the super faster, but it doesn't work that way. And if there is honey in the section, then it is likely to be of poor quality, and get capped over funny. So I let the bees clean out these half finished sections out in the yard and preceding fall. Still, if you have a bait section with some nice honey in it, uncapped, ungranulated, and clean and white, I don't see why it wouldn't be okay to go ahead and use it.

Bait sections have to be marked. The way you do that, with round sec-



Section made without foundation. Using remains of unfinished section from which center had been cut.

tions, is to put a mark, with one of those felt "magic markers," right on the side of the rings. That's very important, and it takes no time at all. But you will be surprised how nicely a bait section will sometimes get finished by the bees. I even won a silver trophy for comb honey one year with sections that had been started as bait sections! Usually, though, they are not so nice, and the wax in them is heavy and tough. Those sections should be used up at home or given to friends.

Now if your raising cut comb honey, in regular extracting supers, the way to have bait combs is to put a drawn comb on each side of the super, so as to have eight frames of foundation between them. Then, of course, you extract the bait combs.

How much foundation should you use in raising comb honey? Well I usually use just a strip, a couple inches wide, when I raise cut comb honey in regular extracting frames. If you use full sheets they can bend and warp, since there are no wires to hold them straight, and then you can get some real headaches. On the other hand, if you can keep the foundation

straight somehow, you are probably better off using full sheets.

Just as an experiment, I once tried putting half sheets into some of my round section frames, so that each section had foundation just in the upper part. Those sections, when finished, were indistinguishable from the others. I wouldn't have known which they were, if I hadn't marked them. Still, I use full sheets for the round sections, even after that experiment. I'm not sure why; it just seems like a better way of doing things.

And here is something else I discovered. If you get a round section that has just been filled in the center, so that it is not fit to sell, then you can cut out that center, either use it at home or pack it with others as chunk honey, and you will then have a pair of rings with comb around the inside, and the center gone. If that is put into a super, just as is, without any foundation at all, then the bees will finish it up so you can't even tell the difference. That's a useful thing to know, because a comb honey beekeeper is sure to end the season with some sections like that, filled in the center only. The rings can be used

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again, and you don't have to scrape them out. Just cut out the centers and put them back the way they are.

I like to get my comb honey supers on the hive nice and early. So the bees know they're there, and will know where to put the honey when it starts coming in good and fast. If there's still quite a lot of honey in the top of the hive, remaining from last year's fall crop, you don't need a queen excluder. But if there is brood right up to the top, then you do. But that remark introduces a whole new and important subject, which I've been thinking about a lot, and I'm going to talk about it in July.

Readers with questions are asked to keep them short and to the point, and to include an addressed stamped envelope.

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# Beekeeping Technology

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

## Beekeeping Workshops — Organization and Administration

SEVERAL MONTHS AGO I wrote a brief article on teaching introductory bee classes to beginning students. As an afterthought, I indicated I would send a copy of the topic listings we use in the introductory class at the Agricultural Technical Institute. We were pleasantly surprised at the response received from that offer.

One only has to look in monthly beekeeping publications to see that the general public has an interest in beekeeping. Every month classes of varying lengths on different aspects of apiculture are offered across the United States. Students participating in these classes are often novices and are searching for advice and support. A course, well established and organized, no doubt is critical in maintaining these new students' interest.

Short courses are a bit like "nuc" colonies. They come in every size and shape. Normally the topic is general beekeeping; but in some instances, more advanced topics may be undertaken.

One of the first major considerations that must be taken in total support by the beekeeping organization that is contemplating offering a workshop or short course. Too many times a few supporters end up doing most of the work which is obviously unfair and, on occasion, may result in hard feelings among organizational members. The group needs to enthusiastically work together.

Early in the development of the course, the site should be selected with all the common conveniences. Water coolers, rest rooms, chalk boards, and sometimes even P.A. systems are a few items that immediately come to mind. If lunch is not going to be furnished, participants should be directed to food outlets in the area or instructed to bring lunches. In many instances, local extension personnel can be of great value in arranging for a meeting place. Occasionally they may be able to help in publicizing the meeting.

One of the most important aspects of the entire course will be the instructors. Instructors may be professionals from the area of qualified beekeepers from within the group. Instructors should be contacted — in writing — explaining the course, the date of the meeting, the topics, and remuneration, if any. Allow time for these individuals to respond and expect some rejections. From a lecture standpoint instructors should provide a blend of beekeeping knowledge and light humor. Few people at these meetings take notes. Normally only the most significant points or printed material that is distributed will be of any permanent educational value. Along this line, participants are always interested in exhibits or displays. This part of the course could easily be one of the most educational aspects of the program. Exhibits have included basic hive equipment, extracting equipment, books or anything to let people see the material instead of just hearing about it. An observation hive is always of interest in the exhibit area.

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### "And here is something else I discovered..."

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If the course is of "workshop" nature, total participant numbers should possibly be restricted. Students are happier with a controlled group that can actually participate as opposed to overcrowded conditions.

After the site, instructors, and demonstrations have been selected, an idea of the cost per person can be determined. If this is the first time, obviously it will have to be an estimate.

At this time, publicity becomes critical. The notification of the meeting should be sent to the national journals a minimum of one

month — in most cases two months — to assure the announcement occurring well before the course. In many instances flyers may be posted in prominent places in the area. In some instances, notices may be included in state extension newsletters or state beekeeping newsletters. The daily newspaper is also a good consideration.

Outdoor demonstrations are of great benefit for several reasons. Students get to get up and move around. They get to observe a qualified beekeeper manage bees. Also spontaneous discussions can occur between participants that is usually helpful. General hive manipulations, hiving a swarm, and installing a package are always beneficial to new beekeepers. In the workshop format, allow plenty of time for the group to reposition itself. Give clear instructions to the demonstration sites.

As the program begins to wind down (normally around 3:30 p.m.), it is a good idea to reassemble students back into the main room. In order to be sure they all come back, offer door prizes. Many industry members will donate equipment to be used for this purpose. This is also a good time to re-convene the instructors for a general discussion period. This gives the participants an opportunity to tie down loose ends that have been generated during a day's discussion. Depending on the group, questions may be slow initially, but these sessions are normally quite productive in the end. This final assembly is also a good time to distribute course evaluation forms. These will be invaluable if the group elects to run the course again. Ask for a critique of the instructors, topics, and demonstrations. It's also good to know what went well and what went badly. It is important to end on schedule and to have stayed on schedule all day. Individuals often drive considerable distances and have made plans to leave at a specific hour.

These one day workshops are always more work than anticipated.



However, once successfully completed, the sponsoring group has a sense of accomplishment and normally profits from the proceeds. The main accomplishment is a new beekeeper, enthusiastic about his new hobby, better educated in the area, and acquainted with sources of information.

The third annual one-day short course, "Honeybee Queen Rearing", will be conducted at the Agricultural Technical Institute at Wooster, Ohio on June 27, 1981. The instructors will be Dr. James E. Tew, ATI; Dr. Malcolm Sanford, State Apiculture Specialist, Ohio; Dr. Mark Headings, ATI; and Mr. Marc Caputo, ATI Beekeeping Technician. The course will cover queen biology and behavior along with various rearing techniques. Registration is \$10.00. Send to:

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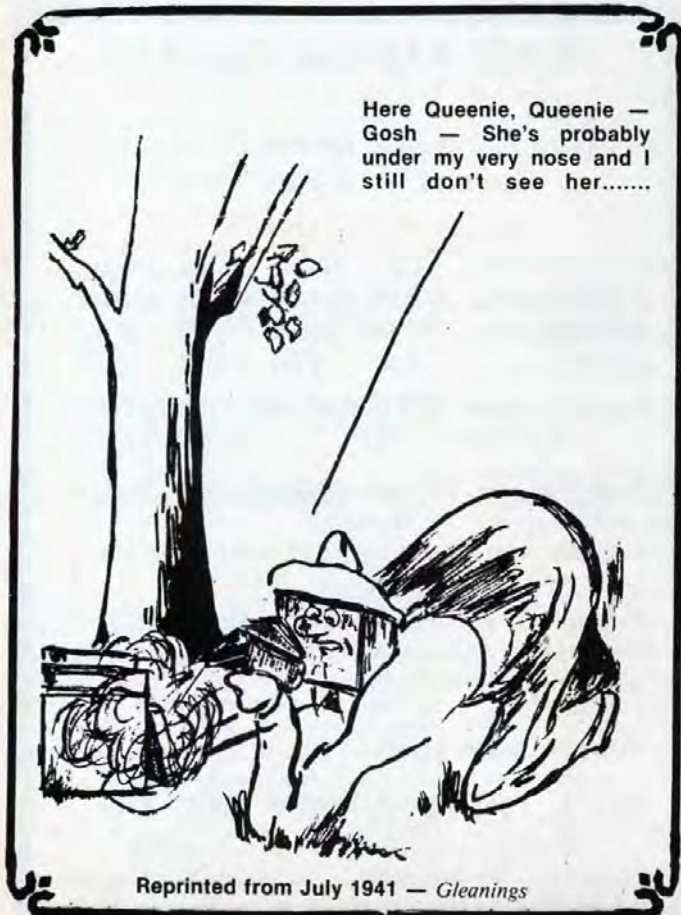
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## STRICTLY BACKLOT

(Continued from page 252)

tales of how "the bee chased me thirteen miles into a dark woods and I would have got stung but I ran harder and suddenly it rained and the bee got wet and lost before I did..." But by the spring visitation, some magic maturation has taken place. In the spring there is one question about bee stings; the rest focus on the queen, the drones, larva, and honey.

And so it was with my first hive — my room divider disaster. When the bees arrived — via a non-nurturant postman — I dressed up in my brand new beekeeping regalia, my friend in a plastic garbage bag with taped-screened opening. We were afraid of being stung and we moved cautiously. I gingerly picked up the cage of bees and was instantly stung three times on the thumb. And now, seven years later, I work an observation hive in an unheated bedroom with a veil and no other protection. I seldom get stung. If bees escape from a section of the observation hive, they usually fly toward the window, toward light. I have learned that the bees' sole mission in life is not seeking me out to sting me! My friends who watch my observation hive (and itch) are not so easily convinced. Like my first-grade friends in the fall, if there are 4,000 bees in the hive, first-time observers are sure 3,500 of the honeybees have stinging on their minds. And the other 500 are drones.

I knew I was emerging from this paranoid stage when I could stand calmly while a bee untangled itself from my hair and flew away. Or, on a rare occasion, stung me. I suggest the bee and I, when both of us escape unscathed, overcome genetically programmed responses — the bee to sting, and I to growl and tear at my hair.

Sometimes I regress, at least in my imagination, and in this instance, when my friend Henry and I were, for some dumb reason, shaking the bees from a very strong hive through a queen excluder because we wanted to find her. Just for a minute then, with 40 or 50 thousand bees flying around (very patiently), I wondered what would happen if everyone of them decided they'd had enough (just as I wonder sometimes why first-graders, thirty of them, who often must feel they've had enough, don't realize the physical power they'd have if they banded together!).

And close to the other extreme: Borderline stupidity and fearlessness — wrecklessly climbing trees in at-

tempts to have swarms; repeated attempts to trap bees from old houses, bees with a naturally ugly temperament which quickly become very hostile after daily hammerings, a downright nasty (and potentially dangerous) experience on the end of a forty-foot ladder. Carelessness — awkwardly closing up a hive strapped beneath an eave of a house and taking six stings on the throat because I hadn't tied my veil snugly around my neck; crashing through a porch roof of my knees while trying to trap bees from between the studding of another old house.

A final stupidity, which I swear is

part of my inherent nature: The tendency to push on, to hang on, like my old airedale terrier, behavior which can many times aggravate an already tedious or difficult situation. I am working hard at replacing the lid when I sense it would be foolish to poke around inside the hive, to come back later when, as they say in the hip vernacular, everything is cool. I am working hard to generalize this patience to other circumstance, other parts of my life. I hope I have developed a fairly rational relationship with honeybees and this, I understand and accept, means occasional stings — often provoked. □

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# Questions and Answers

**Q.** I am a backlotter with two hives. Over this harsh winter, one of my hives starved, and the other hive is now robbing what little is left. My question is: When I install a new package of bees in the spring, how do I prevent the older hive from continuing to rob from the new one? The two hives are side by side, about four feet apart. A. R. New Hampshire

**A.** When the packages are installed in the hive in the spring, the entrance should be reduced to the point where only one or possibly two at the most bees can enter and leave the beehive at the same time. This will enable the new package to defend their hive against any robbers. It is unlikely that the robbing will be as severe in the spring when nectar is available as it was when the original hive was robbed of its honey.

\*\*\*\*\*

**Q.** This winter I moved my two hives of bees. One hive was moved 50 feet and the other about 100 feet, Feb. 28th. There were several days this Feb. when the weather was in the sixties and they were all out. I had been planning to move them but now I waited until there was a forecast of at least a week of cold. I was told I might lose about a pound of bees. Does how many bees I lose depend on how long they are kept in the hive due to the cold? (After they were moved). I was surprised that the hives were so heavy. One winter in two full supers, the other in three. I could not lift them by myself. E. C. Ohio

**A.** We do not believe that you will encounter any problem with lost bees. Even when bees are flying continuously, they can generally find a hive which has been moved less than 100 feet. It may take an hour or two but eventually you will find that most of the field bees had found their way back to the new location. We do not believe you will have any problem with this spring move. Once the bees fly from the hive the first time, they will orient themselves to the new location and no further problems are likely to be encountered.

\*\*\*\*\*

**Q.** Please advise if Royal Jelly has any properties that would be of value for a Multiple Sclerosis patient?

**A.** Any suggestion of sources of information or research on such would be appreciated. L. G. Oregon

**A.** Royal Jelly is a bee product which at one time enjoyed considerable popularity but unfortunately was the basis of some exaggerated claims for its values and benefits. We have no knowledge of any value for a Multiple Sclerosis patient and would suggest contacting your personal physician for information of this nature.

\*\*\*\*\*

**Q.** For the last year and one half I have been reading all I can find on bees. I intend, in the near future, to become a beekeeper. As a novice, and intending to invest a considerable sum in this venture, I cannot find any information that compares plastic vs wood, in hive bodies, lids, and bottom boards. Can you settle this comparison for me? E. Z. Missouri

**A.** To our knowledge no complete, comparable studies have been made between the effectiveness of using wood or plastic in bee hives. Each has advantages and disadvantages and to determine which is the most practical for you, we suggest trying both materials in your apiary. Like many manufactured products there are many preferences expressed and what your personal preference would be can only be the result of your experience with keeping bees in both types of hives.

\*\*\*\*\*

**Q.** Because of back trouble, I am planning to switch over from the deep extracting supers to the shallows this spring and early summer. I would like to get foundation drawn out for about 20 supers.

**A.** In the past, when having foundation drawn out, I have put all 10 frames in the super until completely drawn, then removed one and gone over to 9 frames spacing for thicker combs and easier uncapping.

**A.** Is it practical to just put 9 foundation frames properly spaced in a 10 frame super, and expect to get good combs drawn out? R. T. Pennsylvania

**A.** I can see no serious draw back to putting nine frames in the super initially as even beginning with foundation they seem to draw very good comb if uniformly spaced. Some prefer to start with ten and then reduce the number to nine after the combs have been drawn out.

Frame spacing installed in honey supers help to assure that the combs will be of uniform thickness, but the combs can also be spaced by hand if necessary.

\*\*\*\*\*

**Q.** I've been a beekeeper for four years now and I really enjoy it. I enjoy it well enough that I would like to go in to commercial beekeeping or on a large scale for honey production. My question is how do I get started and what all do I need to get started in such a project. S. K. Pennsylvania

**A.** Our suggestion for beginning in the bee business is to take advantage of every learning opportunity that you can. In addition you may wish to increase your practical experience by working for a successful commercial beekeeper and gradually acquiring more colonies to build up your commercial venture. We would suggest watching the bee journal ads for apiaries for sale after you are able to manage a small business beginning.

If you could devote two years to a good well-rounded technical education in beekeeping, we would recommend that you contact Ohio State University's Agricultural Technical Institute in Wooster, Ohio 44691. That would give you training in beekeeping, business, science as well as actual experience with a commercial operator.

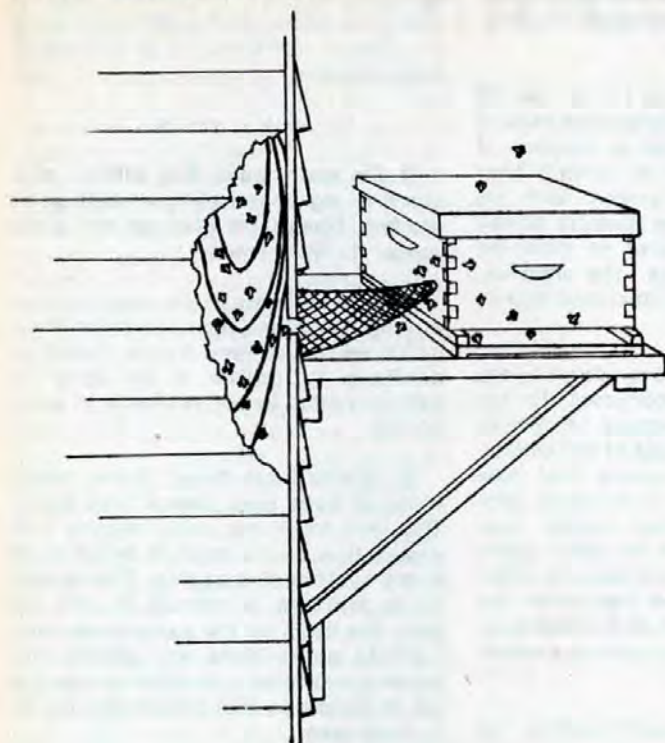
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**Q.** My son hived package bees on April 15th last year and the hive is his first. No surplus was generated but the hive entered winter with the equivalent of 13-14 full frames of honey. We looked at the bees on a 62 degree day this past week. All of the honey in the bottom and center or nearly every frame was consumed in both hive bodies. The remaining honey is a triangular shaped section



## FREE BEES

(Continued from page 247)



Trapping the foraging bees from a "wild" colony. The foragers will adopt the hive on the temporary platform and, once given a queen or a frame of brood from another colony to raise their own queen, you now have another free active colony.

kept in movable frame equipment. You can save on your hive costs by making some or all of the hive. You need woodworking tools and directions. Purchase a hive as a model or get good directions. Hives bottoms and tops as well as the four walls of the hive itself are easiest to make. Frames are more difficult to construct and it may be best to buy your frames. It is extremely difficult to make the beeswax foundation that forms the center of each comb and you should also plan on buying foundation.

You might save on ancillary equipment as well. A mosquito net serves as a handy bee veil. You can frequently get such nets at army-navy surplus outlets. You can use a putty knife or screwdriver as a substitute for a hive tool. Smokers may be located at auctions or used equipment stores or you can buy a smaller model to save money. Use straw, pine needles, corn cobs, sumac fronds or other free plant materials for fuel. Although every beekeeper needs beekeeping literature you should be able to borrow a bee book from your local library. Be sure to request extension manuals on beekeeping — most are free to state residents. □

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## Question and Answers

on each frame and probably averaged about one and a half to two pounds per frame. Since not all started out with honey the total stores is about 12-15 pounds but distributed throughout the hive bodies.

We placed some pollen substitute candy under the outer cover and inserted a boardman feeder at the entrance. With the prospect for more cool and even cold weather should we attempt to introduce feed into the brood nest or is the scattered honey sufficient to feed them with the prospect of pollen (being gathered today) and honey (maples in 3-4 weeks) availability improving in the near future?

The bees apparently have moved to the top of the top hive body. As a result they are now exiting from under the back of the outer cover. Returning bees have difficulty landing and entering and quite a few fall to the ground and are chilled. They are also using the vent hole in the front of the top hive body but they fall in front of the entrance and can crawl into the hive. It is normal for this to happen? It is undesirable in our situation and I would like to stop it. Can I? R.L. KY.

A. The colony of bees may be rather low on honey supplies but if they can reach the remaining honey there should be no problem with starvation. Just as a precaution we would suggest continuing to use the Boardman entrance feeder whenever the weather moderates. There is a normal loss of bees when flights are taken this early in the season and I would not be too concerned about seeing dead bees about the entrance.

In the event the weather continues cool, it would be better to place a hive top feeder such as a tray, pail or division board feeder on the hive.

\*\*\*\*\*

Q. Last year I had a few sunflower plants in my garden and I noticed that bees did not work on them very much. Do all varieties of sunflowers produce nectar? Is there a particular time of day when bees work on sunflowers? Would a large flow of sunflower nectar, such as from 8 to 10 acres be sufficient to make a surplus of honey? Is this honey of high quality? Is it light or amber in color?

I am thinking of moving some of my bees to a location about 10 miles away to farm that raises about 10 acres of sunflowers. They are in

bloom in late July in this area when there not much else to work on. E. F. Pennsylvania

A. Moving your bees to be near 10 acres of sunflower (*Helianthus annuus*) may or may not yield a surplus of sunflower honey. It is certain that some nectar and pollen will be gathered but whether surplus honey will result will depend in part on other factors such as the weather, colony condition and the condition of the plants.

Nectar yields from sunflowers varies by variety according to experiences of beekeepers in South Africa. Dr. Basil Furgala of the University of Minnesota reports that new hybrid varieties of sunflowers produce more and more highly concentrated nectar than the older, open pollinated varieties. We have no information on the time of day when the most nectar is secreted but the bees gather most of the pollen in the morning.

Honey from sunflowers is yellowish golden, with a smooth flavor and the granulation is soft, slightly coarse and occurs at a moderate rate.

Pollination of sunflowers by honeybees increases both the volume of seed yield and the oil content of the seeds. The primary flower head of the sunflower has one of four thousand individual disc florets which produce nectar and pollen. The florets open by concentric rings, two to four circles per day, starting from the outside of the flower head. Flowering time for the head may run from one to two weeks dependent upon the weather. A crop flowers from three to five weeks. Bees must be placed very near the field for effective pollination to take place.

\*\*\*\*\*

Q. In the fall, when I wrap my bees for the winter I put a piece of one inch Styrofoam® under the cover. In the spring when I open up the hives some of the material is over half gone from some of the hives. What is it they like about it? I don't see any of it lying on top of the frames. Do they eat it? S. V. North Dakota

A. Bees do chew Styrofoam®. We once received a Styrofoam® hive from Germany for testing. During the quiet of the evening if you stood near the hive you could actually hear the bees chewing on it. It would be in-

teresting to know the reason they do this. It is probable that the bees carry the bits of material out of and away from the hive.

\*\*\*\*\*

Q. On warm days this winter I see some of my bees eating corn flour at the feed bunks. Do they get any good out of it? M.H. Iowa

A. It is doubtful if the bees receive any nourishment from the corn flour gathered at the feed bunks, but they continue to gather it as long as natural pollen is not available in early spring.

Q. Where I am living I have seven hives of bees and several fruit trees. The fruit trees are now coming into production and I have to embark on some system of spraying. This would be no problem, of course, if I did not have the bees on the same premises. I would appreciate any advice you might give me on a prudent course for me to follow in this circumstance. R. A. Michigan

A. Perhaps the most important thing to avoid in spraying fruit trees in the presence of bees is **not** spray the trees when they are in bloom. This, of course, is the only time that bees are attracted to fruit trees and most spray programs allow for an interlude when spraying can be suspended. The only other precaution is to make sure that bees are not foraging on weeds which grow beneath the trees at other times. We have in mind such things as dandelions and clover. Following recommended spray practices as suggested by your Extension Service would also be helpful.

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## SIFTINGS

(Continued from page 244)

Page 141, M.A., Iowa, asks the question if spraying herbicides will reduce nectar secretion. I believe it will. A local farmer told me one year he sprayed half of his trefoil with weed killer and the other half was not sprayed: he ran out of weed killer. When he threshed the field, the half sprayed had practically no seed. The half not sprayed, though it had more weeds, was full of seeds, a heavy seed crop. Obviously weed killers do something to the seed set, something to remember if anyone is producing legume seed.

A neighbor beekeeper has always extracted all his honey every year and then fed his bees with sugar syrup for winter. I do no feeding whatever, I always leave a super full of honey on the bees. My neighbor beekeeper says honey is worth more so he can make money extracting the honey and feeding back sugar syrup. I always believe that even if the sugar cost nothing, it still cost almost 50¢ a pound to feed bees for winter. Now that sugar is almost the same price as honey, I don't know how anyone can extract 50¢ per lb. honey and feed back 50¢ per lb. sugar syrup. Perhaps my arithmetic is not very good, but no matter how I figure it, I would lose 50¢ in labor, gas, time, shrinkage, etc. for every lb. of sugar fed to bees for winter.

Perhaps even more important, a shallow super with 30 lbs. of sealed honey will go twice as far as 30 lbs. of sugar syrup. I usually try to leave 50 to 75 lbs. of honey on each hive. My neighbor boasts about having to feed the bees 70 lbs. of sugar syrup. The way it looks to me, someone is working for nothing.

A year like this winter is going to tell the story. It has been a very cold December and January, with temperatures down to -30F. The last two weeks in February, the temperatures has been above 40F and on some days up to 60F, making the bees very active and starting much brood rearing. Winter is a long way from being over here in Vermont. We can still get freezing weather and lots of snow for another two months. When the weather does turn cold again and stays cold for two months, I hate to think what those bees are going to do with just a few pounds of sugar syrup to live on. There will be a lot of bees starving this spring in this area and perhaps in many areas in the north. I am glad to say, we don't have to worry. Almost all our bees are alive when checked the middle of

February. Some hives that were tipped over are so heavy it is a job to lift them. They have all the honey they need for another 3 to 4 months with no need of any outside sources.

Some beekeepers are even trying cellar wintering as was done here almost 100 years ago. I would hate to have several hundred colonies in a cellar today, with the outside temperature 60F. The bees must be really warming up and using their small stores fast. They will have to be moved out and fed and just about then the weather will turn freezing cold again and it will be all over with no honey left to keep the brood warm. The reason we have so much honey on our hives this year is because the honey the bees produced last summer was of such poor quality we didn't bother to extract it. We just left it on the bees for winter. A lot of it left over will come in handy to make up nucs this spring.

Many beekeepers apparently are using high fructose corn syrup for feed this winter. It will be interesting to see how this works out. To anyone that has fed a lot of this corn syrup, please let us know how bees winter on it and how the brood looks. □

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# Gleanings Mail Box

## One Brood Chamber or Two?

Dear Editor:

I did not like your reply to the reader who inquired about the single hive body brood chamber. Obviously you are not acquainted with this style of beekeeping — why confuse the general readership with faulty information?

Having done this EXCLUSIVELY several seasons on hundreds of hives, let me give you the following facts:

1. Even the BEST of queens CANNOT lay in more than 9 full combs (laying pattern square).
2. A hive with a single brood box will build up 60,000 bees if the frames are not allowed to become "honey bound".
3. IF GIVEN ROOM, the bees will clear almost all honey and pollen above the queen excluder, maximizing the space the queen has to lay in.
4. This system requires more manipulation but does work better for (round?) honey.

I suggest you consult more competent authorities before you respond to some questions.

P.S. In many states bees will winter in a single body too if given adequate stores. The resulting spring cluster and buildup will be smaller and slower, however. Spring Branch, M. Myer, Witts Springs, ARK 72686

*I'll stand on my answer. Note that I said "they are necessary in the northern states (not always, I admit, but usually). I maintain that a good queen will utilize both the brood and food chamber (in other words, two brood chambers) during the buildup period; at least one brood chamber and part of the other. I have no bees in the southern states so you are correct in that I am not acquainted with this style of beekeeping, if your use of a single brood chamber is the norm in Arkansas. We are not trying to confuse the readers with faulty information as you have suggested — we suggested trying the one brood chamber method on a limited scale*

— while reporting on the two brood chambers (actually one brood chamber, one food chamber) method, which many others find the most productive, at least in our area.

*Incidentally, the "he" should be "she", a copy error, in my answer to B.A. Mich. in the March issue. Editor*

## Want Exotic Honey

Dear Editor:

Olds College is trying to assemble a collection of exotic honeys to display at the Calgary Exhibition and Stampede, July 3-12, 1981. The collection will be used in beekeeping courses at Olds College after this event.

This is a general appeal for information or names and addresses of possible sources of exotic honeys. We are even willing to trade a small quantity of honey (1-2 lbs.). Any effort given to this matter will be greatly appreciated. T.G. Leischner, Instructor, Plant Science Dept., Olds College, Olds, Alberta, Canada T0M 1P0, Phone (403) 556-8281.

## Wants Emphasis on Bee

Dear Editor:

I've sat back and waited for the experts to comment favorably and give credit to those who exerted a lot of time and effort getting the U.S. Postal Service to give recognition to the honeybee.

I wonder how many feel like I do, that the Postal Service did not pay the honeybee it's "just dues".

I think the Postal Service should reprint the envelope and put the emphasis where it belongs....on the honeybee!

Let the embossed orange blossom be difficult to locate on the envelope and let's put the honeybee in her normal color of black and yellow — visible for everyone to see in vivid living color instead of that ghostly color which only those with 20/20 vision can see — if they look darn hard for it. Milt Murray, Dauphin County Beekeepers, Pennsylvania.

## Nine or Ten Frames

Dear Editor:

In the February issue of *Gleanings*, in Richard Taylor's BEE TALK there are those who would argue with him on nine frames in the brood chamber, but of course quite a few agree. I don't. I agree with Iowa State Apiarist Glenn Stanley who contends 10 frames is the way to go. With only nine frames your cheating the queen out of one frame of brood space. I've never seen it fail; bees will build out the bottoms of the combs and also the tops. They adjust the combs to a "bee space". With 9 frames you have more trouble with burr and brace comb. Yes they will build brace combs anyway, but not as bad. I say, stay with 10 frames. The two outside combs are 98% of the time filled with honey and pollen anyway, if the queen's any good. That's eight she lays in. I put my worst combs on the outside as seldom does she lay there, regardless of how good your combs are. They will raise so many drones, but the better the combs the fewer drones. Charles Wilson, 720 Main, Belmond, Iowa 50421.

## OBITUARY

### Harold F. Q. Reimert

Harold F.Q. Reimert, 66, of Kempton, PA a beekeeper for many years, died February 23, 1981 in Reading Hospital of a heart attack.

Mr. Reimert, who started working with bees when he was 14, was a past president and secretary-treasurer of the Lehigh Valley Beekeepers Association. He was the state bee inspector for Lehigh, Northampton, Carbon and Monroe counties and a past president of the Pennsylvania state honey booth at the Farm Show in Harrisburg for the last five years. He also helped teach a beekeeping short course at Lehigh County Community College.



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### CAPPING THE NEWS

(Continued from page 242)

ble publication in *Gleanings in Bee Culture*. If you are interested we will be pleased to send you instructions for preparing your manuscript.

There are many factors involved in the selection of material for publication in *Gleanings*. Naturally preference is given to subjects on beekeeping. We cannot please everyone so we seek information on a variety of subjects pertaining to beekeeping for publication. We encourage the use of clear black and white photographs with manuscripts and the preparation of line drawings when construction details are in the need of illustration and measurements given.

### Peace Corps Seeks Beekeepers

TEN BEEKEEPERS are being sought by Peace Corps agricultural recruitment for programs that begin Spring, Summer, and Winter of 1981. Countries requesting beekeeping skills for these periods are: Colombia, Eastern Caribbean, Tunisia and Belize.

Married couples with no dependents are accepted. There is no upper age limit, minimum age is 18 — however the average age is 27 years old of current volunteers. Of the 6,000 volunteers currently serving in Peace Corps 300 are over age 50.

Peace Corps provides travel, language training, living expenses, vacation time, and \$3000.00 cash stipend after the normal two years of service.

If you would like to learn more about available programs please call toll free: 800-424-8580.

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# Removal Without Stings!

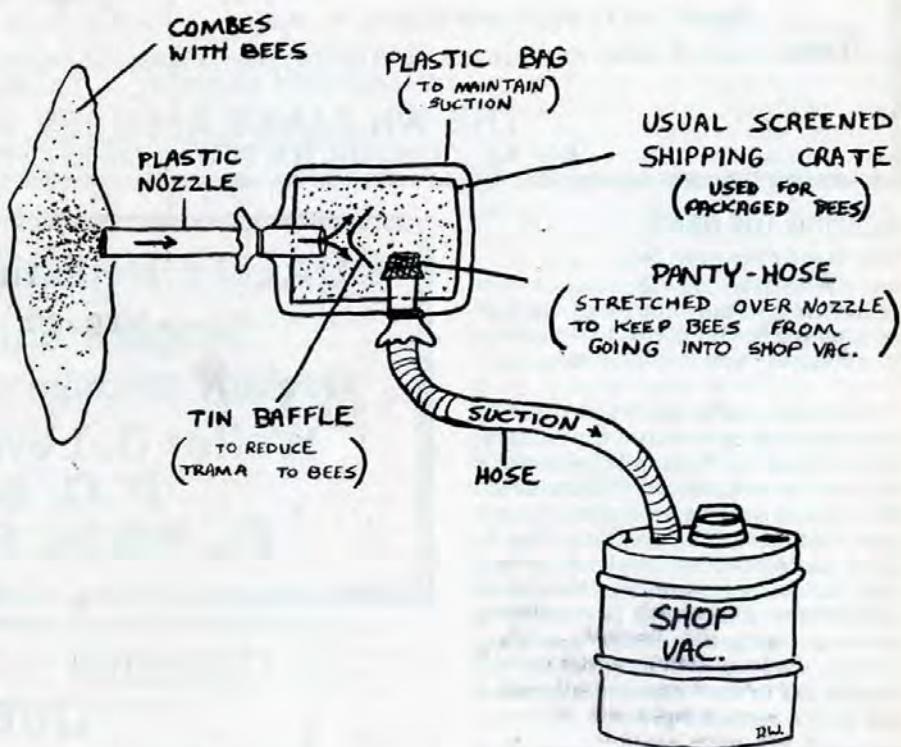
By SIMON E. WITTER  
Southbridge, MA

I AM AN obstetrician/gynecologist and a beekeeping hobbyist. I am more famous in my town as a beekeeper than a physician since I am written up in the newspaper from time to time and I advertise my free bee removal service.

The following is a description of what I feel is a very useful implement in the removal of swarms of bees. Having been called on several occasions to remove colonies of bees from barns and houses I have always wanted to do so with a minimum of trauma to the bees and to myself.

I have used a cannister type Shop Vacuum with a 4" nozzle to remove the bees from the combs when immediate removal was necessary. However, I was never happy with this arrangement because it left the bees frazzled or dead. I then thought of combining the vacuum principle and the screened shipping cages that package shippers employ. To maintain the vacuum in the screened cage I wrap the cage with a light plastic which I remove when the bees are in the box.

I am so pleased with the results that I wanted to pass the details on to other beekeepers. Perhaps this



method is already being employed by others but I have not seen such a device described.

I am able to remove or collect bees without a sting and the bees are not injured.

## Adulterated Honey And Maple Syrup Embargoed

AGRICULTURE COMMISSIONER Gus R. Douglass, acting on citizen complaints and information obtained from other states, has stopped the sale (embargoed) of four lots of honey and one lot of maple syrup in West Virginia. Douglass said this action was taken after laboratory tests confirmed that the products were adulterated.

The products are honey and maple

syrup distributed by Doye Napier of Pomeroyton, Kentucky, and "Big Mountain" brand honey and H. W. Pilgrim "Pure Honey", both packed by H. W. Pilgrim of Dekalb, Mississippi. Douglass said that laboratory tests revealed that as much as 84 percent of the so-called "honey" was actually corn or can syrup and that the maple syrup was merely sugar syrup with coloring and flavoring added.

Some of the honey products embargoed were chunk honey packs consisting of pieces of genuine comb honey packed in syrup and labeled as "pure honey" and pure clover honey". Douglass pointed out that these products did not pose any apparent danger to the health of consumers, but the misrepresentation of food products is a fraud which is punishable under state law.



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100-up	5.25	17.75	22.00	28.25	34.35

Mark Queens — 25¢

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**ONTARIO, CANADA**  
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As formerly, this course will consist of six, three hour sessions in an apiary owned by the instructor near London. Half of each session will be in the apiary and half indoors where slides and films will assist in the discussion. Problems related to pollination of fruit and vegetable crops will be considered.

All meetings will be held on Saturday afternoons at intervals between May 2nd and October 31st.

The instructor again will be Harold Killins, BSA. Register early with Mr. Dan Link, Dept. of Continuing Education, Fanshawe College, 520 First St., Bay 20, London, Ontario, Canada. Phone (519) 452-4425.

In addition Fanshawe College is offering two very practical summer courses in the apiary, one at Lucan starting May 12th and one at Glencoe starting May 13th.

These courses are designed for both beekeepers who want to improve their methods and people who wish to develop a worth while hobby or profitable business. There will be special emphasis on problems related to pollination of fruit, vegetable and forage crops. The instructor is Harold Killins, BSA. Apply to Mr. Joe Dunn, Fanshawe College, Dept. of Continuing Education, 520 First St., London, Ontario, Canada. Phone (519) 452-4441 or 1-800-265-9214.

**OHIO**  
**Development Seminar**

A comprehensive and intensive introduction to development beekeeping will be at the Agricultural Technical Institute (ATI) of Ohio State Univ., Wooster, Ohio, and is co-sponsored by International Agency for Apiculture Development (IAAD). The seminar will be from August 10 to 21, 1981.

Week I (August 10 - 15) will be led by Dr. James Tew and staff of ATI. Designed for persons inexperienced in beekeeping.

Week II (August 17 - 21) will be led by Professor Gordon Townsend and the IAAD staff of trained beekeepers who have experience in development apiculture in more than 20 less developed countries of Asia, Africa, South and Central America.

Tuition, Rm and Bd, \$675. Registration, \$50. Deadline, April 30, 1981. For

# News and Events



information write: R. Dillinger, Ex. Dir. IAAD; 3201 Huffman Blvd.; Rockford, IL 61103.

**KANSAS**  
**Midwestern Beekeepers Assn.**

The Midwestern Beekeepers Association has been operating over 40 years and now represents over 250 beekeepers. Our meeting schedule is as follows:

The third Sunday afternoon of each month at 2:30 p.m. we meet at the Westport Methodist Church, 40th and Washington St.; Kansas City, MO.

Anyone interested is welcome.

**CONNECTICUT**  
**Queen Production and Use Class**

A one day lecture and field demonstration course on QUEEN REARING AND USE is scheduled for May 23 in Litchfield Connecticut at the White Memorial Conservation Center. The class will be instructed by Dr. Lawrence J. Connor, Beekeeping Education Service with the assistance of Professor Al Avitable, Univ. of Connecticut.

Emphasis will be on queen production and use by beekeepers with a small number of colonies, and those interested in producing a few hundred queens for use and/or sale.

Registration is \$15.00 if made in advance, or \$20.00 at the door. The program will begin at 8:30 and last the entire day. Participants should bring a picnic lunch.

To place a reservation and to obtain registration material, contact Larry Connor, Beekeeping Education Service, P O Box 817, Cheshire, CT. Phone 203-271-0155.

**NEW YORK**  
**Commercial Management Program**

Cornell University and Beekeeping Education Service have scheduled a

Commercial Beekeeping Management Workshop for JULY 27-30, at the Cornell campus in Ithaca, NY.

The program will be split between commercial bee management and serious business management, and is designed for beekeepers with 300 or more colonies.

Dr. Larry Connor, BES and Dr. Roger Morse, Cornell, are assembling a list of quality speakers and topics for the program. Full program details and costs will be available next month. Since enrollment is very limited, reservation and additional information will be available from Beekeeping Education Service P O Box 817, Cheshire, CT 06410. Phone 203-271-0155, on a first come, first serve basis.

**NEW YORK — VERMONT**  
**Queen Rearing Class**

Dr. Larry Connor, Beekeeping Education Service, and Mr. Richard Drutchas, Vermont State Apiarist, have scheduled a one day queen rearing workshop for June 6th, 1981, to be held at Betterbee Inc., Route 29, Greenwich, NY 12834 (phone 518-692-9669) near the Vermont-New York border.

The program is designed for the serious hobbyist and commercially oriented beekeeper who wants to produce a number of queens for internal use and perhaps for sale.

The fee for the program is \$15 per person IF they pre-register. Regular registration at the door will be \$20. The program will begin at 8:30 and last all day. Bring a picnic lunch. Beverages will be provided.

TO RESERVE SPACE AND OBTAIN REGISTRATION MATERIALS write or phone Larry Connor, Beekeeping Education Service, P O Box 817, Cheshire, CT 06410. Phone 203-271-0155.

(Continued on page 284)



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## NEWS AND EVENTS

(Continued from page 282)

### OHIO

#### Summit County Beekeepers Assn.

The Annual Field Day of the Summit County Beekeepers Association will be held on May 17th at the home apiary of President Cliff Hammitt from 1 to 5 p.m. Call 216-784-6721 for information. Dr. Richard Taylor, Master Beekeeper and writer, will be the guest speaker.

### MARYLAND

#### Maryland State Beekeepers Assn.

On Saturday, June 20, 1981, the Maryland State Beekeepers Association will be celebrating the 30th anniversary of the Apiculture Building at the University of Maryland, College Park, Maryland.

Everyone is invited to join us in the gala celebration. For further information contact: Ann W. Harman, Program Chairman, 6511 Griffith Road, Laytonsville, MD 20760, 301-253-5313.

### FLORIDA

#### South Florida Beekeepers Assn.

Our new president is Mr. Donald Downen, vice president is Dave Canada and the secretary-treasurer is Archer Gilloren. Ralph Wadlow and Harold Curtis are at present on the board of managers.

Our March meeting was held in Baron Park in LaBelle, FL. We had a beef barbeque with 90 people present. Guest speakers were Mr. Herndon, chief apiary inspector and Ray Bailey, secretary-treasurer of the Florida State Beekeepers Association.

We now have 48 members in our association and are growing with every meeting. Our goal is to have a good beekeepers association and be able to help one another and to also help the novice beekeeper.

### PENNSYLVANIA

#### Beekeeping Short Course

The annual beekeepers short course will be held on the main campus of The Pennsylvania State University from June 22 to 26, 1981.

Registration fee is \$45 for Pennsylvanians and \$50 for non-Pennsylvania residents. Fee is payable at the time of registration on June 22.

In considering University housing, registration is from 2 to 3 p.m., Monday June 22. Classes begin at 3 p.m. and end at noon on Friday, June 26. Housing will be available for nights of Sunday, June 21 through Friday, June 26. Housing reservations must be made before June 10. Enrollment forms may be obtained by writing to: Office of Short Courses in Agriculture, 306 Ag. Adm. Bldg. The PA State University, University Park, Pennsylvania 16802.

PLEASE NOTE: Bring your own veil and gloves.

### ISRAEL

#### International Beekeepers Holiday

It is our pleasure to launch the Sixth International Beekeepers Seminar to be held in Israel between November 22nd and 29th, 1981.

For information brochure write to Michael Vromen, Operations Mgr., Ortra - Travex Ltd., 431 Namir Sq. (Atarim) Tel Aviv, Israel.

We do wish to stress the importance of early bookings to secure the necessary space at hotels.

### GEORGIA

#### Beekeeping Short Course

The annual beekeepers short course for beginners and more experienced beekeepers will be held on June 6, 1981, at the University of Georgia in Athens, GA.

Topics and demonstrations will include honeybee biology and behavior, bee diseases, management for honey production, honey house operation, queen rearing and package bee installation.

The teaching staff will consist of several specialists including commercial honey and queen and package bee producers. The course is \$20 per person. Advance registration is requested by June 4, 1981.

Requests for additional information, program and registration forms should be addressed to Dr. Alfred Dietz, Dept. of Entomology, University of Georgia, Athens, GA 30602.

### NEW YORK

#### Cornell University Short Course

A beekeeping short course is again being held at Cornell University, Ithaca, NY on July 17, 18 and 19th, 1981. Registration will be from 5:00 p.m. to 8:00 p.m. Friday evening.

Saturdays program is from 8:00 a.m. to 6:30 p.m. and on Sunday the classes begin at 9:00 and run through 3:30 p.m.

Participants will stay in university dormitories and eat in the university dining room. Enrollment will be limited. The total cost is \$90.00 per person. This includes a single room for 2 nights, 3 meals on Saturday and two on Sunday, all instruction materials and advance registration fee. Double room are 5.00 less per person (\$85.00 total). Full linen service provided. Registration forms from: Office of Apiculture, Dept. of Entomology, Comstock Hall, Cornell University, Ithaca, NY 14853.



### GEORGIA

#### Georgia Beekeepers Assn.

The Georgia Beekeepers Association presented a special appreciation award to Dr. T. Don Canerday, chairman of the entomology division in the Univ. of Georgia College of Agriculture, in recognition of outstanding contributions and assistance to beekeepers in this state.

Especially recognized were the contributions of Rodney V. Coleman and Dr. Alfred Dietz of the entomology department at the university.

Presenting the award is Reg Wilbanks (L) of Claxton, immediate past president, and Troy H. Fore, Jr. (R), Jesup, association president. The award was presented at the association's annual workshop and conference in Atlanta.

### The New Zealand Beekeeper

Quarterly magazine published for the National Beekeepers' Association of New Zealand. Editorial policy emphasizes practical beekeeping, latest research and feature articles with large format and many illustrations.

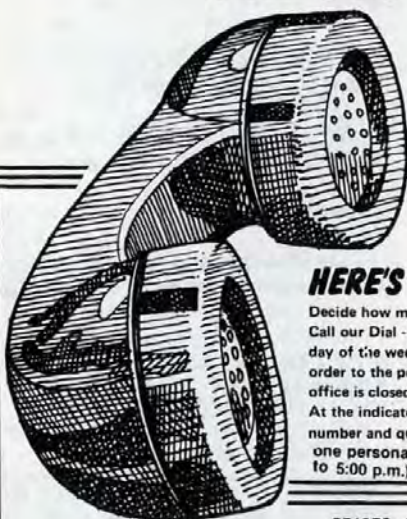
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# Purchasing Package Bees:

## A Diary

By NILSA V. LOBDELL  
Pisgah Forest, NC

### Monday, March 31st:

I decided it would be fun to try to start hives with package bees. I purchased a new hive tool. I don't have a smoker or bee veil. However, I am assured package bees are as quiet as lambs. Nothing to worry about. Okay. Husband says so too. He should know, he's a commercial beekeeper down in Florida right now tending to his bees during orange blossom honey flow.

### Tuesday P.M.:

Call South Carolina and order four packages.

### Wednesday A.M.:

South Carolina calls back. We decide I need only four pounds of bees because I already have drawn comb. He tells me they'll arrive Monday a week and a half from now.

### Thursday:

Instruction booklets arrive from South Carolina. I sit right down in my favorite rocking chair on the porch in the warm spring sunshine to read.

Hmmm, this booklet says put queen cage in sugar side DOWN; the other booklet says shake bees out over frames after giving them a bounce on the ground. (good grief!) The other one says to remove some frames from brood chamber and place whole package in.

### Thursday P.M.:

I resolve to call my expert beekeeper, my own husband in Florida.

He says place queen, sugar side to front — wire cage side down pushed down between a couple of frames. Shake out bees in front of hive, they will then march in and embrace their queen. Place almost empty box in front of entrance so remaining bees could go in. This sounds good and easy.

*"I resolve to call my expert beekeeper, my own husband in Florida."*

### Easter Sunday:

It's a beautiful day, Spring is really here. The little girls and I go to Church in Asheville and watch as the congregation releases two hundred helium-filled multi-colored balloons in a celebration of life.

### Easter Monday A.M.:

Charlie, my postman, calls me from the Post Office. My bees have arrived one week early.

Charlie says he has no room for them in his car. I go down to pick them up and see that the few extra bees hanging on the outside would indeed have made Charlie's car overcrowded!

The day is wet and cloudy and the bees are NOT calm or silent. They are humming in a most irate manner.

Hmmm, no veil or smoker needed? Sure....

I take charge of my little darlings and drive them to their new home-site on top of a mountain over a rustic rutted dirt road, through our rock-strewn "Silver Creek". Hmmm, they sound even more peeved than before.

I decide, rather prudently I feel, to leave them overnight in a little house up in the woods, where it will be quiet, cool and dark.

### Monday P.M.:

The night of the local Beekeepers Association Meeting. The majority agree with my husband. Great. Some do suggest putting on an empty super over the frames and placing the package there. That sounds like a good idea too, however, I do not have any empty supers.

### Tuesday A.M.:

It is raining torrents this morning.

I prepare to make my sweeties some sugar syrup on my old stove. The 2 year old and the five year old get into the act tasting and we finally finish up with a little brush, a small

jar of syrup and four quart jars brimming with warm sweet liquid.

We all drive to town in the deluge and purchase four new feeders.

### Tuesday Noon:

The forecast is for 70% showers in the morning, cloudy in the afternoon.

Allright, the girls and I brush warm syrup on the screens to quiet the bees down.

It works!

Now I carry the boxes out to the hives and prepare to take them apart. Not ever having even seen a package I inadvertently handle the prying of the bars that hold the boxes together a little rougher than necessary.

Hmmmm, they sound irate again.

I quickly brush on more syrup. Then I carefully pry off the big board across the top. Surprise!! There is an escape hole and the bees begin to pour out!! Quick, plug up the hole and pry out the can and slide the board back on. Son of a gun! I thought the queen would be attached to the can. She isn't. Hmmm, where could she be?

I carefully remove the board cover again and peer into the hole now crawling with bees. There is a little bar of wood in the middle of the box. Oh no, what a place to put her cage. So with no smoker or veil I gingerly insert my naked hand, reach for the bar and try to pry it loose. Of course, this doesn't work, it's part of the cage....

Groan, I make futile feeling motions among the bees, remove my hand, peer in again and see where they are clustered. Ah ha, this little metal band stapled to the top of the box is the gizmo that holds the queen cage in place.

By now, my hands and arms are covered with curious ladies and in my heart, I begin to panic.

Quick, pull the cork out, make a hole in the sugar end with the nail!

*(Continued on page 291)*



# Drought

By IRVING SIBERT  
Quincy, MA

The demand for hives for cranberry pollination was heavy in 1980 and I decided to rent every available hive. Usually I keep fifty or so in what I consider excellent honey locations which have also proven to be relatively free from insecticide problems. Since the weather varies so much in New England every year is a guessing game.

This year I guessed right. After an excellent May build-up it stopped raining and soon the flowers dried up. Very little nectar came in for a month and some hives ran out of stores.

The cranberry bogs are irrigated and when the bloom came the bees filled the brood chamber and put up a very small surplus, only one-sixth of what I usually get. Since there still had been no rain nonpollinating beekeepers had no surplus and light hives at this time.

The next honey flow was from clethra in my area and the bees did bring in enough to keep the brood chambers heavy and store some more surplus. The swamps and reservoirs around the bogs made some of the clethra produce but the flow was so light that I'm sure the high and dry clethra didn't.

The weather had been hot and dry all summer so I was hoping for a warm and dry fall to produce a good goldenrod flow. It was warm and dry and I saw bees on goldenrod but the surplus honey was water-white. My fall honey has always been golden brown and at first I was amazed. If the honey is white it isn't goldenrod. It still hadn't rained so the goldenrod must be too dry to produce. That left the cranberry bogs, still being irrigated and many having asters in bloom on them but not goldenrod. Whatever herbicides are used many bogs still were covered with asters and since they were irrigated my bees reaped a good harvest of aster honey.

After two weeks of the aster flow there were two days of rain. Not much but enough to bring on a goldenrod flow. The asters and goldenrod flow lasted another two weeks or more before frost did its damage and the hives went into the winter heavy.

This is the first time in over twenty years of beekeeping that I have harvested any water white honey in the fall. Every year is different in some way and that is one of the charms in beekeeping.



Author's friend Stanley with comb honey



Cranberries in flooded bog. A machine beats the berries off the vines and they float to an endless bucket chain to truck.



Author with productive hives

## MONTHLY HONEY REPORT

(Continued from page 238)

### Region 7

Arkansas and Oklahoma have received some good rains in March. But more is needed to break the drought. Bees have wintered well in this region and there is much activity among the bees. Some beekeepers increasing colony numbers. A considerable amount of mislabeled "honey" is being sold in Oklahoma.

### Region 8

Early spring snows brought small amount of moisture to Montana. Bees very active and feeding was required in the area for overwintered colonies. Winter water storage is below normal and extensive spring rains needed. Mild weather in Colorado. Retail honey sales are normal and very little honey left in hands of producers.

### Region 9

Trading in honey is moderately active. Purchases of light clover honey from Argentina supplied honey packers' needs. Mexican and Chinese honey being offered on wholesale markets. Colony condition good in California. Alfalfa seed crop pollination fees \$17.00 - \$19.00 per colony. Fruit growers contracts with beekeepers \$20-\$24. Dry conditions may affect sage honey crop in coastal areas. Citrus bloom began about April 1st. Bees expected to be in good condition for the honey flows. A good almond fruit set expected.

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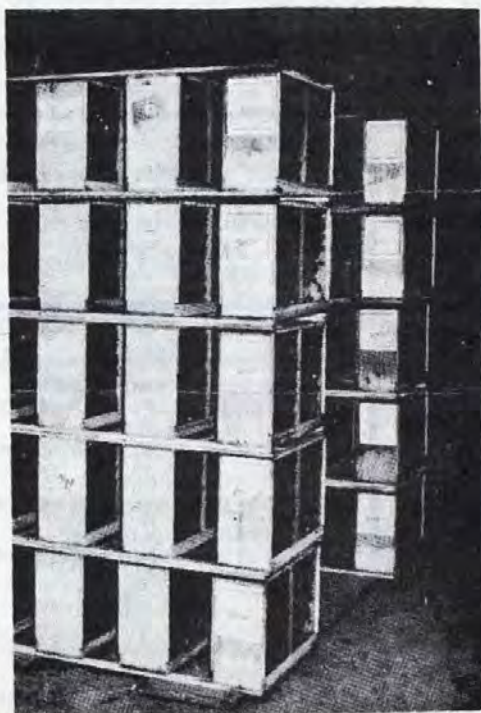
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				4	5	6
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				10	11	12
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MAY 1981						
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JUNE 1981						
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# The Fall Of BIPP

*"...I have no faith at all in the competence of the local ASCS to administer anything."*

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

The Beekeeper Indemnity Payment Program (BIPP) was authorized in Section 804 of the Agricultural Act of 1970. Payments for losses of honeybees due to pesticides were retroactive to 1967. The April 11, 1980 issue of the Federal Register (page 24899) contains a request by the ASCS for comments concerning its proposal to terminate the program. The September 9, 1980 issue of the Federal Register (page 59299) announced the termination of the program on that date but states that the House of Representatives has "recommended that \$1.5 million be appropriated for a new experimental Beekeeper Indemnity Program" for 1981.

## Investigative Report

A Subcommittee of the Committee on Appropriations of the House of Representatives, Jamie L. Whitten, Chairman, issued a directive on June 26, 1979 asking that a study be made of the BIPP. The report resulting from that study is found on pages 824-892 of an unnumbered publication dated 1980, entitled "Agriculture, Rural Development and Related Agencies for 1981: Part II, Agricultural Programs." Over 100 people were interviewed by a staff of investigators. The report confirmed the honeybee-pesticide problem was serious and was generally supportive of the program; it suggests many changes in the administration of the program. The most critical statement in the report is as follows: "The Investigative Staff found the bee colony inspections performed under the Beekeeper Indemnity Payment Program (BIPP) to be inconsistent, inequitable and inaccurate in many cases" (page 833).

## Adverse Comments

Robert Cook, Chief of the Indemnity Program, administered by the ASCS of the USDA, shared with me the contents of some of the letters opposing the program. The opposition falls into three categories: 1, those who distrust the bureaucracy, government, and give-away programs; 2, those who saw injustice and misuse of the program; and 3, those who came to realize the pro-

gram was a band-aid approach that did not solve the problem. Some of these people were obviously not beekeepers; unfortunately, I could not identify who was who in all instances. I have selected below sentences from letters from those opposed to the program that typify each category:

1.a. "I have no faith at all in the competence of the local ASCS to administer anything."

b. "Surely you must have other programs there that are equally asinine and need to be stopped."

c. "The Government payments to beekeepers was part of the pesticide conspiracy by the chemical companies to make the nation's farmers dependent on the use of poisons in order to raise a crop."

2.a. "many of them (the beekeepers) are more adept at farming the program than farming bees."

b. "The few who have collected on this give away have increased their operation from an average of 800 hives to an average of 2,000 hives and brought deisel semi-trucks and consider it part of their income since 1970."

c. "This program was a good intention, and it could have been a benefit to many honest people. However, far too many dishonest people took advantage of the situation."

3.a. "A major fault of the program is its complete disregard for placing responsibility where it should be, (it) makes both the beekeeper and the pesticide applicator lackadaisical."

b. "The person who used the poison should be the one to pay for my damages. Otherwise...there's little or no motivation...to remedy the poisoning of honeybees."

c. "With these lucrative payments for dead bees, nobody made any honest effort to control the use of pesticides."

d. "Being able to collect payments for dead bees, an honest effort to control the use of pesticides was not made...a new approach to this problem should be found."

e. "The pesticide problem is worse than ever...because the

beekeepers get paid to re-establish the colonies."

I can agree with some of these comments. Others result from a rash of adverse publicity that came from the Department of Agriculture and the Office of Management and Budget. This, in turn, came about in part because our industry is so poorly understood.

Many people do not know that most of the pollination by honeybees in this country is done free. And, those beekeepers who rent their bees for pollination often have pollination fees as only a small part of their income. Certainly less than 5% of the average beekeeper's income in the US comes from pollination fees.

## Payments Made

Nearly \$40 million will be paid under BIPP by the time all of the claims are paid. I estimate this is more than has been spent on all honeybee research, including that on the pesticide program, in this country during the same period of time. The amounts by year are shown in Table 1 and by state in Table 2. The cost of administering the program, slightly more than ten percent of the amounts paid, is not shown.

## Discussion and Author's Opinion

I have been a strong supporter of the indemnification program. This is not because I liked it, or because I thought it was right. I have never seen any other course of action open to beekeepers. I have repeatedly asked for money to research the subject and have been repeatedly turned down. The insecticide companies have had no incentive to correct any of the problems they create. The USDA which presumably is concerned with research on a national level and which is not covered by the state colleges, has been slow to respond, though they now have one laboratory devoted to the problem. The EPA, created by the Congress for the specific purpose of dealing with such problems, has also been slow to act, though I now see signs of action I like. Beekeepers have been remarkably quiet about their losses for reasons that are not clear to me.

During the past decade the amount of pesticides used in this country has remained the same. Some changes



have been made. Some of the materials that are highly toxic to man are no longer available except to certified applicators. Actions by the EPA have driven some pesticide manufacturers out of business, and fewer pesticides are available. While this might appear a positive move, it is only part of what I think people in this country want.

What I think beekeepers want are fewer and safer pesticides. However, this is not a worthwhile goal unless the total quantity of pesticide used is also reduced. The reduction in the number of pesticides has been of little help, especially since some of the recently developed materials are especially harsh on bees; PennCap-M is a notable example.

At the same time from where I sit in a state college I hear a great deal of discussion about improved economic entomology and biological control, especially under its new name, Integrated Pest Management. I have seen some changes for the better. The alfalfa weevil, once a serious pest in the northeast, is still a problem but it now has pests that have reduced its numbers. However, the great multitude of the insect pests are serious today as ever.

The most discouraging thing I see is that students are not interested in studying insect and pest control. There are several reasons why this is so. Public opinion has painted those who use pesticides as ignorant country bumpkins with no future. There has been money available to control the use of pesticides, but little to support research. Most important is the fact that, with fewer people on farms and with agriculture being more intensive, few of our young people have seen the devastation insects can cause. Fewer still have had personal experience concerning the financial losses a farmer can face if he does not act rapidly to control a pest.

#### What is Needed

It is important to note that the new 1.5 million dollar program, if it is enacted, still does nothing to solve the pesticide problem. About half of our honey is produced from weed plants where pesticides are not used. The other half comes from plants grown for food. If beekeepers are to survive in many agricultural areas I see three actions they must take.

First, and most important, they must do a better job of documenting their losses. When a loss occurs the beekeeper should make certain the

**Table 1. Damaged Bee Colonies for which Indemnity Payments have been made under BIPP, Calendar Years 1967-78.\***

Year	Colonies Damaged	Indemnity Payments	Beekeepers Receiving Payments
1967	243,393	\$1,806,237	370
1968	228,781	1,662,600	390
1969	226,859	1,658,407	442
1970	215,272	1,661,207	469
1971	304,421	3,232,331	818
1972	247,265	2,178,086	647
1973	205,351	1,805,040	680
1974	243,608	3,207,879	984
1975	245,941	2,988,180	998
1976	295,037	3,614,396	1,307
1977	364,103	4,385,881	1,826
1978	344,443	4,262,266	1,624
	3,164,574	32,462,510	**

\*Data for 1979 and 1980 not yet available.

\*\*Some beekeepers have received funds in more than one year.

**Table 2. Distribution of Indemnity Payments under BIPP, Selected States and US Total, Calendar Years 1967-78.**

State	Indemnity Payments	
	Paid to State	Percentage of U.S. Total
California	\$6,764,902	20.7
Washington	5,810,996	17.8
Arizona	4,627,040	14.2
Georgia	2,159,647	6.6
Idaho	1,553,664	4.7
Texas	1,332,863	4.0
Louisiana	1,235,948	3.8
Arkansas	1,234,047	3.8
Others	7,976,302	24.4
TOTALS	32,685,409	100.0

local country agricultural agent, the farmers, and the press see it. Second, beekeepers should pressure their state colleges and apiculturists into running chemical analyses to confirm what happened and to identify the culprits. All state colleges have laboratories equipped to run such analyses, but they are under pressure from many sources and will not do so unless they feel they must. Last, they must pull together to support the lobbying and actions by a few who are working to improve the situation in Washington. They must contact their legislators repeatedly to remind them that the problem is not solved.

I see the long-range answer in research, including research on bees and pesticides. Unfortunately, research is a slow, difficult process. I believe, however, that money invested in research will pay dividends at a fraction of the cost of the present program. It would be a pity for us to continue the program, spend another 40 million dollars, and then find ourselves in the same position in another 10 years. □

#### DIARY OF A NEW PACKAGE BEE PURCHASER....

(Continued from page 286)

had carried up in my pocket for that purpose: I jam her between two of the frames screen face down and replace the cover. I didn't even LOOK to see if my Queen was in good shape!

Next, I shook the bees in the box over the entrance and placed the box down and moved away fast because it had now started to rain again in earnest. So soaked and shaken I retired home to eat lunch and watch the soaps.

#### Tuesday early P.M.:

The sun has been going in and out, the rain has stopped. I decide to go back up and look at the little darlings. The little darlings were still in their box, wet, dispirited and waiting for something, anything to get them out of the uncomfortable situation.

Taking the bees by the horn (sic), I reopened the brood chamber, saw the queen cage still in place and shook the bees over the frames without bouncing them on the ground! They all fell in and I gently swept the hangers on into the frames, closed up the hive again and put the almost empty box in front of the entrance.

Having by now borrowed an antique smoker filled with rotten burlap and pine cones I sallied forth with much more bravado.

Heck, I now knew where Queenie was stationed and the next box I opened did not have an extra escape hatch. This time, the next two packages went according to plan.

Slid off board, pried out syrup can, slid back board, removed queen, swept off hanger ons with hive tool onto brood chamber, checked out healthy queen, installed her, shook out bees and placed box in front of the entrance.

At the fourth hive, the antique smoker quit half way through the second weak spurt of smoke. However, thinking myself an expert by now I went full steam ahead. I did not even brush on a little extra syrup. The ladies let me know of their great displeasure at not being treated equal....with my very first stings of the day.

#### Wednesday A.M.:

Today is bright and beautiful. Warm with soft spring breezes. The

(Continued on page 295)



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**POLLEN TRAP.** Bottom Hive Trap. Completely painted and put together. Write or call for information and photos. **Champie Pollen Co.**, 5118 North 18th Ave., Phoenix, AZ 85015. Phone 602-277-0482.

#### PINE BEE SUPPLIES

- \*Beehives dovetailed — \$3.50 each
- \*Super 5 1/4" or 6 1/2" — \$2.50 each
- \*Frames heavy duty per 100 — \$28.80
- \*Frames heavy duty per 1000 — \$250.00
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aluminum metal. One cover assembled \$7.50 plus \$2.50 for UPS and handling. Over 1,000 miles add \$1.00. Five tops unassembled \$6.50 each Plus \$8.00 for UPS and handling. Over 1,000 miles add \$4.00. **Earl E. Schmucker**, 25115 C R 54 Rt 1, Napanee, IN 46550.

**FOR SALE:** New and Used Bee Supplies, Extractor, Honey pump, Steam boiler, Honey Tanks. **Norman Ellis**, Caro, Mich. 48723 Phone: 673-3647.

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**QUALITY WOODENWARE** — Factory Prices. **Allen's Bee Box Factory**, Hwy. 93, Box 878, Polson, MT 59860.

**BEE SUPPLIES** — Bottles — Happy Hive Cabana Equipment And Hive Top Feeders. **Lewis Smith**, 43 Puritan Way, Duxbury, MA 02332. Telephone evenings 934-6676.

**COMMERCIAL SUPERS:** Mini of 25 (one size) 9% supers \$3.79 - #2 super \$3.10, 7 1/2% supers \$3.25, 6% supers \$2.55 - #2 super \$1.85, 5% supers \$2.40. (call for price of 100 or more supers) **Economy Frames** — lots of 500 (all sizes: 500 frames \$112.50 or 22 1/2¢ each, 1000 frames \$205.00 or 20 1/2¢ each, 5000 frames \$1000.00 or 20¢ each. Free Discount-Catalog. **Glorybee Honey**, 1006 Arrowsmith, Eugene, OK 97402, Phone: 503-485-16649.

**"LAGRANT'S"**, New England's Largest Manufacturer of Bee Supplies, send for our catalog! Northern bred 3 frame nucs with 1981 queens, (limited number). **Lagrange's**, Ware, Mass. 01082.

**OUR OBSERVATION HIVES**, are furniture crafted of beautiful oak and are reasonably priced. Be ready for spring! Write now for free brochure or send \$5.00 for our complete plans and instructions packet. **Kawana Honey**, 2100 Kawana Springs Rd., Box G, Santa Rosa, CA 95404, Phone (707) 528-4377.

**"CONICAL BEE ESCAPES AND TEMPERATURE CONTROLLED VENTILATORS** is our specialty. For free information write to: **Trafalgar B. Equipment**, 3371 Trafalgar Road, RR 1, Oakville, Ontario, Canada L6J 4Z2."

**QUALITY CYPRESS BEEKEEPING SUPPLIES** — dovetailed hives and

hive parts, beginner's kits, complete supplies. Write: **BEE-JAY FARM**, Dacula, GA. 30211.

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**USED — HONEY FILTER. USED — 50 FRAME EXTRACTOR. USED — 80 FRAME EXTRACTOR — LIKE NEW. USED — HONEY PUMP. LARGE CAPPING MELTER — LIKE NEW. HONEY DRUMS, GOOD CONDITION. HUBBARD APIARIES, BELLEVUE, FL 32620. PHONE: 904-245-2461.**

**HONEY HOUSE** with adjacent hard surface lot, super warehouse, home and over 75 prime locations in West Central Minnesota. Over 11,000 sq. ft. storage area in 3 separate buildings for 5,00 colonies. Honey house has inside loading dock and 2 separate heat rooms. Also 1 myers E-Z loader with or without ramps. Never used. And 1 Cowen Uncapper. Large model with auger. Like new. Call or Write: **Overbey Apiaries, Inc.**, P.O. Box 656, Bunkie, LA 71322, Ph: 318-346-6433 or 346-6888.

**POLLEN TRAP.** Bottom Hive Trap. Completely painted and put together. Write or call for information and photos. **Champie Pollen Co.**, 5118 North 18th Ave., Phoenix, AZ 85015. Phone 602-277-0482.

**COMPLETE WOODENWARE Mfg.** Plant For Sale — Write **Gleanings In Bee Culture**, Box AB, P.O. Box 706, Medina, OH 44258.

**STAINED GLASS BEE** — 7 1/2" from wing to wing and 4 1/4" high. Made from beautiful amber and gold colored glass. Send \$11.75 postpaid to: **Creative Glass Works**, 151 N. Main St., Creston, Ohio 44217. Allow 3 weeks for delivery.

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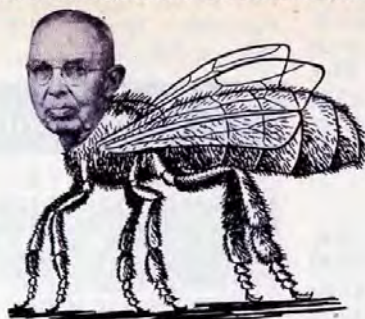
(Continued from page 291)

peach tree is in bloom and there are yellow dandelions everywhere. How have my bees fared the night?

I arrive and walk slowly over to the hives. How nice, the boxes are empty with just a few bees in them. The bees are flying in and out of the hives as if they had lived there all of their lives.

I suppose there is truth to that old maxim, "When there is a will, there's a way". Boy, I sure was willing and I finally had my way!!! □





Reg. U.S. Pat. Off.

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Swarms shipped only from our Louisiana bee farm. Queens from Louisiana and Kentucky via Prepaid Air Mail. Clipping or painting queens 40¢ each extra. Due to slow parcel post delivery we are shipping swarms only to the following states:

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MISSISSIPPI	KENTUCKY	ILLINOIS
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ARKANSAS		

	Queens	2-lb. w/q	3-lb. w/q
1-9	\$6.25	\$19.00 ea.	\$24.00 ea.
10-24	6.00	18.75 ea.	23.75 ea.
25-up	5.75	18.50 ea.	23.50 ea.

**THE WALTER T. KELLEY CO.**  
Clarkson, Kentucky 42726

## TERRAMYCIN

6.4 oz. TM-25 Ship Wt. 1 Lb. \$2.50  
5# TM-50D Ship Wt. 6 Lbs. \$18.00  
ADD PP & UPS CHARGE.  
50# TM-50D Ship Wt. 53 Lbs. \$160.00  
ADD PP & UPS CHARGE.

TM-50D is 5 times as strong as TM-10 and twice as strong as TM-25. Packed by PFIZER

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Tate's Three Banded Italians

You Can't Buy Better Bees & Queens, Why Pay More?

Prices Effective May 1st.

Prices Include Postage, Insurance, and Special Handling.

	1-9	10-24	25-99	100-up
2-lb. W/Q	\$14.00	\$13.75	\$13.25	\$13.00
3-lb. W/Q	17.00	16.75	16.25	16.00
Queen	3.25	3.00	2.75	2.50

Packages to be picked up at our Apiary.

2 lbs. & Queen \$10.00

3 lbs. & Queen \$13.00

Fumidil-B Fed to all Package Colonies & Queen Nuclei.

Write or Call for Packages to be Delivered by Our Truck.

We do not Guarantee live delivery on Package bees. If they arrive dead, file claim with your post office and we will replace.

Numbers to call:

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Millry, AL 36558  
205-846-2662

**Leonard Tate**  
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Millry, AL 36558  
205-846-2661

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## The time you waste is worth more than the money you save!



If you've ever bought "bargain-priced" hive bodies you know the story behind the picture. They don't fit, so you have to make them fit with a chisel or saw.

When you're done "the time you waste is worth more than the money you save".

All of our hive parts come complete with nails and instructions. Our deep supers come with metal frame rests and all our supers have predrilled lock corners.

As the oldest manufacturer of beekeeping supplies in the United States, we can't boast perfection but if it isn't right we'll replace it — no questions asked.

For supplies that work and fit properly visit your nearest Root Dealer. He's a good man for sound advice too. Send for free Bee Supply Catalog.

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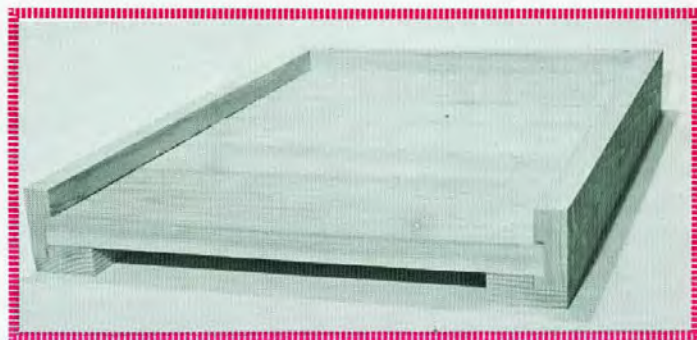


# Over 110 Years Of Quality Beekeeping Supplies

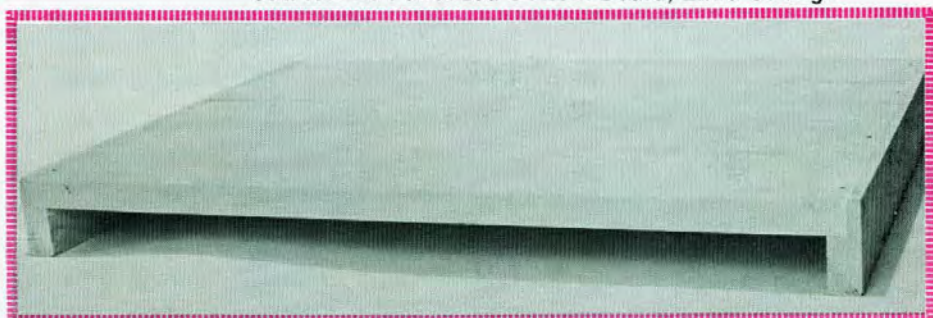


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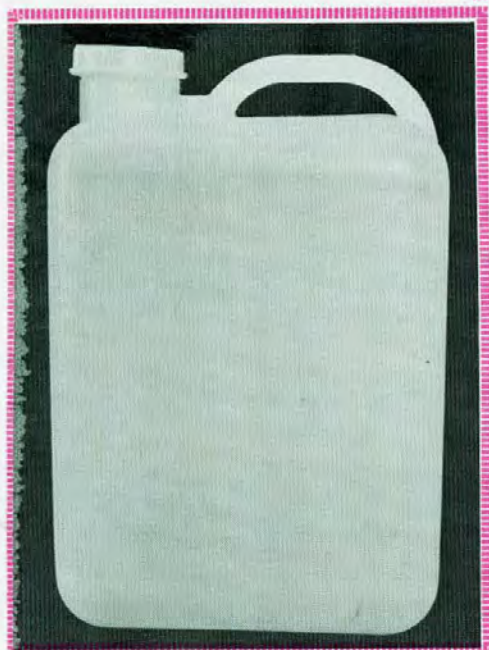
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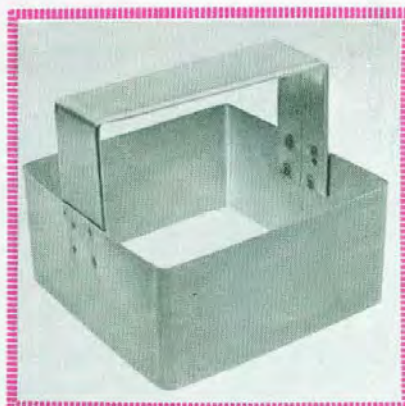
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