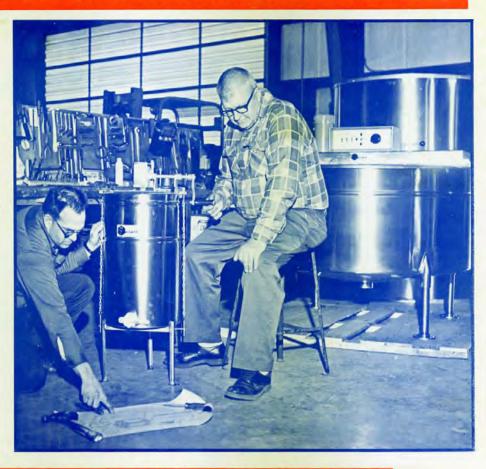


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John Root, Associate Editor
Dr. Roger A. Morse, Research Editor
Joan Stopke, Advertising Mgr.
Rebecca Hall, Sub. Mgr.

Subscription Rates; United States subscribers, one year, \$9.85; two years, \$19.50. Single copy \$1.20. Other countries including Canada, Pan American countries and Spain (U.S. Currency only), \$3.25 per year additional for postage. Published monthly. Discontinuance: Subscription stopped on expiration. Change of Address: Give your old as well as the new and print the name to which the journal has heretofore been addressed. Remittance should be sent by post office money order, bank draft, express money order or check.

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#### **COVER STORY**

Bees are attracted to the teacupsized magnolia blossoms in the yard of Wenner Honey Farms, Glenn, California.



May 1982 (ISSN 0017-114X) Vol. 110, No. 5
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## Gleanings Mail

#### Save The Bears

Dear Editor:

I have a comment to Grant D. Morse on his recent "Bear Depredation" series in Gleanings.

I have read your articles on bear depredation with the same indignation which I had when the American Bee Journal wrote about the same subject. I cannot understand this intolerant attitude and the length you go to exterminate a few (or many, perhaps all) bears, because they have made a modest comeback. To balance the life, a precious life of a wildlife species against your modest damage suffered among your few colonies of bees is unthinkable . . . . .

I believe, dear fellow beekeeper, you have spent too much emotional and physical energy writing, corresponding and puffing about the bears. For the same effort you could have erected an electric fence, or put steel traps around your hives temporarily to keep Smokey away. With a little compassion and positive effort and modest expense, bear damage can be minimized without harming the bear, or the bees. Save our wildlife.

Alexander Alt Santa Barbara, CA

#### **Nuisance Bears**

I would like to say I agree with Dr. Morse on black bears. They are a nuisance.

Mr. Norris (Gleanings Mail Box, March, 1982, page 130) claims Dr. Morse moved his bees into an area which the bears have called home for thousands of years. Well, let me tell Mr. Norris this did not happen here in West Virginia. The bears go around looking for bee hives. One Department of Natural Resources man told me a bear could be a hundred miles away and think of bee hives and he would never stop until he got at the hives. Yes, they destroyed bee hives for me three or four times. The Department of Natural Resources has payed me for what damages I

(Mr. Cooper continues on to

describe his electric bear fence. Editor.)

> H. E. Cooper Orgas, WV

#### Invitation From Sweden

Dear Editor:

The Swedish commercial beekeepers have founded the first nationwide organization to take care of all the special problems concerning part and full time beekeeping. The name of the new organization is "EKOBI", standing for Economic Beekeeping. It is run as an independent club but in association with the existing Swedish Beekeepers' Association. If any U.S. beekeeper plans to visit Sweden we will gladly assist in making contact with any of our members and planning for a fruitful meeting. EKOBI, Villa Kullen, S-186 oo Vallentuna, Swden.

#### Spray Protection

Dear Editor:

I am a hobbyist beekeeper in Woodbridge, Connecticut, a suburb of New Haven. Once again we're expecting a record infestation of the Gypsy moth caterpiller in the Northeast and with it the spraying of Sevin. Around here they use a mixture of the chemical Sevin and molasses to give it a sticky quality, causing it to cling to leaves, and to our dismay, flowering plants. I found last year that the chemical is most toxic to the bees for three or four days after the spraying. The halflife of Sevin is about twelve days.

I used to work for the major tree care company in the area and have remained on good terms with the owner through the years. He sprays in my neighborhood about one or two weeks after the caterpillers have emerged and are just beginning to eat the young buds on oak and hickory trees. When I feel the time is getting near to spray I give him a call and he'll tell me the day and approximate time he'll be in my neighborhood.

It is all pretty much weather depen-



dent, but if it looks like it will be a good day when he comes, the night before when the bees are all in, I cover the hives with an old bed sheet. and tie it down with cord. Some bees still escape to forage but much fewer than normal. I leave the sheet on the hives for the remainder of the day, perhaps two days and then remove it during the night.

During the next two weeks I may see a few dead bees in front of the hives but not the devastation I had two years ago when I didn't take such preventive measures.

Bill Ferrell Wookbridge, CT

# Obituary



Marcus Osborne

MARCUS L. OSBORNE, 73. a commercial beekeeper in Wisconsin died recently. He was past president of the Wisconsin Honey Producers Association and the Rock County Beekeepers Association. He was a member of the American Beekeeping Federation and the American Honey Producers Association.

Survivors include his wife, one halfbrother. Walter Osborne of Dayton. Ohio and nieces and nephews.

# **Honeybee Brood Disease**

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

I AM WRITING this with the beginner chiefly in mind. The owner of his or her first hives of bees is concerned — concerned that nothing of a bad nature may happen to that precious possession.

For one thing, an owner is interested in the dangers of such threats as diseases of the young bees in the brood stage. He or she wonders what a beginner can do about them.

A new booklet with the title, Honey Bee Brood Diseases by Henrick Hansen\* offers help on the subject. The editor of the English edition is Roger A. Morse. It's a small book, only 28 pages. But one of its chief values for a beginner is that most of the illustrations (23) are in color. They are in color, obviously, not just to make them more attractive, but to help the frame, comb, and diseased cells appear to the reader and observer very much as they do when taken from the hive for examination, and for the detection of the possible presence of one of the major brood diseases. This is almost impossible to illustrate clearly in black and white.

This book covers the following diseases: American foulbrood, European foulbrood, sacbrood, chalkbrood, stonebrood, drone brood, chilled brood, and Varroa disease. It then lists the causes, appearance of the broodnest and the cappings, the color and consistency of the larvae, the scales, and the odor, if any.

This is the first book I have seen that makes such an ambitious effort to arm the beginner with information that can be studied, both before examining the combs of the colonies, and afterwards (or during the examination) in an effort to determine whether the bees are free of all diseases listed here.

#### **Warding Off Diseases**

What can the beginner do to help prevent a colony from contracting any one or more of the diseases being considered here? First, when the original purchase of bees and equipment is made, the buyer should insist on an inspection by a state official prior to a final bargain. This is one argument in favor of starting with package bees from a reliable source, and placing them on new furniture

and foundation.

A next step is to make at least a reasonable effort to inform one's self about the possible existence of diseased colonies in the vicinity, both in maintained hives, and in nests in the wild state. Also, the existence of discarded equipment that once housed disease is a threat. Annual state examination of all colonies by state inspectors is one of our best safeguards against acquisition or admission of disease when the bees are under stress. In the case of AFB they do not need to be under stress to contract the disease.

Bees can become subject to stress when any one of the following conditions exists: shortage of adequate numbers to perform all necessary colony functions, strain from being subject to chilling winds or cold weather, the presence of poor quality food stores; lack of upward ventilation of the hive during cold weather, the presence of an inadequate queen, and shortage of necessary pollen.

Of course, even strong colonies can acquire brood disease, in part because of their strength. The reason is that they are the better able to forage far and near and to rob colonies that may harbor disease. But this is a risk I should prefer to take rather than err on the side of colony weakness.

Beekeepers can promote the spread of disease among their own colonies by failing to examine them periodically and with a knowing and critical eye, or by failing to be able to identify a disease when present because of lack of previous study, or experience, or some other. The illustrations in *Honey Bee Brood Diseases* should make the learning and identification process an easier one.

When the spring examination of colonies is made is one excellent time to attempt to determine whether disease is present. Inspection of one or two frames from the midst of the brood nest should be adequate. At any time the hive cover is taken off subsequently, another opportunity is afforded for at least a cursory inspection of a frame or two. This is desirable because disease can make its entry at any time during the warm months.

#### American Foulbrood

In the United States and Canada

this is commonly regarded as the most damaging of all brood diseases. This is in part because the spores of the disease are so virulent, being able to continue alive for an extended period in equipment even after it has been removed from the brood nest. Further, it is so virulent, and the diseased brood is in such a disagreeable condition that most colonies of bees seem impotent to eradicate it. Consequently it thrives and spread.

Its presence is often first made evident to the beekeeper by the existence of discolored, sunken, or perforated cappings of cells that harbor a diseased larva. The brood of an infected comb is usually scattered. A healthy, first class, comb of brood has its cells almost solidly filled with brood over whatever portion the queen has elected to lay eggs.

The dead larva lies flat on the bottom of the cell. In color it is blackbrown, dull white, light brown, eventually becoming dark brown, and sticky or ropey. With a match or similar stick it may be drawn out in rope-like fashion at a certain stage. It gives off an unpleasant glue-like odor.

#### European Foulbrood

This is one of the stress diseases. Like its more insidious counterpart, American Foulbrood, it usually appears in the midst of a scattered brood pattern. The cell cappings are often discolored, sunken and perforated. In unsealed cells the larva usually assumes a twisted position, sometimes stretched out on the ventral (lower) side of the cell. In color it is black-brown, viscous, slightly ropey and sticky. It gives off an unpleasant, sour odor.

#### Chalkbrood

Chalkbrood commonly occurs amidst a scattered brood pattern. The cappings may be light or dark, convex, perforated in several places. The dead larvae usually appears in sealed or perforated cells. The larva may be white and mouldy, later gray-black, hard, chalk-like. It gives off little, if any, odor.

#### Sacbrood

Sacbrood is a virus. Like the other diseases just covered, it usually occurs amidst a pattern that is irregular. The cappings are often dark and

(Continued on page 244)

### Honeybee Brood Disease

(Continued from page 243)

sunken, many perforated. The dead larva often appears with a raised head both in the sealed and in the perforated cells. The larva is grayish to black, watery, and granulated. The skin has a sac-like appearance. The odor, if any, many be sour.

#### Stonebrood

This is a fungus growth. It is rare. The afflicted cell may have a greenish, mouldy appearance. The capping is often perforated; frequently covered with a greenish layer. It occurs both in sealed and unsealed cells. In color it is green-yellow, hard, and shrunken. It may have a mouldy odor in the advanced stage.

#### **Drone Brood and Chilled Brood**

Drone brood is chiefly distinguishable by the cappings of the cells which are convex. Chilled brood, if in considerable quantity, or if compelled to be left in the cells for an extend period because of unfavorable weather, may acquire a rotten odor. Usually it is promptly removed by the workers.

#### Varroa Disease

This disease is caused by a mite, Varroa jacobsoni. It occurs most frequently in drone brood and amidst a scattered brood pattern. The cappings are discolored and sunken. When the infection is heavy, the disease occurs beneath a capping on the cell. If the larva survives the infestation, the bee is often deformed. It gives off an unpleasant, rotten odor in severe infestations.

Varroa disease is not now found in the U.S. However, it is widespread in Asia, Europe, Africa, and South America. It is a disease to be feared. The U.S. Dept. of Agriculture is now conducting a survey of the U.S. to confirm that it is not here. Strict enforcement of quarantine laws will be necessary to make certain this pest does not enter this country.

#### **Laboratory Diagnosis**

The booklet, Honey Bee Brood Diseases, offers the information that samples of brood suspected to be diseased may be sent to the Bioenvironmental Bee Laboratory, Agriculture Research Center, Beltsville, Maryland, 20705 which will examine and diagnose samples sent from anywhere on earth. It advises that samples suspected of being diseased should be wrapped in paper

and packed in cardboard (not plastic or foil).

#### Other Threats of Colony Prosperity

Another threat to colony prosperity is numerical weakness at certain periods. These periods may include:

1. The initial establishment time of a colony (including the nucleus stage)

2. The period preceding and following supersedure.

Exhaustion of winter stores (in the spring).

4. Nectar dearth periods.

As a rule, if the unit is queenright, and any nectar at all is available, the colony will acquire desirable strength eventually. If a hobbyist is greatly concerned that the colony should become numerically strong as soon as possible, feeding is advised.

Feeding is usually best done from glass or tin containers (the former with metal or plastic tops). This is done by inverting the sugar syrup containers above the brood frames, protected by an empty hive body. If the unit is very weak, some packing in the super guarding the feeders may be desirable.

If strong nuclei are desired one can scarcely afford not to feed them until they have attained considerable strength. Feeding releases most of the workers that would otherwise be gathering nectar, pollen, etc., so that they may assist in raising young bees, and thus build the colony to desirable strength.

#### Location of the Bee Yard

Lately, during talks to lay groups about bees, I have become progressively aware of the fear many people have of bees. All beekeepers know this fact but many of them tend to make light of it. In my judgement it is not a matter to be underestimated.

To condition an entire human population to the fact that honeybees seldom are inclined to sting a person unless one is in the vicinity of the nest, particularly when it is being manipulated, will take generations of giving information, and of adjustment.

To sum it all up, the nonbeekeeping public (which is more than 99% of it) is afraid of bees. If one never had to open a hive, or remove honey, the bees might never offend. They seldom would. But even one offense is too many.

So choose the site of your bee yard carefully, not only in relation to its own physical welfare, but quite as much with the stranger in mind who is afraid of bees. I have mentioned bee yard locations here in connection with information on brood diseases because a hobbyist is not likely to enjoy the fruits of beekeeping as she or he should, if neighbors are critical of beekeeping.

#### Guarding Against Spread of Brood Diseases

Earlier in this article I mentioned wild nests as possible sources of disease. This is a more realistic source of infestation than may commonly be supposed.

One factor that contributes to the likelihood of disease being present in a wild nest is the inclination of swarms to occupy quarters that have harbored disease for a period of years. Even if a wild colony is wiped out by such a disease as AFB., another and another may follow it in the same quarters.

Sometimes it pays to spend a bit of time investigating to see how many wild colonies are present in the vicinity of one's yards. When found, it is usually possible to encourage the owner of the tree, or object harboring the nest, to give the beekeeper permission to remove it, giving the owner of the tree all or part of the honey, if any. When removal is taking place, inspection of the brood should be made to determine its health. If it is found to be infected, the nest should be burned along with its contents. It's much safer not to leave the task to the owner of the tree.

It does no harm, also, to inquire if in the vicinity there is a former beekeeper who has discontinued being such. If such a person is found, a diplomatic inquiry might be made as to what was done with this beekeeper's former equipment. If it was thrown into a dump (private or public) that was not thoroughly covered, it may still be the source of contamination.

In conclusion, a beginner can try to combat honeybee brood diseases by studying thoroughly the characteristics of the various diseases and trying to be able to identify them. One should make every effort to keep his colonies strong; and to be informed of neighboring wild nests that may possibly be harboring disease.

\* Honey Bee Brood Diseases. Henrik Hansen. 1981. Printed in Denmark. Editor, English Edition, Roger A. Morse. North American distribution: Wicwas Press, 425 Hanshaw Road, Ithaca, NY 14850. \$8.00 postpaid.

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#### **Cutting Pesticide Losses**

In 1981 an information and advertising campaign helped northwestern Wisconsin beekeepers minimize honeybee losses due to agricultural insecticides.

The Polk-Burnett Beekeepers' Association undertook a Bee Alert Program to inform area farmers of the danger certain insecticides pose to the beekeeping industry. The group put out newspaper and radio news releases, bought advertising and discussed the pesticide issue on local radio stations. Commerical beekeepers were joined by hobbyists in paying for the advertising. The radio stations also aired numerous public service spots.

Polk County Agricultural Agent. Willie Erickson, worked with the beekeepers in promoting the program. He encouraged farmer use of the bee yard location map in the University Extension Office and offered free assistance to farmers with questions about honeybees and pesticides.

Some areas of Wisconsin experience severe bee losses each summer, according to Paul Ekblad, president of the Polk-Burnett Beekeepers' Association. Ekblad says a major consideration in the reduction of beepoisoning is beekeeper-grower cooperation.

People who keep bees and those who employ pesticides are bound to come into conflict if one remains ignorant of the needs of the other. An encouraging increase in the sharing of responsibility between beekeepers and insecticide applicators for the safety of honeybees has already shown promise of better things to come.

Consumers, who have become accustomed to the availability of bountiful and variable agricultural produce in the grocery, are a powerful force in America. Anything that threatens this abundance and selection in our foods is bound to be the subject of some serious questioning. It is a matter of

concensus among agricultural experts that our capacity to continue to supply the growing population of America and the world rests on our ability to control diseases and pests with pesticides, mainly chemicals.

Yet, there are threats to this seemingly flawless system. For one thing. the long term effects on human and other living organisms is not known except possibly for the very toxic chemicals which have been largely abandoned in America as agricultural sprays. Only limited, or no controls, are being used in some foreign countries which export foodstuff freely to the American markets. There were demonstrated dangers in using the very toxic sprays. Another concern. and one which worries beekeepers, is that as pesticides are made more "efficient" against harmful pests there is a corresponding increase in bee and other beneficial insect kills. The microencapsulated pesticides are an example.

Excessive emotionalism is always a concern of those who have to do the hard bargaining necessary to provide

a workable solution to problems such as the honeybee-pesticide problem but a certain level of compassion for the victims and some demonstration of anger and protest will sometimes stir up some action when nothing else seems to do any good.

Our congratulations to the leaders of the cooperative movement among Wisconsin agricultural communities for the demonstration of a positive attitude and some very progressive steps in meeting the problem of beekeepers with pesticides.

#### Ethylene Oxide Boon or Bust?

Many ethylene oxide fumigation chambers are now in use for treating equipment infected with honeybee brood diseases, a very successful program to date. Now comes word that a health research group of public citizens is rooting out work-place hazards and are pressuring the Occupational Safety and Health Administration to investigate ethylene

(Continued on page 269)



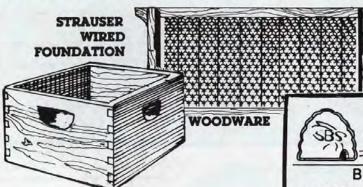
Roy Thurber from Kirkland, Washington, (left) receives 1981 Western Apicultural Society "Outstanding Service to Beekeeping" Award from Doug McCutcheon from Surrey, British Columbia. WAS President, Charlie Duncan (center), moderated the award presentations.

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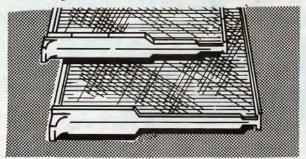
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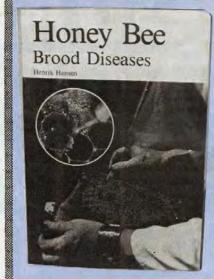
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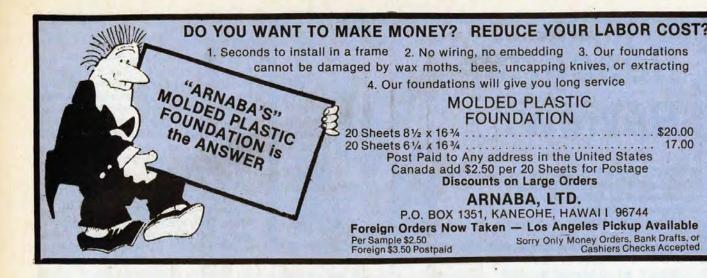
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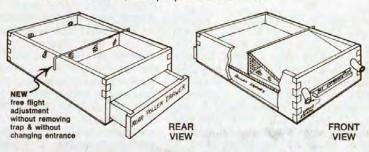
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# Research Review

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



#### Honeybee Studies in Japan

THE INSTITUTE OF Honeybee Science at Tamagawa University in Tokyo is the only laboratory in Japan devoted to studying honeybee biology. I had an opportunity to visit there recently and was much pleased with everything I saw. The head of the laboratory is Professor Ichiji Okada; he works with a staff of seven Associate and Assistant Professors and Lecturers.

Tamagawa University, a private school, receives only a small amount of support from the State. It is unlike any other institution I know. Schooling starts with kindergarten and continues through college and a Master's Degree. While the primary function of the laboratory is teaching, I met about 15 graduate students and was shown several recently completed theses. Students are researching a wide range of subjects from varroa disease and diploid drones to several studies of royal jelly, which is widely produced and used in Japan.

The weather in early February, when I was in Japan, was too cold to examine colonies outdoors. A highlight of our trip was a visit to the strawberry-growing region along the coast where honeybees are used in large numbers to pollinate greenhouse-grown strawberries. The colonies were five-frame nucs. Those we looked at were prospering, though we found varroa mites on adult bees without difficulty. The berry plants are put into the ground in early November in plastic greenhouses along the coast, where I presume the sea helps to maintain a constant temperature. The harvest was just starting in early February. At the time I visited, the berries were large and delicious; some were fully two inches long. Growing greenhouse strawberries in Japan is a business that is only a little over a decade old. I suggest it can be done elsewhere. The strawberries I saw in Tokyo many miles away commanded a high price. The importance of honeybees for pollination has been recognized from the time the industry was started.

There are only relatively few colonies of the small native honeybee, Apis cerana, left in Japan. It appears that, contrary to some statements that have been made, it is possible to keep this bee and European honeybees together in the same area Professor Okada had two colonies in his own garden. A. cerana, of course, are the original host of the varroa mites that are such a serious problem so many places on earth. Japanese beekeepers told me they are using several chemicals and methods to treat varroa. Without such treatment, I was told, it would not be possible to keep European honeybees in Japan.

In a round-table discussion with Professor Okada and several other beekeepers, I was asked questions that were very similar to those that would be asked in the United States. Japanese beekeepers are very much concerned about honey sales and promoting honey. They, too, feel the pressure of large-scale exports of honey from China. I think they were not aware that the honey from China is higher in iron than that produced elsewhere. As a friend in Europe remarked, it is like "honey with nails." The source of the iron is probably metal storage or extracting equipment. I was interested to learn that very little honey is used in baked goods in Japan. This is a market that obviously could be expanded.

In Japan I was able to examine only a few beehives. The equipment appears to be of standard Langstroth dimensions. Frame and super construction are much the same as in our hives.

In 1980 Tamagawa University and Professor Okada started a new honeybee research journal entitled Honeybee Science. While it is published in Japanese, each article has an English summary. I do not know how widely it is circulated but I am certain it will be an important reference source in the future.

Japanese beekeepers have offered to host the international beekeepers meeting, Apimondia, in the fall of 1985. This group meets every other year. The most recent session was held last fall in Mexico. The next meeting will be in 1983 in Hungary. To my mind, a meeting in Japan would be most welcome and would be something many American beekeepers would enjoy.

#### **Explaining the Present** Distribution of Asian Mites on Honeybees

In Burma and Thailand I was told about, and saw, colonies of European honeybees infested with both Varroa jacobsoni and Tropilaelaps clareae. Some here have told me that T. clareae may be the more serious of the two. In tropical Asia it seems that wherever one of these parasites occurs, so does the other. I observed they were always together in European bees in the Philippines when I visited there several years ago. In Japan, and perhaps the rest of temperate Asia, only Varroa mites are found in colonies of European bees. Apis cerana, the Indian honeybee, is the original host for V. jacobsoni, while Apis dorsata is believed to be the host for T. clareae. Since A. dorsata is found in tropical Asia only, so are the mites it harbors.

Perhaps part of the reason European honeybees have done well in Japan, China, Formosa and Korea is that in these countries they have Varroa only. It is interesting that man has several times transported V. jacobsoni outside of Asia, but never T. clareae, as far as we know. The varroa infestation in eastern Europe (which started in European Russia) came from the Primorye region north of the port city of Vladivostok, U.S.S.R., where only V. jacobsoni occurs. The Western European infestation came about as a result of the Germans carrying A. cerana to Germany from Sri Lanka, and those bees probably were not in-

(Continued on page 251)

# Senator Pressler Introduces Honey Import Bill

By GLENN GIBSON Executive Secretary The American Honey Producers Assn. Minco, Oklahoma 73059 Phone: 405-352-4126

ON FEBRUARY 23, 1982, Senator Larry Pressler of South Dakota introduced legislation in the Senate to provide relief from honey imports. Subject bill, S 2124, was read twice and referred to the Committee on Finance where all international trading legislation must be discussed. The Senator's statement on the subject of honey imports appears in the Congressional Record on page S 994. The legislation would increase the tariff rate for honey from one cent to ten cents for nations with mostfavored-nation status and from three cents to twenty cents for other countries.

Mr. Pressler gives good justification for the legislation in the following excerpts of his statement:

"In recent years, honey imports have increased dramatically and are now displacing domestic honey production. Honey imports were 8.5 million pounds in 1948 when the tariff on honey was originally imposed, and remained at about that level until the early 1970's when honey imports dramatically increased and countinued to increase to 52.8 million pounds in the first eight months of 1981. The increase in honey imports has resulted in the Commodity Credit Corporation acquiring six million pounds of surplus honey in 1980 and that amount is expected to more than double in 1981. The honey price support program provides a loan rate for honey at sixty percent of parity and provides that the producer will try to sell the honey, but if they are unable to sell the honey, the CCC will take possession of the honey. The present support price is fifty-seven cents per pound which means if twelve million pounds of honey are acquired, it will cost the CCC \$6.8 million in 1981. The surplus honey is usually used in the school lunch program, but these large amounts cannot be distributed totally to the school lunch program.

"To deal with the honey import problem, I am proposing to increase the tariff on honey imports from one cent to ten cents per pound, which will make honey imports competitive with domestic honey production costs. Presently, honey exporting nations are selling honey in the United States at prices between forty-five cents and fifty cents per pound. A ten cent tariff will bring these prices in line with the domestic honey loan support price of fifty-seven cents per pound. While these nations are exporting their surplus honey, they have imposed restrictive tariffs to protect their domestic industry and in some cases. actually subsidize their exports. For example, Mexico, our largest source of honey, has a fifty percent advalorem tariff with a two percent export promotion charge and one and one half percent port improvement fee. All major honey producing nations except the United States and Canada have at least a twenty-seven percent tariff on honey imports. A ten cent tariff on U.S. honey imports would be less than those imposed by other nations, but still help protect our domestic honey industry."

The closing paragraph of the Senator's statement reminds the Congress that positive action on our request for import protection in 1976 would have prevented the present crisis. He said:

"In fact, the International Trade Commission studied the impact of honey imports on the domestic honey industry in 1976. The ITC found that honey imports into the United States were in such increased quantities as to be a substantial threat to cause serious injury to the domestic honey industry. They recommended that a tariff-rate quota be implemented to protect the domestic honey industry. Unfortunately, the tariff was never imposed, so the injury to the domestic honey industry and the honey price support program has occured."

In addition to introducing the bill

the Senator contacted members of the Senate asking for co-sponsors. He also wrote letters to President Reagan, Secretary of Agriculture Block and U.S. Trade Representative Block.

Since 1976 when our plea for import protection was denied, Richard Adee has maintained a close contact with the South Dakota congressional delegation. Readers will recall that U.S. Representative Larry Pressler was one of our strongest supporters for import protection when our plea was heard before the International Trade Commission. Thanks to Richard our problem remains uppermost in Senator Pressler's mind.

We are continually asked about our chances of getting S 2124 enacted into law. That depends on a number of things. Consitituent beekeepers willingness to ask their congressional delegations to support the Pressler bill will have a great deal to do with it. We have a number of things going for us at the moment. Inequities in international trade agreements, illegal trade barriers, trade deficits. unemployment caused by imports, lack of action for compliance among trading partners, and a multitude of other ills are some of the top news stories. A number of corrective bills have been introduced. Discussions about international trade cautiously include a hint of retailation against trading partners that have loopholed their agreements.

Beekeepers you can help by writing your elected officals in Washington and telling them about our problem. Write your Senator — U.S. Senate, Washington, D.C. 20510. Write your U.S. Representative, U.S. House of Representatives, Washington, D.C. 20515. Do this today!!!

### Research Review

(Continued from page 250)

fested with *T. clareae*. The North African infestation resulted from shipments of mite-infested bees from eastern Europe. The southern South American infestation was started as a result of European honeybee queens being carried from Japan to Paraguay. We are fortunate that so far only *V. jacobsoni* is found outside of Asia.

The lesson is clear! Everywhere we

find *V. jacobsoni* we must continually double check for *T. clareae*. We do not know if it can survive in a temperate climate or not, we know only that it is not present there **yet!** And, because both mites are a threat to beekeepers everywhere, we must increase our efforts to prevent their further spread. Beekeepers may tire of my writing and talking about mites, but to my mind, the problems they cause are more serious than all the rest of our bee diseases put together.



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	52.00	39.00		37.50	39.00		36.00	34.00	Ī
60 lbs. (per can) Amber	42.00	48.00	36.00		35.50	32.40		35.00	33.00	
55 gal. drum (per lb.) White	.60	.56	.60	.56	.59			.58		
55 gal. drum (per lb.) Amber Caselots — Wholesale		.48	.58		.54	1		.56		
1 lb. jar (case of 24)	27.50	24.90	25.80	24.48	30.50	24.00		24.50	23.50	
2 lb. jar (case of 12)	28.00	23.30	24.20	22.56	28.50	23.00		22.75	22.50	
5 lb. jar (case of 6)	30.00		26.25	25.90		26.50		26.00	25.30	
Retail Honey Prices										
1/2 lb.	.90		.90	.89	.80	.85	.85	.89	.90	
12 oz. Squeeze Bottle	1.50	1.40	1.50	1.25	1.45	1.30	1.30	1.35	1.45	
1 lb.	1.50	1.45	1.45	1.35	1.55	1.50	1.50	1.49	1.60	
2 lb.	2.70	2.85	2.65	2.55	2.80	2.50	2.75	2.59	3.00	
2½ lb.	3.40				3.40	3.25				
3 lb.	4.00	4.25			4.70	3.85	3.90	3.85	4.00	
4 lb.	5.00	4.60		4.89		4.80	4.40	4.70		
5 lb.	6.25		5.95		6.20	5.75	5.20	5.10	6.15	
1 lb. Creamed					1.55			1.59	1.75	
1 lb. Comb					1.65	1.75	1.65	2.15		
Round Plastic Comb		2.00			1.75		1.60	1.25		
Beeswax (Light)	2.00	1.90	2.00	1.85	1.90	1.95	1.80	1.85	1.85	
Beeswax (Dark)	1.90	1.80	1.90	1.80	1.85	1.90	1.75	1.75	1.80	
Pollination Fee (Ave. Per Colony)	25.00	25.00	22.50		18.00		20.00		18.00	

#### Misc. Comments:

#### Region 1

Bees wintered well and are of good strength in Vermont. Honey sales slow. Winter losses seem to be about 15% in southern part of region. Colonies in good condition last fall had little trouble during winter but most loss was from poorly provisioned or weak clusters. Sales of honey fair. Most beekeepers out of honey because of poor crop. Soil moisture good. Commercial beekeepers finding it hard to keep going. Honey profits will have to get better.

#### Region 2

Colony loss in western Maryland is heavy while central and southern Maryland are moderate to light. Most colonies in good condition. Some starvation among bees in New York State, however, colonies which were well fed seemed to winter without any trouble. In Pennsylvania bees that went into winter in good conditon are in excellent shape. Many beekeepers



in Pennsylvania did not feed last fall and have had high losses. Honey sales fair in Pennsylvania. Prices up slightly due to cost increases. Winter loss of weak colonies high in West Virginia.

#### Region 3

Winter loss moderate to heavy in Ohio depending on colony condition and food supply. Average is about 10-15%. Weather unsettled during March and April, slowing colony build-up. Honey sales steady in Indiana. Bees look good in some areas, poor in others. Much feeding needed. Plenty of moisture in Indiana. About 20% loss of bees in commercial out-

fits, which are being replaced by packages. Some beekeepers buying hubam (annual) clover to distribute to farmers on set aside acres. Loss in Wisconsin ran from 8 to 25%. Plenty of moisture.

#### Region 4

Winter loss in Minnesota appears to have run from 15-25% in the southeastern part of the state. Honey sales are slow except on the one pound jars and the plastic twelve ounce, squeeze bottles. There is pessimism among beekeepers who have seen bee pasture diminish drastically. Hoping for farmer participation in the diverted acres program and that some worn-out alfalfa fields will be included in these retired acres.

#### Region 5

build-up. Honey sales steady in Indiana. Bees look good in some areas, poor in others. Much feeding needed. North Carolina trees. Very little crop

(Continued on page 271)

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# Bees and Gardens



IT IS A WELL known fact that many beekeepers are gardeners (or should we say, some gardeners are beekeepers?). In any event, gardening and beekeeping are highly compatible projects for men, women and children of nearly all ages. Having sufficient space for a garden means that there is usually a place to put a hive or two of bees. If the hives are carefully placed there should be little interference by the bees with either the gardener or the activities of the neighbors. A small city lot will accommodate a hive or two of bees and a garden if the line of flight of the bees does not lead directly past the gardener, working within a few feet of the front of the hives. The same consideration should be given to the yards of your neighbors, who may also have gardens in which people will be working. It must be remembered that foraging bees, those gathering nectar and pollen, do not sting unless they are pinched or stepped on.

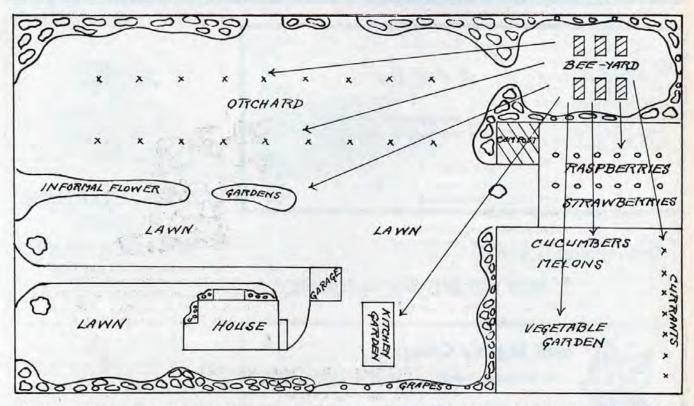
The only bees which could be troublesome are those which are guarding the hive, usually confined to within twenty feet or less of the entrance of the hive. If a row of shrubs or hedge or an artificial barrier such as a wooden fence is located a few feet in front of the hives it will have several beneficial effects. A barrier will be created to the flight path causing the bees to immediately fly upward upon leaving the hive. This is important only in that it diverts the attention of the guard bees from a person who may be working in a garden within or near the guarded areas of the colonies. A barrier also shields the hives from the view of everyone except the beekeeper, a seemingly senseless precaution until one experiences the reaction to honeybees observed from non-beekeepers.

Strangely, mowing grass to within few inches of the hive entrance does not usually disturb the colony unduly providing of course the hive is no bumped or the air blast directed into the entrance.

Larger lots, those measuring from two hundred to six hundred feet back from the street usually present fewer problems in locating hives of bees as compared to the smaller lots. The socalled defended area in front of the hive entrance is usually fan shaped, extending for ten to twenty feet outward. Irritated bees will certainly range beyond this arbitrary line at different times, particularly if provoked by a disturbance to the hive or as a result of unfavorable environmental conditions. Perhaps bees sense less acutely by vision than by vibrations of sound, but don't think that an angry bee cannot see well enough to zero in on an intruder by sight alone! Sometimes only warnings are given by guard bees within a defended zone, characterized by persistent "buzzing" by a bee or two.

What causes defensive/agressive behavior? Mostly it is caused by disturbances to the hive, or by un-

(Continued on page 269)



Planning is the key to developing landscaping and garden space in a limited space. A small apiary, surrounded by shrubs or a lattice type fence, is placed in this plan so as to bring them into contact with plants which benefit from bee pollination. In this plan the bees are encouraged to begin their flights in a direction which will keep the guarded area within the boundries of the beekeeper's property.

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# Organization Of A Bee Association

By LARRY GOLTZ Medina, Ohio

"WITHOUT METHOD there is not organization nor construction" someone said. To bring off the feat of organizing a group of beekeepers you must first have a plan and secondly have someone to do the organiza-tional work. For someone inexperienced in organizational work the plan of action may seem to be the first order of business but to another person, more experienced, the key to forming a successful organization is locating one or more people who exude enthusiasm, are friendly and considerate, and possess a fair knowledge of beekeeping and beekeepers in the local area. If the organizing committee is, as usual, a rather loosely gathered group of beekeepers, the first order of business is to find among the group, or from outside the group of organizers, persons who have the qualities of leadership needed to organize the beekeeping association. No formal rules apply here, perhaps the one time in the history of the association when no one is bound by tradition or bylaws to act in a prescribed manner. Don't pass up the opportunity to bring as many different beekeepers as possible into the organizational effort. A major step will have been taken in organization when responsible leadership is found. Don't underrate the importance of this step. An organizing leadership requires first and foremost a sense of responsibility to a particular group of people, in this case to beekeepers. Hobby beekeepers are notably diverse in personalities, backgrounds, financial means, age and of course include both males and females but who usually have a common interest in learning more about bees and beekeeping.

Secondly, the organizers of a beekeeping association must follow through with certain basic steps of organization. To do this they must communicate not only among themselves but must establish and maintain contact with other beekeepers. Sometimes this must be done by telephoning, but as often by personal correspondence and later by an association newsletter.

#### The Plan

To successfully plan and organize a beekeepers' association requires a number of clearly definable steps:

(1) Select a name for the association. (2) Set the date and frequency of meetings and arrange for a meeting place. Some meeting places are free, others require a rental fee. Shop around for a place which is affordable and reasonably central in location.

(3) Determine the amount of dues and arrange to collect dues at the first meeting.

(4) Arrange for publicity about organizational efforts and set up a regular channel of communication such as a simple newsletter or printed information handout.

(5) Set up a nominating committee and arrange for the election of officers. A president, vice president, secretary and treasurer with a chairperson of activities/program are the usual offices filled in the beginning. Later a board of directors may be added as the organization becomes more complex.

(6) Make up a set of by-laws. Copies of by-laws from other organizations may be studied and revisions made to suit the circumstances or desires of

your organization.

(7) Arrange a recording system of the proceedings of organization and first meetings (secretary) and for a savings or checking account (treasurer). (8) Appoint (elect) a publicity chairper-

(9) Arrange a meeting of association officers to check and approve the organizational details to date and plan for the future. Either majority or unanimous approval is required of officers for the approval of the by-laws and other important organizational details. Approval by the membership would normally follow after the opportunity for discussion is allowed. It is usually expected that the Roberts Rules of Order will be followed regarding parlimentary proceedings at meetings, though it is not always obligatory to follow the rules to the letter in all decisions regarding association business.

An organizational meeting(s) is an excellent time to generate enthusiasm and encourage those in attendance to pass along information about the new bee club. If printed information can be made available at or prior to this meeting it can be distributed to public places for posting on bulletin boards and sent to local radio stations and newspapers. The offices of County Agricultural Agents, and trade journals are usually very cooperative in assisting new and established beekeeping organizations with

publicity. Until an organization becomes self sufficient it may be possible to receive assistance in printing, mailing, meeting rooms, pro-gramming material and administrative assistance from a sponsoring institution, but it is best to develop the association's capabilities in respect to the above functions as soon as possible.

#### Membership

An organization of beekeepers must benefit the individual member beekeeper if it expects to maintain attendance and grow. Experience will show that names on the membership list is not a guarantee of regular and enthusiastic attendance by a majority of members. Attendance must by encouraged by interesting and varied programs and activities, and publicity. Programs should be selected for their interest to all of the membership, keeping in mind that there is likely to be a full range of beekeeping experience represented among the membership and that there is always the likelihood of there being in the audience as guests some who have had no experience with bees whatsoever. On the subject of guests, have your organization plan an "open house" for people who are not beekeepers but who may have an interest in beginning and of course would be potential members. The whole program for the evening could be directed to the concerns of the nonbeekeeper who is contemplating the first step. Explain some of the pleasures and varied experiences of your first hive of bees and do not hesitate to explain as well some of the situations that can be avoided such as conflicts with neighbors who fear bees. Experienced beekeepers should explain how they have learned to cope with stinging and some of the other more or less common problems that arise in keeping honeybees. Most beginners are concerned, and rightly so, about the choice of equipment. The basic units of the hive, needed to begin and the few pieces of personal gear such as the veil, smoker and hive tool should be shown. It is important to stress that only the very basic equipment is needed by the beginner but that the items purchased should be of the best quality, even if the purchase of some of the non-essentials will have to be postponed.

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# Organization Of A Bee Association

(Continued from page 257)

#### **Programs**

Understandably some organization programs reflect the budget limitations which prevent calling on out-ofstate speakers. This need not be a handicap in providing interesting and instructive programs at the local level. Most hobby beekeepers, at least in the beginning of their experience with beekeeping, come to local association meetings to learn about the basic, essential steps of keeping a colony of bees and gathering the honey at the end of the season. Discussion about the finer and more obscure points of apiculture can come later when apiculture can come later when members are better acquainted with each other and with the primary lessons. Bear in mind that forming a new beekeeping association takes time and that the majority of members are likely to be more or less inexperienced in beekeeping. This should determine the direction of the programming for at least the first year of existence. Programs of this nature, aimed at newly recurited members will vary considerably from the programming of beekeeping associations which have been established for five, ten or more years. Leadership of new associations should reflect the need to provide an atmosphere of friendliness. and a willingness to help the beginner in beekeeping. Some of the younger, enthusiastic novices make surprisingly good association of-ficers. Let the more experienced beekeepers remain in the background and provide advice as called upon; there will be ample time and opportunity to do so as beginners will soon learn the value of having had years of experience with bees and beekeeping. The "old timers" should offer encouragement. The fumbling efforts to get an organization running smoothly can be very discouraging to new officers and sometimes the members do not help matters by complaining about some beginning ineptness.

#### **New Members**

Conducting meetings are a great pleasure once a successful pattern is established. Friendly greetings, introductions of new members and guests and brief statements of the objectives of the organization are as important as the business meetings for newly formed groups. Of course, some guests and first time visitors

may be rather shy, so always be discreet about putting the "spotlight" on new faces as they come into the meeting. Sometimes a friendly greeting or smile is sufficient for the moment. Don't be "pushy"; your new member may wish to choose his/her own time to enter into the spirit of the group, but make a point to have one or several of the regular members offer a greeting and welcome on behalf of the organization sometime during the evening. A "cold" reception turns off more potential members than anything else except possibly dull meetings. Even large meetings of beekeepers' associations have the tendency to exclude the newer initiates. Friends gather around friends and each state's delegates clump together talking about what is happening in their home state. Sometimes, attending some state or national meetings can be a lesson in how not to run your local association.

Some beekeeping associations are very efficient in running the business affairs of the association, have a variety of programming and activities and maintain a certain solvency, but seldom attract new members. If an organization is not attractive to new members there is something wrong. A solid core of members in regular attendance is essential to the continuity of any organization, but the growth and renewal of the spirit of the group is bolstered by new members bringing along new ideas. A change of officers is expected periodically and is usually provided for in the by-laws.

On the other hand, changes in association policies, direction or emphasis is useless unless they are positive changes, designed to improve and inspired by the need to betserve the organization. Sometimes officers and directors must resist the suggestions to "turn an organization up side down" simply because there is some disagreement with the way an association is being run. Experience teaches some bitter lessons in association management and a steady, unwavering, wise management of your beekeeping association is often based on sound principles learned by the leaders in the crucible of past experience. New members are sometimes advised to bide their time for their opportunity will surely come to run the association as they see fit. The articles of the by-laws usually guarantee this.

As is often suggested, the faults of beekeeping associations lie outside the organization — the beekeepers who will not, or, unfortunately, in some instances, cannot join the local association. This is often true, but all beekeepers are not "joiners" no matter how excellent or well intentioned the association. To not join does not always mean disapproval and it can be a measure of the ability of the management of an association to change non-joiners into members. Often all that is needed is an invitation. These overtures are particularly important when an association is being formed, before a more or less rigid format for policies and program material is selected. Charter members tend to stay as permanent members, so the more beekeepers that can be drawn into the association at the very start, the more likely it is to have a broad, firm base of local beekeepers.

#### Benefits

Among the material benefits of being a member of a beekeeping association are: Reduced subscription rates to beekeeping journals and other cooperative buying. There is also the opportunity to pick up bees and queens at the breeder's place of business if orders are pooled in an association and one person is assigned to pick up and transport the shipment to a central distribution point designated by the association members. Much less risk of loss in transit is involved when packages are transported in this manner. The purchase of an extractor of ample size to serve members of an association and other items of limited, seasonal use such as a bee blower may be shared by an association purchasing this equipment. The possibilities are practically unlimited as long as each participating member remembers the responsibility which comes from use of association property such as cleaning up the equipment, avoiding contamination, repairing breakage, returning to storage immediately after use or passing the extractor, or whatever, on to the next user without unnecessary delay. Beekeeping associations have been known to have available sites for the beekeeper who has none at home, honey houses for members' use and of course the opportunity for class instruction,

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# Bee Talk

By RICHARD TAYLOR Route #3 Trumansburg, NY 14886

THIS HAPPENS TO be the first day of spring, 'though the grass will be green before anyone reads these words. That's how fast things happen from now on. I've had only one chance to check on my bees. Unremitting snow and cold kept me away from them until just the other day. Ah! What a day! The snow was still deep everywhere, but it was melting, the sun was bright and warm, and the air at my bee yard was filled with bees, suddenly revived. There is no feeling like that first visit to the bee yard, as you peer into the inner cover hole and see the bees, alive! They made it! And this was a hard winter for them up here. Not only was it a long one, but there was almost no fall flow, and my friends tell me of severe winter losses. I was luckier. Having gotten my comb honey crop off early, everything the bees gathered from then on was theirs, and my winter loss was negligible. Now hopes are high for a very big crop and very few swarms.

Now, too, is when you are apt to be thinking of improved ways of managing your bees. By this I do not mean new hairbrained ideas, like some super bee hive, the likes of which the world has never seen, but just simpler and more efficient ways of doing things. And in that connection, I want to invite the attention of readers to Mr. Sanford Moss' article on double screens, in the January Gleanings. It is very seldom that I come across an article as rich, informative, and clearly written as that one. So I'm going to add some thoughts of my own on double screens.

It is absolutely true that there is probably no other piece of apiary equipment that simplifies as many operations and solves as many problems as a double screen, and Mr. Moss has described most of its uses, just beautifully.

If you go in for raising comb honey in round sections, as I do, then a pretty good way to get double screens is this: You can make your supers by ripping up standard hive bodies, before they are nailed up. Round section supers are not as deep as regular comb honey supers, so you get two such supers from each hive body,

with scrap lumber left over, and that is just right for making a double screen. It is even dovetailed. All you have to do is nail it together and wrap a fly screen around it, staple, and trim. As Mr. Moss notes, the 8-mesh screen is much better, stronger and more rigid, but the last time I bought 8-mesh screen I could hardly believe the price they were charging me. Fly screen, which you can usually find for nothing, discarded, works all right.

If you go for the shook swarm system of raising comb honey, which I have described in detail before, then you can set the parent colony on top of your shallow producing colony, right up on top of the supers, with a double screen underneath it, and (very important) entrance at the back. Then after you have gotten your crop, just remove the screen and put the hive back together the way it was when you started. Meanwhile, if you want to add a good big field force to your producer colony, you can just set the parent colony off onto another hive, and the field bees will all join the producer colony at the original hive stand.

Mr. Moss, to control swarming, sets the hive over a hive of drawn combs, with double screen between, and screen entrance to the rear. That is a surefire way of preventing swarming, provided the bees haven't gotten too far along on building and sealing over queen cells, but it is also, as Mr. Moss hints, a way to get yourself a colony of laying workers. So I think it works better to have anywhere from one to three or four frames of mostly sealed brood down below, instead of just drawn combs. The bees down there will find a few eggs or tiny larvae and raise a new queen, but that's okay; they still are not likely to swarm, because they have lost their old queen, and most of their brood. Mr. Mraz, as you will note from his page in the February Gleanings, just divides the two stories and makes sure the old queen is down below, and most of the brood above, which is simpler still. And he does it with just a piece of plywood, instead of a double screen.

Which brings me to another idea. You can get a perfectly good double screen just by tacking or stapling a scrap of fly screen over both sides of the hole of an ordinary inner cover. That is cheap, and simple. Then if you want to use it as an inner cover again, just remove the pieces of screen.

Or you can make a simple improvement on the rimmed plywood piece that Mr. Mraz describes, just by cutting out a small hole in the middle and stapling screen to both sides. That would only take a minute, and it would have all the advantages described by Mr. Moss.

Any effective method of swarm control is going to involve splitting the colony, one way or another. The best and simplest ways involve splitting the colony in such a way as to separate the brood from the foraging bees. A colony will not swarm unless it has both brood and an ample force of older, foraging bees. The methods described by both Mr. Mraz and Mr. Moss achieve exactly that result. By getting the brood up above, with entrance to the back, separated from the foraging bees that return to the hive below, whether with a simple plywood divider or a double screen, you can keep all the bees on the same hive stand — although you do, in effect, create two colonies that way, one on top of the other.

### Feeding Antibiotics

In studies by Furgala and Gochnauer with chemotherapy of nosema disease it was found that the efficacy of fumagillin was not significantly reduced by feeding it together with sodium sulfathiazole and/or oxytetracycline (terramycin) for the control of American foulbrood.

From Apicultural Abstracts, Vol. 33 (1), 1982.

### Botulinum Toxin Absent

An examination of honey samples taken from retail markets in South Bavaria, in Germany showed negative results in tests for botulinum toxin. Two hundred and ten commercial honeys were tested.

From Apicultural Abstracts, Vol. 33 (1), 1982.



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### Organization Of A Bee Association

(Continued from page 258)

field demonstrations and personal advice and assistance from experienced members.

Occasionally, the right to keep bees is contested by neighbors or by community action. A lone beekeeper may be singled out or all of the beekeepers in a community may be threatened with restrictive legislation or a complete ban on beekeeping. If the beekeepers are banded together they are able to present a much better defense for the individual or make a much better case for allowing people to continue beekeeping in a community. An association of beekeepers can provide a responsible and usually respected view, should advice be needed in respect to beekeeping ordinances, proposals or demands. Too, an association review board can investigate charges of negligent beekeeping in the community and make suggestions to a guilty beekeeper to "clean up his act" when such negligence is giving other beekeepers of the community an

undeserved reputation. If an ordinance banning bees is proposed in your community, write us for a pamphlet on how to prevent its passage.

Nearly all hobby beekeepers enjoy talking about bees, as do the professionals who attend their national meetings. Local beekeeper associations provide an opportunity for socializing, sharing experiences, discussing various management techniques and evaluating equipment and ideas. An established and smoothly running association can provide some community services such as advice and assistance to Scouts working on beekeeping merit badges, 4-H beekeeping projects, and assistance to student scholars in writing papers, science projects and field experience. Bee associations can be of service by providing exhibits at fairs, public shows, schools, recreation centers, youth camps and information to newspapers, radio and television. Active associations need not place the burden of paying for these services completely on dues

paying members. Opportunities to earn extra money may come from the sales of members' honey or other beekeeping-related items at public and community events where sales are allowed.

In summary, what are prospective. members looking for in a newly organized beekeepers' association? Mostly, they want information about beekeeping presented within the scope of their beekeeping experience. A new association, or any association for that matter, should periodically review basic beekeeping practices; if not at a regular meeting, by sponsoring or suggesting attendance at a beginning beekeeping class. Experienced member beekeepers are usually fairly competent to provide such instruction at a reasonable cost to new members without beekeeping experience. We have beginner beekeeping slide programs we can lend you.

A new beekeeping association can set the tone of the meetings by remembering that the object of the association is to benefit the majority and that courtesy and concern by the leaders will be the most influential acts that will determine the future of the new association.

#### COMING!

Here are just some of the exciting articles you may look forward to in the coming issues

June:

A Chinese Way With Bees, by Kevin Kelly. "We came to visit the apiaries of Mr. Ho Fa Hsing, an animated, open faced man about forty, with a shock of thick, long hair."

Solar Beekeeping, by Merritt Taylor. "Profitable beekeeping is coming more and more to closed bottom entrances for winter."

Chinese Tallow Trees, by Doug Buffington. "Although the crop may vary, the tallow will never fail, yielding an average of about 100 pounds of honey per colony."

July:

Are We Raising a Lot of Welfare Bees?, Ancel Goolsbey. "I think you will be pleasantly surprised at the amount of surplus honey this hive management system will reward you with."

Bee Yard Menace, by Patricia Yunkes. "Something had been killing and probably eating bees all summer."

August

Pollen Trapping Basics, by Paul Limbach. "Pollen trapping may increase the possible places economically feasible to run bees."

My Husband — The Beekeeper by Pam Kaliff. "At first the banker was not thrilled with the idea of lending money to a man whose only ambition in life was to raise bees who made honey."

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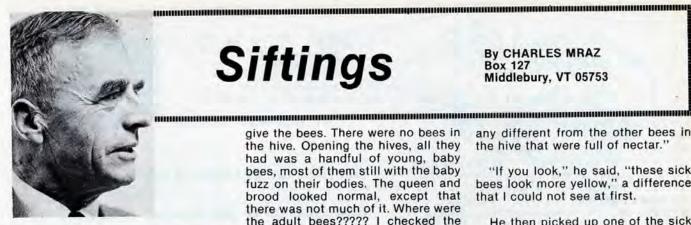
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# Siftings

By CHARLES MRAZ Box 127 Middlebury, VT 05753

Disappearing Disease?

WHAT IS DISAPPEARING disease? Is there any such thing? Four years ago my answer to such a question would be NO, there is no such thing. Recently, Roger Morse of Cornell University, whom I consider one of the best men in the U.S. on bee diseases, gave me the same answer when I told him I thought disappearing disease was getting to be a serious problem.

"There is no such thing as disappearing disease," was his answer, with a bit of sympathy for me to think I would believe in such nonsense. I dare say at the present time in the U.S. many "authorities" on bee diseases will agree with Roger.

After the San Antonio meeting in Texas about four years ago, I was asked to visit some beekeepers in Campeche, Mexico. I had already visited the Yucatan Peninsula off and on for some twenty years and I was familiar with the EFB and paralysis problems they have had for some time. I visited a number of apiaries that were mostly average, not strong, and not really very weak. There was some disease, but really not that much that would be responsible for a high loss of bees. It was the end of January, right at the start of the Taianal honey flow. This is a shrub with yellow flowers. It covered the ground as far as the eye could see to the horizons and was full of nectar that produces an amber honey of fairly good flavor. It was obvious the bees were not getting anywhere near the amount of nectar that was available. Yet, I could see no reason for this lack of production.

We finally visited an apiary of about fifty colonies that was different from anything I had seen before in sixty years of beekeeping. This poor beekeeper was in tears, asking if there was some medicine he could

give the bees. There were no bees in the hive. Opening the hives, all they had was a handful of young, baby bees, most of them still with the baby fuzz on their bodies. The queen and brood looked normal, except that there was not much of it. Where were the adult bees????? I checked the ground in front of the hives, nothing, and in the air there was hardly a bee flying. Inside the hive, no dead bees whatever. "Senor," the beekeeper said to me, "I have no honey crop to sell, and no money to feed my family."

Normally, the situation looked exactly as if the bees were poisoned, with the one big exception, no dead bees in the hive or on the ground in front of the hives as with spray poisoning. I admit, I was puzzled. What happened to the bees? Where were they? Where did they go?

On several occasions I have heard beekeepers talk about disappearing disease and it has been mentioned on occasion in beekeeping magazines. A short time after this, a beekeeper told me of his experience with 1500 nucs he moved from Ohio to Florida for them to build up. He said in Ohio they seemed to stay weak and not build up for the clover honey flow, so perhaps by moving them to Florida they might build up for the orange honey flow. That year, he said, while most beekeepers were getting 200 pounds of orange honey on the average per colony, all he got from his 1500 colonies was a six pound average. He then described the symptoms; they were identical to what I saw in Campeche a short while before. But it did not answer the question; is there such a thing as disappearing disease? If there is, what is it and why and where do the bees disappear?

Recently, I visited an old friend in Mexico, a Mexican beekeeper I worked with many years ago. We were going through some yards that were really piling in the nectar, but as with most of the bees, they were not as strong as they should be at the start of the main honey flow. My friend pointed to some individual bees in the hive and told me those were "sick" bees.

"Sick?" I asked, "they don't look

any different from the other bees in the hive that were full of nectar."

"If you look," he said, "these sick bees look more yellow," a difference that I could not see at first.

He then picked up one of the sick bees, pulled its abdomen apart, exposing the intestine, which was just full of a thick, bright yellow paste-like material. It looked like partly digested pollen. My friend seemed to think it was septicemia. I have only heard of septicemia, I never saw it to know what it was. It certainly did not look like nosema. The material exposed was too thick, yellow and pasty looking for that. For four days, we checked bee yards all around the area and almost everywhere we went we could find bees with this "constipation". Some hives were worse than others.

I finally found out it can be identified easily by holding the bee by the head and thorax with the left hand, and with the right finger bend down the abdomen to separate the segments. This thick yellow paste can be seen immediately, with absolute certainty, between the segments of the abdomen.

These sick bees, my friend told me, do not die in the hives or outside in front of the hives. He said they just fly off and never come back. Do they fly off to try and get rid of this yellow paste? And if they cannot, do they just drop to the ground and die? It was also interesting, that if these bees were near salt water it seemed to help the situation. In fact, they were making a practice of feeding the bees a salt solution for this problem. Results apparently, are only temporary. It does not appear to correct the cause of the problem, whatever it

Samples of these sick bees were collected and sent to the Bee Disease Lab for inspection. What their verdict will be I have no idea. I do believe this problem is more prevalent in the U.S. than many beekeepers realize. If you ever experience having bees that just do not seem to build up, yet no disease is apparent, try checking them for this "constipation." If the

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# Siftings

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bee is full of nectar, the space between the segments of the abdomen will be clear as water. If they are "sick," you will immediately see this yellow color between the segments. Pull the abdomen apart and you will see the intestine full, and in some cases, I mean full of this yellow gunk.

I believe queen breeders should be the first to look for this condition, if they have a problem with bees that do not build up. Any beekeepers who notice this same problem should also check their bees. As far as I know, there was no way before to positively identify this condition. Now with this simple test with the abdomen, perhaps we can start learning something about it, if such a condition really exists in the U.S. as well. If it does, researchers in bee diseases can have a great time checking out this "new disease." Personally, I do not believe it is too serious a problem and can usually be cleared up rather easily. But first we should identify the problem before we can prescribe a solution for it.

In a recent article, Rothenbuhler and

Kulincevic, (March, 1982, American Bee Journal, page 189), mention is made of some research with this disappearing disease problem in Florida. In this article experiments were made to determine if pollen, pollen substitutes or the lack of it had anything to do with the disease.

Nothing is said in this article about any accumulation of pollen in the intestines of the bees in the form of a thick yellow paste such as I observed in February, 1982 in Mexico. The problem in Mexico is not a lack of pollen as there was a heavy honey flow at the time on both occasions that I saw the disease in 1979 and 1982 as well as a good pollen supply.

It would have been interesting if clogged intestines were involved in the bees in Florida. It is easy to overlook this intestinal problem as there is no indication of this by just looking at the bees. Further research with this problem should certainly include examining the intestines to see if all cases do have the accumulation of the thick, yellow paste material, which no doubt is pollen. For some reason perhaps the bees cannot assimilate or eliminate the pollen that may be a cause of their early

death as indicated in the Rothenbuhler article. The most revealing symptom, it seems, in all cases is the lack of adult bees of field bee age in the hives. Early death was also noticed in this article.

> If at anytime you find your bees weak, with mostly "baby bees," with few adults, check them for the accumulation in the intestines. There is no mistaking it is, thick and yellow in contrast to other accumulations like nosema. Dr. Shimanuki of Bee Disease Lab. in Beltsville, examined the sample bees I sent him in alcohol from Mexico. He did not know what it was and has turned the problem over to an insect disease specialist. He will look further into the problem with further specimens I will collect for him from Mexico. It would be helpful if such "sick" bees could also be found in the U.S. for verification.

> If anyone should find such sick bees, communicate with Dr. Truman B. Clark, U.S.D.A., A.R.F., D.P.J., B.A.R.C. East, Building 465, Beltsville, Maryland 20705. He is interested in finding out if there are any pathogenic agents involved in the disease problem, as well as any dietary factors.

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#### By KAREL REHKA Salem, Oregon

SEVERAL YEARS AGO, when I was preparing to trap pollen, I used the directions and the drawings for the bottom board type trap designed at the University of Guelph, in Ontario Canada.

First, I built one trap according to the directions to serve as the prototype. As soon as I built it I immediately put it under the colony I had in the back yard. Two days later I found that an increasing number of bees were by-passing the pollen trap via the drone escape holes instead of returning to the hive via the trap itself and crawling through the 5-mesh screen which would dislodge their pollen loads into the trap rather than allowing them to carry the pollen into

# Pollen Trapping

the combs. I knew that within a few days all the field bees would learn how to use these drone escape holes and there would be no pollen for me to collect from the tray.

#### The Slipout

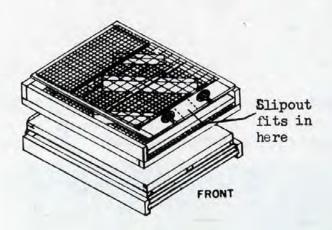
The same day I found out something had to be done about these drone escapes. I designed a very simple, inexpensive device which I call a slipout. I do not claim to have designed anything new. I modified an old invention normally used to remove bees from walls, bee trees, or any inaccessible cavity, and known as a screen funnel to most

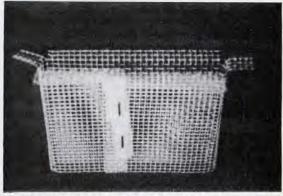
beekeepers. I modified this device to fit the pollen trap and started to use it as an important part of the trap design.

This slipout was tested and used seven summers (on a yearly average on approximately 180 traps). These slipouts were also tested for one season in a semi-desert area as well as in the western part of Washington and Oregon. These slipouts work perfectly and there was never a problem with them.

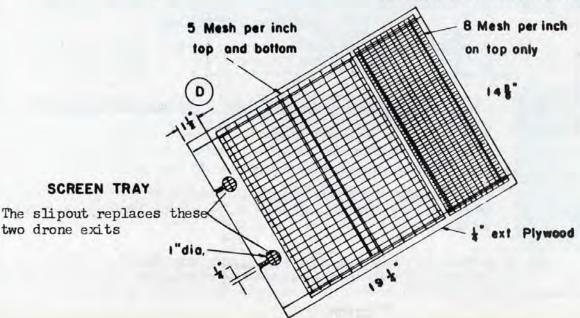
The slipouts were made of hot dipped, galvanized, stiff 8-mesh screening, one small wooden cleat and 4%"

The O.A.C. Pollen Trap





The slipout. It consists simply of an 8-mesh screen "tunnel" held rigid by a small wooden block stapled to the wire. The lap of the wire is at the block so the staples also secure the wire lap. The wire at one end of the slipout, is flanged to allow it to be stapled to the wood of the hive body.



# **Problems**

builder's tacking staples. So far, I have not used 7-mesh screening, but I am sure that this would work just as well. Six mesh would most likely have holes that would be too big.

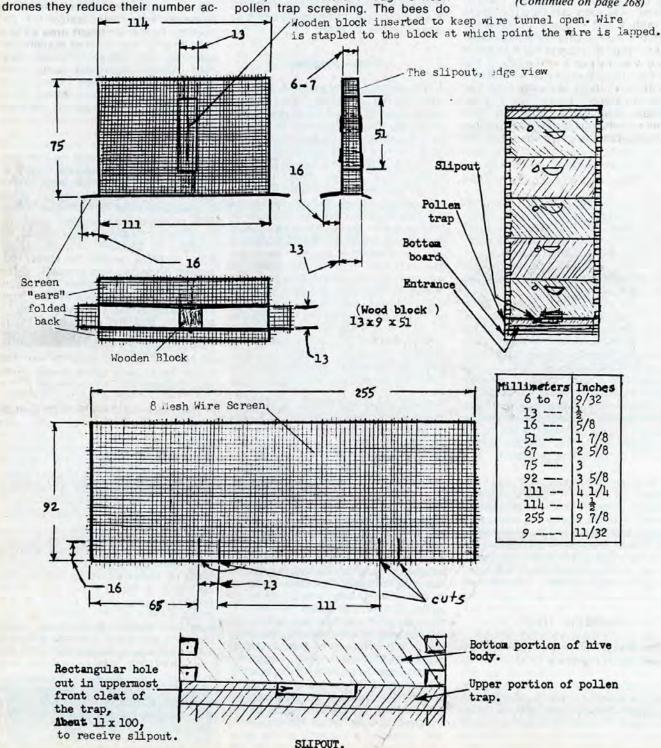
Whenever the bees have no need of

cording to the needs of the colony, as every beekeeper knows. Occasionally, bees die during the summer within the hive or others may be killed dur-ing manipulations. These dead drones and workers cannot be removed by the workers through 5-mesh

not have any difficulties removing these dead bees, or parts of bees, through these slipouts.

The slipout is put into position after the trap is put on the hive. It is tacked to the bottom portion of the bottom hive body with two or three ordinary staples. Light weight staples should be used. If the hive body material is soft three staples should be used. If the slipout should be pull-

(Continued on page 268)



# Pollen Trapping Problems

(Continued from page 267)

ed out or dislodged for some reason for a few days, there is very little pollen lost because the bees continue out of habit to use the main entrance.

The main disadvantage of these slipouts is that whenever the bees are moved the slipouts will have to be taken out and then put back in again when the bees are unloaded. If the bees are loaded as two rows, with the entrances facing the sides of the truck or trailer, they need not be removed. Actually, it takes very little time to remove the slipouts before loading (about five to fifteen minutes if 35 colonies are in the yard) and about the same length of time to put them back.

These slipouts probably could be much shorter, perhaps only 30mm (11/4 inches) so that they would not have to be removed when the bees are being moved. When I was trapping pollen I tested three slipouts that were about 25mm (one inch), three that were about 33mm and three about 50 to 55mm. These three shorter sizes were used for almost the entire season. They were put on the hives with about a ten day delay in the spring and they were removed at the end of the pollen flow. I would recommend you try them thoroughly before deciding on a particluar length and using on a large scale. Those 33mm and 50mm in length seemed to work very well, however, I did see a few bees use the 25mm length slipouts in the wrong direction.

Another disadvantage of the slipout is that it takes several minutes to put them in each spring when the pollen traps are being put on, and then again to take them off at the end of the season, besides the time lost when the bees are being moved. Also, you will have the extra things to carry around — the slipouts themselves, and the stapling gun. The staples cost one half to a penny per colony per season.

The benefits by far outweigh the drawbacks mentioned. First of all, the drones are not imprisoned in the hives until they die. The bees do not lose the precious time breaking apart the dead drones and workers when they have much more important work to do. So perhaps one gains a little on honey and pollen production. The

bees like to use these slipouts earlier in the season when the temperature is cool and when departing the hive for forage.

Although I have never used the entrance type pollen trap I know that this slipout can be used on that type of trap as well as on the bottom board traps. It may need to be modified in size or shape, or both.

#### Screen Plugging

A serious, costly problem can occur if the 8-mesh screen that separates the bees from the pollen tray area should become plugged. I had absolutely no problem with plugging for two seasons, but when this did happen the first time the plugging lasted only a few days. Later it became a serious problem. In 1979 I lost between three and one-half and 4 pounds of pollen per trap because of this problem. Nearly all of this plugging occured in fireweed locations during damp weather spells. The plugging resulted from condensation of moisture on the 8-mesh screen during spells of fog, rain or heavy night or early morning dew. When the 8-mesh screen is damp when the bees start to bring in pollen, the pollen falls on the wet screen and gets stuck rather than falling through. Within several minutes the pollen absorbs moisture from the screen and expands in size.

Even when the screen is dry, the 8-mesh openings are too small for the largest pollen pellets to fall through by themselves. Normally there are several "teen-age" bees on the screen who push these stranded pollen pellets down into the tray. When I first saw these bees performing this task, I just couldn't believe it. How could these bees be so silly to do such a big favor for me? Neither they nor their sisters will ever get it back, with the exception of the small amount of crumbs that were cleaned out with the impurities. One would expect that these bees would grab every pellet in their mandibles and carry it through the 5-mesh screen up into the brood area of their colony, but they never did. When the trap is badly plugged they will even carry the pollen outside in front of the landing board. When the bees are confined to the hive, a number of bees may be seen eating the pollen on top of the plugged screen. When the screen is wet, especially because of the dew, the bees are unable to push the

pellets through the screen or break them up fast enough. Such extra damp pollen spoils fast, in less than 24 hours under some conditions, so a plugged screen must be cleaned out by the beekeeper.

To clean a plugged trap requires about five to ten minutes and some heavy work to get the trap out of the colony. A heavily producing colony may plug a trap ten times a year. Fortunately, one will seldom find more than 10% of the traps plugged at one location. Once, however, I found 60 to 70% of the colonies plugged. It required two long days of work to unplug them.

The folks that use the very same traps in Washington told me that they never noticed any plugging. However, they do not trap pollen later in the summer in fireweed. Several other beekeepers have complained about this problem from various areas of the United States and Canada. In Arizona, in a desert climate, where this problem would be least expected, they had this problem at the U.S. Bee Research Center in Tucson. Other pollen producers in that area have experienced the same thing. It could be that the problem in those desert areas results from the pollen pellets being too large for the 8-mesh screens. It is also clear to me that there are at least some areas where this problem isn't experienced.

Naturally, I did my best to replace this 8-mesh hardware cloth with screening with larger holes as soon as I found out that the 8-mesh screening is far from perfect for the fireweed flow. Unfortunately, no one manufactures anything other than 8-mesh that would be a suitable replacement, at least not in the U.S., Canada, Mexico or Guatemala.

I have never had a problem with the five mesh screening that is used in traps for pollen stripping. I personally believe that the most perfect size for pollen trapping would be 6½ to 6¼ mesh screen but no one makes this size. Bear in mind that in some areas the bees are larger than the average. They tend to be larger mainly in the southern U.S.A. in low elevations, and in some other regions of the world—including parts of Mexico and Guatemala, mainly in regions where the bees are naturally yellow in color and the bees do well. The strains that

(Continued on page 269)

# Bees and Gardens

(Continued from 254)

satisfactory weather or internal hive conditions: the sudden onset of rainy, cool weather, hot, muggy, stormy weather, or a serious disturbance within the hive. Disease, supersedure of a queen, robbing between colonies or poisoning by chemicals may have an adverse effect on bee behavior. On the positive side, the average honeybee colony can be expected to be inoffensive most of the time, even during hive manipulations. Some colonies are amazingly docile, even under trying conditions for the bees. Bees of the Caucasian race are particularly noted for their passiveness and are recommended for the one or two colony beekeeper-gardener for this reason.

There is so much more to be said about beekeeping and gardening that

this section is planned as a regular feature of Gleanings for the pleasure and benefit of the beekeepergardener. While the staff of Gleanings will select and organize the material for this feature we invite contributions from readers, gathered from your beekeeping and gardening-related experiences. We hope that these contributions will also include photographs (have slides converted to prints, please). Just write to us in an informal manner and we'll pass your contribution on to other readers if it has merit and general interest. We see a great opportunity in the future to be of help to many beekeepers and gardeners as well.

To describe briefly what we have in mind: We will have gardening information which relates to beekeeping and we will have beekeeping information relating to gardening. We will discuss such subjects as the role of honeybees in pollinating food and ornamental plants grown in the garden and/or the backyard; answer some of the questions beekeepers/ gardeners may have in regard to what role honeybees have in the growing of many of the common garden vegetables and fruit crops. You know, of course, that carrots, beets radishes and lettuce, for example, can be grown from seed easily obtained in a seed store but have you ever considered the process of pollinating the seed plants from which this abundance of seed is harvested? Here the true role of the honeybee will be explained in greater detail.

We will discuss such interesting topics as planting certain flowers and other plants which yield nectar and pollen abundantly, propagating nectar and pollen plants and selecting garden plants which respond best to bee pollination. We will no doubt have seasonal advice on the manipulations of your bees such as swarm handling, supering, harvesting honey and wintering your colonies. We will publicize interesting gardeningbeekeeping happenings and will discuss the equipment needs of the one or two hive beekeeper. Every discussion will be kept on the level of the inexperienced beekeeper and aimed at the very basics of beekeeping for readers whose primary interest may be in the garden, rather than the small apiary.

## Capping The News

(Continued from page 246)

oxide. Public Citizens doctors estimate that 100,000 workers are at risk. Some patients in hospitals may also be exposed, it is claimed.

OSHA. The Occupational Safety and Health Agency, has the subject under study.

As has often been found with other substances which have proven beneficial in specific applications protecting or restoring health; they involve other risks as well. How great the risk of causing cancer as compared to the obvious benefits of ethylene oxide's sterilizing qualities is a matter which must be dealt with eventually by OSHA. The continued use of ethylene oxide fumigation in beekeeping may rest upon this decision.

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the number of copies needed from the printer to supply subscribers it will be necessary to allow a somewhat longer period before the resumption of lapsed subscriptions to Gleanings due to late renewals. We suggest you pay particular attention to the expiration date on your address label - and renew promptly. This will guarantee that there will be no undue delay in continuing your Gleanings subscription. In other words, it may no longer be possible for us to begin your subscription by supplying the copies which you missed while your subscription lapsed.

#### Roy Thurber Receives WAS Award

From the better-late-than-never news department. The hundreds of beekeepers who personally know Roy Thurber of Kirkland. Washington or have read his articles in the bee journals will be interested to know that he was presented with the Western Apicultural Societies Outstanding Service to Beekeepers Award at the 1981 conference held in August at the Irvine Campus of the University of California. Congratulations. Mr. Thurber.

### Pollen Trapping Problems

(Continued from page 268)

are the natural inhabitants of higher elevations, and are dark in color, tend to be smaller. This is especially true if these are kept isolated from other strains and in areas over 3,000 feet in elevation. If the bees are smaller, the beekeeper should benefit from screening with slightly smaller holes.

Eight mesh screen means that there are eight wires per the distance of one lineal inch in each direction, and also eight holes, 64 holes per square inch. Five mesh screen means there are five wires and five holes per each inch, or 25 holes per square inch. In 7-mesh screen there are seven wires and seven holes per lineal inch and 49 holes per square inch. (One inch equals 25.4mm.)

# **Questions and Answers**

Q. Is the wood of the cedar toxic to bees? If not, would cedar shavings, sawdust or cedar shingles, left close to the hive entrance keep wax moths out of the hive?

Has anyone tried making a bear fence from old auto tires placed flat (football training style, maybe two deep) on the ground? Railroad ties are sometimes used as cattle guards and turkey fence layed flat will keep deer out, so why wouldn't a tire fence keep out bears? J.R. Maine.

A. I am not aware that the odor of cedar wood is toxic to bees and whether it is offensive to bees I am not certain. There is no reference anywhere to cedar being either toxic or offensive and I assume that it is neither. In fact, there are occasional references to this wood being used for beehive construction but this could be the non-aromatic "cedars." This name is usually used for some of the junipers as well, such as the eastern red cedar from which chests are made. Whether the aromatic wood will repel adult moths from the beehive is something that would have to be tried.

We certainly have a good supply of old tires and if they could be used as a barrier to bears in the apiary it would be fine, but I suspect a bear would not have much difficulty climbing over them. Animals with slender legs and hooves will not step where there is a risk of their legs being trapped if the barrier is visible, however a bear's foot and leg is more flexible and muscular. Skunks, however, will not step into a wire mesh so it may be an interesting experiment to see if bears are as sensitive, although old auto tires may not be as satisfactory as, say a stiff, steel mesh netting of considerable strength.

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Q. While scanning through an issue of a newsletter issued by the Gurney seed company I noticed that there was listed for sale "nosema" spores which were to be used for the control of grasshoppers. The accompanying narrative states that the spores would infect healthy insects which would be weakened and then be eaten by their fellow grasshoppers who in turn would be infected.

Realizing "nosema apis" is a serious bee problem, I was curious to know if this "nosema" spore would be of concern to the beekeeper. The information supplied was scanty and there was no suffix to the word "nosema." G. C. Arizona.

A. Nabil N. Youssef, Assoicate Professor of Biology at Utah State University assures us that there is no need to worry about the Nosema they are using for controlling grasshoppers. It is known as Nosema locustae, and is specific for control of grasshoppers. He doubts if there is interspecific infection. However, it should be mentioned that as far as he can tell from the literature, there is no laboratory documentation of cross infectivity studies that have been conducted for Nosema locustae.

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Q. Bee toxic pesticides have been on my mind. My question is, what can you do with the bees, or how do you protect the hive? Do you have to move them, or are there any other measures that can be taken? H.S. Indiana.

A. Your question in regard to protecting bees from pesticides is a very difficult one to answer. I should say there is no absolute guarantee that any answer will be adequate to cover every situation. Certain protective measures may be effective under some circumstances such as covering the hives with cloth and spraying lightly with water. If the period of comfinement is short, only a few hours, and the temperature is not too high this may work. Bees prevented from foraging during periods of confinement due to spraying are sometimes given water, pollen substitute, and fed sugar syrup.

Other than confining the bees, moving them may be the only answer.

There has been some encouraging news of greater cooperation between spray applicators and beekeepers brought about by beekeepers notifying applicators of the locations of their apiaries and more careful application of pesticides by applicators. More information being circulated and greater responsibility by applicators toward beekeepers are the most effective method of protecting

bees. Better techniques in application and less toxic (to bees) chemicals are helping.

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Q. Will bees live in -20 to -30 degree F. temperatures? D.S. Michigan.

A. Yes, they can, if the cluster is of sufficient size and food is available. This was proven just this past winter in many parts of the mideast and east where much below zero temperatures were experienced. Of course, this happens nearly every winter in the more northern states, and Canada. In the far north where winter temperatures go below this range for long periods of time it becomes a question of whether it is not more economical to begin each spring with package bees, move the bees to a warmer climate or winter them indoors. In extremely cold climates. bees need large quantities of honey on which to overwinter and suffer stress from the long confinement periods. Heavy packing is also being used to protect bees in these very cold temperatures as an alternative to the above measures.

A strong colony of bees will survive such low temperature periods by forming a very tight cluster and increasing the tempo of muscular activity and their intake of food. As activity, and consequently metabolism increases, the heat output is increased within the cluster. An outer insulating shell of bees helps to retain the heat. Bees do not hibernate during the winter as does the groundhog, for example, but they do go into a state of lowered body functions accompanied by lowered body temperatures.

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Q. I read an article in one of our local papers concerning the use of boiled potatoes as a source of protein, instead of commercial pollen supplements, for feeding to bees. The article stated that boiled potatoes contain about the same amount of nutrients as royal jelly. Is this true? Would this be a satisfactory supplement and are any beekeepers feeding

(Continued on page 271)

# **Monthly Honey Report**

(Continued from page 252)

expected. No bloom or pollination needs predicted. Heavy feeding of colonies going on in early April. About 10% bee loss in Piedmont Region of North Carolina. Bad winter and cold. Bees are weak and building up slowly in early April. In Florida, the citrus has bloomed very spotted and the honey crop from this source is very small. Most migratory bees have been moved out without taking off any citrus honey. North Florida has good moisture conditions and looks promising. Reports from titi areas are promising. Colonies are not yet strong in early April.

#### Region 6

March was mild and wet in Kentucky with plants a little ahead of normal. Pollen and nectar available during March but considerable feeding has been necessary due to heavy brood rearing. No bulk honey available for bottling. Prospects for spring honey flow are promising in Tennessee.

#### Region 7

Orange trees in full bloom, in Texas, the first week in April. South Texas huajillo blossom beginning to bloom in early April. Dry west of San Antonio. Bees building up fast and first swarming seen March 16th. Most bees needed little feeding. Honey demand slow to moderate. Bees in best condition in years in East Central Oklahoma, only about 3% winter loss and very little feeding was needed. Looks promising for a good honey crop. Demand for local honey is good.

#### Region 8

March had alternating periods of fine sunny weather and snow storms in Montana. Moisture conditions good for early nectar flow, and if moisture remains plentiful it should result in a good honey flow from legumes. Bees wintered well with some feeding reported. Honey prices vary from city to city. With spring bood build-up some feeding was necessary in Colorado. Winter loss was normal due to moderate winter. Warm days in late March have allowed bees to bringing in pollen. Retail movement of honey has been good with promotion bring sales in some areas of Colorado. Most packers have adequate honey stocks. Honey movement at wholesale has slow due to cutbacks by institutional users.

#### Region 9

California citrus bloom started in mid-April, later than last year. Honey bulk trading influenced by developments on the foreign honey markets. Bulk prices for amber grades of honey from Mexico advanced while white grades from Canada declined. Trading in bottled honey lags behind normal but above level of fourth guarter. 1981. Trading in industrial honey moderately good. Col-

onies benefited from almond bloom. Pasture areas are in good condition. Bees in California building population at a good rate. Seed alfalfa pollination rates at \$20.00 to \$21.00 per colony. Good snow fall in mountains for irrigation in central valley of California. Package bee producers experiencing good demand from midwestern honey producers. Queen breeders having trouble from weather conditions.

# Questions and Answers

(Continued from page 270)

this? Is this a good source of protein? H.B. Minnesota.

A. We are unable to point out any specific reports on using boiled potatoes as a pollen substitute for bees but it has been tried by a number of beekeepers. It apparently is of some value but we cannot cite any comparative studies. The idea was circulated several years ago but I have not heard of any recent reports.

We do not believe that boiled poatoes can be compared to royal jelly as the function of each in bee nutrition is considerably different, royal jelly being used in queen larvae nutrition and the boiled potatoes to provide a diet for the worker bee larvae. There may be some question about the protein value of a potato diet.

Q. As a hobbyist beekeeper a considerable amount of time is spent with our pots and pans heating our honey. Is it possible to safely heat honey in a microwave oven? R.E. Missouri.

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A. We are told that it can be done but again it would be a rather slow process and depending on the unit, overheating could result. As the amount of honey being handled increases it may pay to look into some of the bulk handling methods which employ metal containers which are water jacketed or provide a water bath with a provision for heating the water and closely controlling the temperature of the honey.

Q. A number of years ago I had a ten hive comb honey producing

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apiary and enjoyed bees as a hobby. I very suddenly developed an allergic reaction to stings from my bees and had to give up my colonies. In the past several years I seem to have resumed my non-reaction to stings and I base this assumption on a number of wasp and hornet stings I've received without experiencing the severe allergic reaction I used to have. Is there such a thing as a remission from bee sting allergy? I'd very much like to take up my beekeeping hobby again! G. E. Illinois.

A. We hope your present nonallergic condition continues, but there are several points that you should keep in mind, I believe. One is that honeybee venom is different from other insect venoms in some respects and, while there may be no reactions from the stings of wasps. this may not necessarily hold true to reactions to honeybee stings. For immunization purposes venom is collected from each type of venomous insect, which would not be necessary if each insect venom produced the same reaction in humans. Secondly, I don't think that anyone can positively predict the reaction to a honeybee sting in someone who has a previous history of severe reaction to bee venom unless an immunization program has recently been completed and the person tested under controlled conditions. We suspect there are few, if any, cases of acquired tolerance to strong doses of bee venom, after once being sensitive, without resorting to bee sting or injected venom therapy. We would suggest strongly that you be tested for honeybee venom sensitivity by an allergist before beginning beekeeping again. The latest technique of using pure honeybee venom in a series of injections has given much improved results in building up an immunity to bee sting sensitivity.

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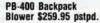


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ned that to achieve this or a ship's keel, or the fuselage of an airplane, until gradually it partakes of the elementary purity of the curve of the human breast or shoulder, there must be experimentation of several generations of craftsmen. In any thing at all, perfection is finally attained not when there is no longer anything to add, but when there is no longer anything to take away, when a body has been stripped down to its nakedness.'

-Antoine de Sainte Exupery, WIND, SAND, & STARS

# Photography In Beekeeping

# Beginning in Photography or ... How to make a Honey Bee say, "Cheese"

By STEPHEN B. BAMBARA Extension Apiculturist N.C. State University

PHOTOGRAPHING HONEYBEES is a challenging and rewarding hobby. Since it would be harder to turn photographers into beekeepers I will try to encourage beekeepers to become photographers.

There are two basic types of 35 mm cameras. First, there's the rangefinder. It is compact and the viewfinder optics are separate from the lens, which is usually permanently mounted. Second, is the single-lens reflex (SLR) camera. This style uses a

up attachment lenses to give you the close-up capability which is essential in this type of photography. The advantage of these attachments is price, but the disadvantage is having to fumble around taking extra pieces on and off.

#### Why Bother?

First, let's mention a few of the benefits. Making a good picture can give personal satisfaction. One can use the photographs as an art form to decorate walls or as gifts. While the weather is cold you can look through a picture collection of your hives and bees and think back to an earlier season or anticipate the upcoming one.

Without photographs our education programs would be limited to a fraction of the people we now reach. Pictures or slides can be mailed anywhere to people who would never go near a bee. Beekeepers can observe bee behaviors, diseases or management techniques not present in their region.

Finally, if you become good enough, your pictures could make money. If you have any doubts about the value of honeybee photography, contact Larry Conner, of Beekeeeping Education Service, who presently makes part of his living as a consultant and provider of visual beekeeping materials.

#### What About Equipment?

There are several common types of cameras on the market today. Each has its own advantages and disadvantages depending on its intended use. The 35 mm camera has become the popular choice of professional and serious amateur photographers. It has versatility and the ability to capture high quality images on a compact roll of film. They can be used for black/white prints, color prints or color slides.

35 mm singlelens reflex camera with standard 50 mm lens and closelens attachments.



prism and mirror to allow one to view the subject directly through the lens. This makes the camera heavier and noisier but gives great versatility with lens types.

My recommendation for honeybee and beekeeping photography would be to use the single-lens reflex model. The price may start around \$200 with a standard lens included. A little searching may uncover a friend or neighbor with one in a closet that hasn't been used in years. Stay away from the expensive models. Leave those to the experts who can tell the difference. You also don't need one of those fully automatic cameras that does everything but brush your teeth.

Regarding lenses, the macro lens is the most useful one to have. It can focus on a subject from several inches away up to infinity and would almost eliminate any need for the standard lens. If you are purchasing a new camera you might consider not buying the standard lens and just start with a macro lens.

Should you already have a standard lens, you can purchase extension tubes, tele-converters, or close-

#### Technique

One major point to remember is to hold the camera properly and steady. The camera should be held cradling the lens with the hand used to focus and guide the camera with the other hand on the body which will snap the shutter button. Depress the shutter button slowly and gently. Don't add to the camera movement. Most experts agree that the average person cannot hold the camera still enough below 1/32 seconds shutter speed without affecting the sharpness of the photo. Use a tripod for most pictures (if you have one), and especially for photographs you intend to enlarge.

When framing the picture make sure the subject fills the viewer as much as possible. We've all snapped pictures sometimes that we thought would be great only to later find that we needed a magnifying glass to see the subject we were looking at. Take several shots of any subject. Try slightly different angles. Choose the best one after development. Consider how the background affects your subject.

Consider lighting. Most of these 35 mm single-lens reflex cameras have built-in light meters for setting exposures, but amount of light is not the only problem. Type of light, location of light source, and direction of light are important. Note the shadows. You can use a flash if there is inadequate light or if you wish to reduce harsh shadows, or freeze action such as wing beating.

It frequently takes a long wait to obtain the good shot. Most good pictures are the result of good planning ahead of time. Frequently, artistic license can be used to help a beekeeping photographer. If you want a picture of a swarm and can't wait until one comes your way, merely create one. Cage a queen and shake out a few pounds of bees with her. You can place the swarm on a branch, a mailbox or on someone's chin.

Instead of jumping about trying to follow a bee from flower to flower or waiting alongside a flower with your camera aimed, wondering why the bees visit all the other flowers, you can stage the scene. Insects can be anesthetized with carbon dioxide or cold. Catch a few bees and place them in the freezer for a minute until they become immobile. Then set them on the flower. As they revive, you can snap your picture with the bee where you want it. Honey can be



Most good pictures are the result of good planning. (Photo by author)

used especially during nectar shor-, tages to attract bees to areas or items they might not otherwise visit.

#### Developing

Don't be afraid to develop your own pictures. The processes have become simpler over the years, particularly for color photography. Black/white prints, slides, color prints from slides, or color prints alone can all be easily done at home. You will need access to an enlarger for all except making slides. During printing you can occasionally remove or enhance aspects of a picture to greatly improve it.

Making color slides is cheaper than color prints, and if you have a particular slide you like, a print of it can easily be made later. Slides do require some viewing device, however.

### What's Stopping You?

It would be difficult to cover all aspects of this subject in anything short of a book and there are already many books on the subject of beginning photography. Visit your library, bookstore or camera shop. Check for beginner photography courses with your recreation department, nearby schools and camera stores. Talk to experienced photographers. Practice, practice, practice. If you're the person who has always been interested in photography but thought it would be too complicated, you no longer have an excuse.

Once you feel comfortable with your camera, the following reading may give you some helpful and interesting tips.

Blaker, Alfred A. 1977. Handbook for Scientific Photography. W. F. Freeman & Co., San Francisco, 319 pp.

Blaker, Alfred A. 1976. Field Photography Beginning and Advanced Techniques. W. F. Freeman & Co., San Francisco. 451 pp.

Wilson, Arnold. 1979. Creative Techniques in Nature Photography. J. B. Lippincott Co., N.Y. 192 pp.

# Photography In Beekeeping

**Fixed Lens Type Cameras** 

By BERNIE HAYES 121 Miller St. Wellsville, NY

HOW MANY TIMES have you wished you had your camera to record some unusual event such as a basketball sized swarm or one clustered in some very unusual place?

As an amateur photographer for over thirty years, my favorite handy camera is the Eastman Kodak Instamatic X-15F and it is as simple to operate as the old Brownie box (the first popular Eastman invention with roll film).

The view finder on this modern compact sized camera is just right while the film advance is a lever which eliminates the slower roll mechanism used in the past. Another feature is the cartridges which may

be changed at will from slide film to print emulsion. The loading is instant drop-in, a good feature when in a hurry and more snaps are needed. At a four foot close-up the picture area is about two and one-half foot square.



The Eastman Kodak Instamatic X-15 uses the very convenient "flip-flash" flash, a simple arrangement of bulbs mounted in plastic. The cluster is easily stuck on top of the camera for action — a better and faster arrangement than the cubes on some models. These flashes help provide light such as in heavy shade which is often the case in woods or bushy areas.

The camera comes with a three year warranty and is made of hard plastic, with permanent focus lens. It just fits the hand nicely, not a mini but a good car camera to have ready. (Do not, however, carry the camera in a locked car in hot weather.)

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## Photography In Beekeeping

(Continued from page 275)

The C-126 cartridges come in 12 or 24 exposures. Black and white is getting hard to find in most films today, but color is available. The prints are 3½" by 3½", usually without any border. Slides are in 2" by 2" cardboard mounts, standard size for any projector.

I must add that this camera may go out of production. Film for them is quite high priced at present. So if this little gem can be located, grab it up for good beekeeping shots while it is available. It will only cost about \$20 and it represents the ultimate from the Brownie box which set up Eastman in the minds of the early photographers as almost a necessity for every family to enjoy.

I like the convenience of the instants in getting just the right snap while it is available, but the color slide feature of the instamatics is a necessity to have when the occasion requires it.

My favorite for bee photos is the Polariod using film No. 87, when available. The flash cube is used here and it does give a nice picture most anywhere, although it is not neccessary in full daytime lighting. The light adjustment in the Polaroid is automatic which means better pictures under difficult outdoor lighting.

My understanding is that magazines such as Gleanings can use color prints but prefer the usual B&W prints for illustrations.

I still like my older Kodak Tourist roll film camera with three element lens, fast or slow shutter and a choice of apertures. This gives fine detail on a 2¼" x 3¼" picture using Kodacolor, or better yet Kodachrome, when available. B&W is sometimes available from film processers in this size.

Of course, the 35mm cameras are unequalled for close-ups since they have interchangeable lenses — and much of the bee photography is close-ups of the queen bee, diseased cells, and so forth. With them the advanced amateur has at his or her disposal a very wide range of special lenses, such as the Fish Eye to Supertelephoto.

These cameras come with lenses of high resolution (detail). Most of such work is done with the 36mm and short focus lenses on extension

tubes. Since the bee is a very small object to photograph, the special lenses provide the interesting pictures commonly seen of blossom and pollen laden bees. The serious amateur usually ends up with 35mm as the best selection for miniature photos.

A beginner should become used to a new camera so that time is not wasted making the adjustments. Each camera has its limitations. Lighting is often critical for the fixed lens type such as the Instamatic which requires light from 10 a.m. to 4 p.m. Pictures in the shade can use booster shots of flash for better detail within ten or twelve feet.

The brighter the day, the more detail will show up in your snaps since the contrast makes it stand out well. Color for fine detail such as bees on the comb requires strong lighting as well. Be sure and take at least two shots of your pictures that are important to you since something may happen to only one and the chance has been lost.

Backgrounds should be suitable, often requiring a large sheet or perhaps large cardboard as a cover.

Pictures of the queen bee, with attendants, are difficult to obtain with the average camera since they require special lens fine focusing adjustment for such a close-up. Of course, swarms photo well. Be sure and take the picture on the well-lighted side only.

Also, remember to get the object you want close enough in the viewfinder to appear with good detail, for the resolution drops off rapidly as the distance is increased.

Indoor shots of equipment are the easy ones. They require only a flash, although flood lamps can be used also. Detail is better with flash since the contrast is better, but do not use flash too close or the lighter reflections will be over-powered.

Light reflecting from glass honey jars makes the use of flash lighting almost necessary, but the distance from the camera to the object must be right.

The instants shine best for experimental poses of indoor material to obtain just the right result. Woodwork such as frames, hives, shop made or otherwise, takes a good photo since wood has a rather dull surface with little reflective capacity.

However, white painted hives sometimes prove difficult to photograph with detail in strong outdoor lighting with full sun. Much better on a hazy day to spread the light.

Any swarm that is moving requires a shutter speed to "freeze" the action, otherwise it is just a blur. Better to wait for a favorable opportunity when the bees are clustered. If you burn a brand number or design on your hives, better take a couple shots of them for future identification as proof of ownership. Add the date of the photo on your print.

Color film is ideal for snaps of blossoms in early spring if you are starting a collection of nectar photos, either slides or prints. However, it does take large blossoms since some are not distinctive. The long, creamy-colored pendants of the locusts, the upright candles of the horse chestnut and the golden catkins of the French pussy willow all make interesting pictures. With some tree blossoms a branch will have to be broken off and arranged for a picture.

If the lighting is bright and contrasty, many shots of the hive fronts are worthwhile, such as the "washboard" activity on the entrance board, or bees fanning air into the hive for ventilation, or the ripening of nectar. Bees heavily clustered on hive fronts usually indicate either poor ventilation, or worse yet, swarming fever. These shots will have to be taken at the close-up range, about four feet as near as possible to obtain good detail.

In conclusion, if I had just one camera for bee photos, it would be the Kodak Instamatic X-15 as the best and easiest in use, with minor investment for slides or color prints and changeable at will.

Bee photos do add an extra dimension to apiculture as well as for recollection of certain events. Slides mean sharing your interest with others, and who knows, someday a youngster may "catch fire" and take up the beekeeping hobby.

There is an old Chinese saying to the effect that a picture is better than a thousand words. Sometimes we do not realize all that the mind is seeing until our memory is stimulated.

Certainly our photos enliven our reading. The printed page is better off with illustrations to instruct, or appeal to our esthetic senses.

So, with spring around the corner, get out your camera for another season coming up.

# Buying & Restoring Used Beehives

"It became difficult to justify to my husband the money I spent for equipment

By PATRICIA R. YUNKES Hiram, Ohio

I LOVE USED beehives. I love the wheeling and dealing it takes to make a bargain; I love working with the wood; the scraping, patching and the final paint job that makes the hives look glamorous; and best of all, I love the money saved.

Of course, I have bought a lot of new equipment, and made a lot more when I learned how. I even cut my own pine trees and have them sawed and planed for making covers, bottom boards and hive stands. But nothing gives me such a thrill as closing a deal on a bunch of "dead hives."

If I have made a really good bargain, I get the feeling I have put one over on the poor seller; I could see the gold beneath the chipped paint and webs of waxworm and he couldn't. Of course, I know I haven't really "taken" anyone. Those old broken down hives usually meant little to the seller after they sat in his barn for five years, and he was glad to have any amount of cash they would bring. In fact, he was probably rolling on the ground laughing as he put my cash in his pocket.

Those old hives really weren't much good in the shape they were in. It will take some expense and a lot of work to get them into shape, a lot more than most people would want to spend. But I have the time, and by reclaiming old hives can expand my bee business without trying to scrape together the huge amount of money it would take to add ten or fifteen hives to my yards.

My first hive was a gift. Friends had bought (from a relative who was moving out of state) two live hives and equipment for several others. As I was interested in bees, they gave me one hive.

When I saw the hive, my joy turned to despair. To my inexperienced eye, the built up wax and propolis and just plain crud was overwhelming. Some frames were broken, chewed and weak. Comb was eaten, webby, stained and generally yechy. Paint was chipped and one super had a hole in it.

Fellow beekeeper Bill Scott gingerly removes several frames that have been bonded together by a hornets nest. Luckily it has been rendered inactive by the winter cold.



But I went to work, and after hours and hours of scraping, fixing, scorching, rewiring and putting in new foundation, I painted the hive and stood back to look at my rejuvenation. It was beautiful.

The hive is still number one, and it is also number one in production and in my heart. Who says beekeepers aren't sentimental?

My second hive cost me five dollars at a yard sale. It consisted of two deep supers, two shallows, two covers, an inner cover and a bottom board. There were no frames, but it was in much better shape than the first hive, and I bought new frames for it.

At this point, I was still a casual beekeeper, just for the fun and a little honey. But after my third hive, the beekeeping bug really bit me and I started buying equipment, never quite catching up with the desperately needed supers.

It became difficult to justify to my husband the money I spent for equipment. That's when I started making some equipment and learned what was deductable from my income tax. And whenever some used equipment came up, I was ecstatic.

Of course, buying used hives isn't for everyone. There are several things to consider before you part with your cash. The first is price; second, was the original colony diseased? (If you are buying a live colony, you should insist on an inspection — it's the law in some states.) Third, can the equipment be brought into good shape, and fourth, do you have the time and equipment to do the necessary work?

When the first contact is made, you must find out how much equipment is involved and what the price is. Remember, you are dealing with equipment that is empty, and may have been empty for several years. I won't consider anything that is more than one-half what it would cost new. I will not only have to work on it, but will have to buy paint, and perhaps wood and wood filler, new frame supports, eyelets, wire, frames (or parts of frames), and perhaps replace covers and bottom boards. And I put hive stands under everything.

So don't venture into this bargain unless you are sure you can afford the purchase price as well as the cost of rejuvenation. If there is a lot of equipment, perhaps you could share your find with a beekeeping friend, or resell some of the cleaned up equipment.

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## Buying & Restoring Used Beehives

(Continued from page 277)

If the price is reasonable, try to find out why the equipment is for sale and why the hives are empty. Did the bees die? If so, why? Was there foulbrood or another disease, winterkill or starvation? Unless you are prepared to do a lot of work and gamble the health of your yard, pass up any diseased hives. Of course, wax moth is no problem if the hives, and frames are not badly damaged.

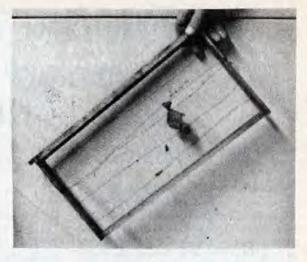
The next step is to inspect the equipment. Be sure to have your hive tool handy. A visual inspection will show you how the paint is. If it's badly chipped or peeling, and shows more than normal wear, why? I recently bought six or seven stacks of supers, and because of the weather (a near blizzard), failed to inspect each stack. Two stacks had badly peeled paint, and when I loaded them up, I noticed these supers had been badly scorched inside. It could mean only one thing - foulbrood. Believe me, I really did a job cleaning those supers, and plan to put them in an isolated yard.

Use one corner of your hive tool to check for dry rot near the bottoms of the supers, inside and out on the bottom boards, and under the covers. Next, remove some frames and check them over carefully. If there is comb in them, is it badly discolored? Is it from normal staining as the bees travel over the comb, or spotty (nosema may have been present)? Is there dead pupae or other debris in the cells? Is there wax moth (larvae) or webbing? Will the comb have to be replaced? Are the frames sturdy and in one piece? Are they chewed or broken? Look in corners and crevices for holes made by wax moth larvae. Can the frames be saved?

Now, mentally put it all together. Frames can be repaired or replaced. An occasional knot hole can be covered. Ask yourself if the price is still a bargain, and do you have the time to make the necessary repairs.

If the answers are still yes, now is the time to make the deal, and load up your newly won prizes. I always go prepared to bring the purchase home, not giving time for second thoughts on the part of the seller or for someone else to come along and offer more. As many bargains can be lost that way as the hives being sold just before you got there.

One of the extras that come with this hive was a small wasp nest. After removing the nest and the weak wires, the frame was cleaned up, rewired and had foundation put in. It still has a useful life ahead of it.



Now that you have the equipment, your work really begins. Put it all under cover until you are ready to work on it. Dampness will quickly destroy unused supers. And don't forget wax moth.



Beekeeper Bill Scott goes over the inside of this cover with a propane torch, paying particular attention to the cracks, where all sorts of unwanted pests can hide.

I like to sterilize and fix all used equipment as soon as possible, then store it safely until ready for use. My prime reason is so that my other equipment won't get contaminated. I may have brought something home I didn't want in spite of my close scrutiny, like those charred hives I mentioned.

I once passed up charred hives, but I must admit that cost was a factor. The seller wanted about 80% of new hive cost. The price was no bargain and I was afraid of disease. However, our state inspector has assured me that charred hives are pretty safe. The

charring should be even and complete on the inside of the hives, and for safety's sake, this equipment should be isolated and watched for foulbrood for a complete season.

When starting work on the hives, start with a group of four. This makes a nice amount to work with and can be stacked for easy painting.

First, remove all the frames and put them in a large box or pile, separating ones that need repair. You may also want to separate like frames. Used hives have frames that often come in several varieties — solid, wedge, grooved or split top bars; split, grooved or solid bottom bars.

Scrape the loose or chipped paint from the outside of the empty supers, and the built-up wax and propolis from the inside. Remove cocoons and crud from the frame supports, replacing those that are rusty. Then go over the entire inside and edges with a propane torch. The wood will darken a little as wax melts into the wood and there may be some scorching, but you will destroy unseen pests.

Repair any knot holes by nailing a piece of tin or aluminum on the inside, and fill the other side with caulking or some wood filler. I like a plastic or acrylic filler that will not dry out and contract. When painted over, the holes will hardly be noticeable.

Cracks should be filled and loose corners re-nailed. Broken edges can be shaped in with aluminum (those printing plates are really useful) and filled.

Now you are ready to work on the frames. If the comb is bad, it must all be removed, including the wires that anchor it in. Remove the strip of wood

(Continued on page 280)

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279 **MAY 1982** 

## Buying & Restoring Used Beehives

(Continued from page 278)

(wedge) that holds the foundation in (whether there is wax present or not) first. Then scrape all visible surfaces with your hive tool, removing excess propolis, wax, webs and cocoons. Don't miss cleaning the splits or grooves in the top and bottom bars. Examine corners and eyelet holes for wax moth cocoons. Use a nail, ice pick or screwdriver to pry them loose, then open all eyelet holes that are clogged. Missing eyelets can be replaced just before you wire frames. If any frames are wobbly, you can stiffen them with a few long nails in the joints. Any holes in the frames that may be inaccessible to the bees should be filled; no place should be safe for wax moth larvae to hide.

Now you are ready to sterilize with flame, as you did to the supers. Watch the corners and grooves carefully. If the blue flame turns vellow as it hits the frame, inspect to see if you have missed a cocoon or other piece of foreign matter. Work on only one piece of a frame at a time, because as you twist and turn the frame to reach all parts, you may miss an area. So do all sides of an end piece, or bottom bar, before moving on to the next. When the frame has been sterilized, place it back in its super, and when all four supers are finished, they are ready to be stacked and painted.

Frames that needed repair can be worked on now, or left until all the other work has been finished, and done all at one time. This way, if one has a broken bottom bar, you can use the top and side bars to repair others. Bottom bars are usually the ones broken, but side bars often crack when the frames are rewired. You may have to buy some frame parts; in any case, it is always good to keep some spare parts around. Whenever you choose to work on broken frames, it's a good idea to sterilize them as soon as possible.

Bottom boards and covers should be scraped, repaired and sterilized on both sides. Make sure to do a good job on all cracks. You may even want to replace, or remove, clean and replace metal covers.

There are two areas I have left until nearly last. First, if you have bought charred hives, make sure the charring is even all over. Remove the frame supports, scorch the wood

Partially panted cover (left), supers (center), and bottom boards (right) show what a difference paint can make.



underneath, and replace them later with new ones. Use you hive tool or a paint scraper to scrape the charring down to the wood. Then go over the inside with coarse steel wool. The result will be a surprisingly polished surface, slightly darker than the natural wood. This is really a dirty job, so try to do it all at one time. You may want to paint the inside of the hives, but it isn't really necessary. If you clean the charring off really well and let the hives set for a few months, the burnt odor should be gone and the new bees should accept the hive.

Second, and last, another way to clean used equipment is by boiling in a bath of strong detergent. This will soften most of the wax and propolis which can then be brushed off with a stiff brush or scraped clean.

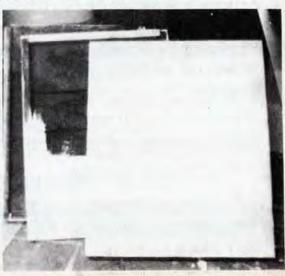
Now that your used equipment is

beautifully restored, all you have to do is add the bees. Of course, bees don't care how pretty the equipment is, but you will be proud of your work.

And the next time you hear of a bargain you will be ready to rush right over and "close the deal." And believe me, rush is the right word, as that bargain is more often gone before you get there, perhaps even before you even heard of it. That's why I braved a blizzard (with cash in hand) for my last bargain. I have lost too many by waiting a few days.

Incidentally, my bargain of over thirty supers and odds and ends cost me one fifth the retail price and took about eighty hours to get into shape. I get all excited just thinking what I will do with the equipment next summer.

This newly painted cover is a stark contrast to the partially painted bottom board behind it.





THE ROB-BEE POLLEN TRAP
THIS EXCLUSIVE, PATENTED DESIGN
TOPS ANYTHING PREVIOUSLY BUILT IN
REGARD TO FLEXIBILITY AND EFFECTIVNESS FOR TRAPPING AND
HARVESTING POLLEN

#### **WE BUY POLLEN**

DURING THE SUMMER OF 1982 WE WILL HAVE A DIESEL TRUCK GOING COAST-TO-COAST TO FILL THE LARGEST POLLEN STORAGE FACILITIES IN THE U.S. — CAPACITY 250,000 LBS.

WE ALSO HAVE THE LARGEST AND MOST EF-FICIENT POLLEN PROCESSING EQUIPMENT IN EXISTENCE, WITH CAPACITY TO PROCESS 6,000 LBS. OF POLLEN PER HOUR

> BEFORE YOU SELL YOUR POLLEN CALL ROBSON HONEY AND SUPPLY CALL 1-800-528-3212 OR IN ARIZONA CALL 602-268-2249

#### POLLINATION SERVICE AND BEE SUPPLIES

ROBSON HONEY AND SUPPLY 6241 S. 30th ST. PHOENIX, ARIZONA 85040

#### BETTER BRED QUEENS THREE BANDED ITALIANS

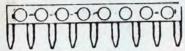
We have them on short notice-quality and quantity at the right price. Use your phone for quick service.

QUEENS		PACKAGES	S POSTPAID	
1 thru 24	\$6.00	1 thru 3	b. w/q \$20.50	3-lb. w/q \$25.50
25 thru 99 100 or more	5.75 5.00	3 or more Truck prices	\$19.50 16.00	\$24.50 21.00
Manager	205-829-6183	Special price Secretary four Service)		more.

CALVERT APIARIES

Calvert, Alabama 36513

## NEW FRAME SPACING TOOLS



For both 8 and 9 frames in a 10 frame super. Fast and easy to use. A pair works faster and can pay for themselves in a day of high cost labor saved. Perfect spacing every time. Produce more honey on fewer frames. Made of ½ " cast aluminum. Lifetime guarantee. Postpaid.

1 — \$16.50 Pair — \$29.50

WOLF WORLD PRODUCTS
P.O. Box 707 Baldwin, WI 54002

## **ITALIAN QUEENS**

\$4.25 each air mail postpaid Clipping & Marking 40¢ each Gulf Goast Bee Co. Gilbert Bourg Jr. — Owner P.O. Box 85 Schriever, La. 70395

Stay
Healthy Eat
Honey

## QUEENS

## Golden Yellow Italian Queens

Guaranteed mated and laying. Caged and mailed direct from my large (4 standard brood frame) nuclei. All queens double grafted and all cell building colonies and nucs fed Fumdil-B.

My very gentle breeding stock is carefully selected from my heaviest honey producers. Forty years experience is your guarantee of satisfaction. Live delivery guaranteed. Shipments start April 1st Postpaid.

Prices — 1-10 \$10.00 each over-10 \$ 9.00 each

HUCK BABCOCK QUEEN BREEDER Box 685, Cayce, SC 290

P.O. Box 685, Cayce, SC 29033 Phone after 8 p.m. only 803-256-2046

## Foundation Embedder

B. M. CRAWFORD of Santa Ana, California is a retired beekeeper who has a device which can be used to nail and wire frames and embed foundation. Only deep, standard frames can be handled with the arrangement shown but with a little modification the device can be used to handle shallow frames as well.

The downward pressure of the embedding grid is sufficient to press four heated wires into the wax at which time the upper grid comes to rest on the wax foundation, thereby preventing the wire from cutting completely through the wax sheet. All four wires are embedded simultaneously with a touch of the switch.

A ground fault indicator-protector will afford protection against short circuits and must always be used between the electrical outlet and the plug.

Figures one through five show various views of the foundation embedder.

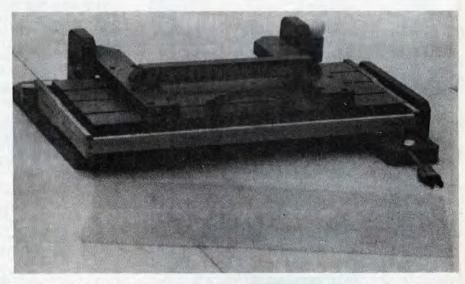
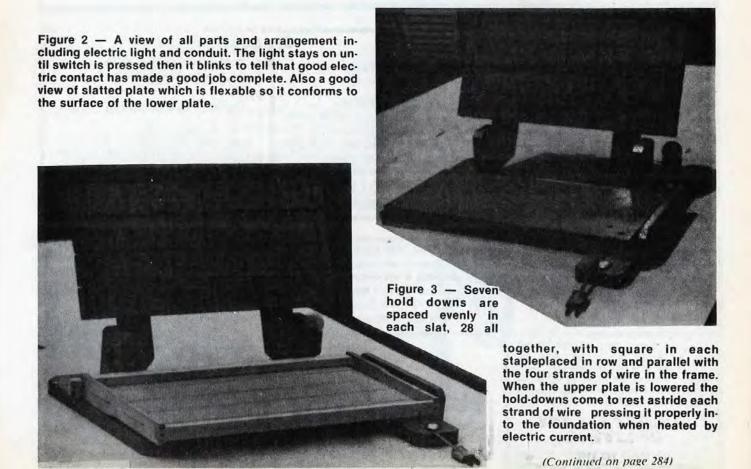


Figure 1 — Embedder is made of ¾ ″ pine lumber consisting of two plates of equal size and shape, that will fit snugly but fairly loose inside of a Hoffman standard frame as shown in Figure 3. The plates are held together with crosscleats made fast to standards and hinged with pins through standards and screwed fast into the cleats which permits raising and lowering the upper plate when desired. The hinge-pins thru the standards have a slight free-travel vertically, to pervent hinge-bind when closed down. Dry-wall, Allen screws 1¼ ″ and 1½ ″ are used only, no nails.



CLEAR RUN APIARIES

Productive

MRAZ QUEENS

Winter Hardy

AMOS McLAMB P.O. Box 27 Harrells, NC 28444 (919) 532-4782

Shipped Airmail, Postage paid from April 1st.

Live delivery Guaranteed

10% to book, balance due before shipment.

## NO COLONY IS BETTER THAN ITS QUEEN

Italian queens bred for Honey Production



& SONS APIARIES

Rt. 4, Box 415 BAY MINETTE, ALA. 36507 Phone 205-937-5122 QUEENS

Airmail-Postpaid 1-9 10-99

Italians \$6.50 \$6.00 \$5.35 Starlines \$7.00 \$6.50 \$5.85 Prices as of May 24, 1982

Italians 1-10 \$4.00 11 or more \$3.50 Starlines 1-10 \$4.50 11 or more \$4.00

BERNARD'S APIARIES, INC P.O. Box 15 Breaux Bridge, LA 70517

Phone: a/c (318) 332-2818 Days 332-2365 Nights before 9 p.m.



We guarantee live delivery

## THERE'S ONE THING BLACK PEOPLE HAVE MORE OF.

It's cancer.

Black Americans have a greater chance of getting cancer than white Americans, and a greater chance of dying from it:

But there are no biological reasons for it.

The reasons are in differences between their jobs, their education and their health care. Many black Americans don't get the benefits of the latest advances in diagnosis and treatment and don't recognize cancer's early warning signals.

Better education about cancer is one of the jobs we tackle at the American Cancer Society.

But it takes money. Your money. Give what you can to give black Americans a better chance against cancer.

## SHARE THE COST OF LIVING.

GIVE TO THE AMERICAN CANCER SOCIETY.

HOMAN'S

100-up

QUALITY BRED CAUCASIAN & ITALIAN BEES & QUEENS

2 lb. w/q — \$20.00 3 lb. w/q — \$25.00 QUEENS 1 · 49 — \$5.50 50 · up — \$5.00

The above prices include postage, special handling, and insurance fee.

Packages to be picked up at our Apiary 2 lb. w/q — 16.00 3 lb. w/q — \$21.50

2 lb. w/q — 16.00 3 lb. w/q — \$21.50 10% books order. Balance two weeks prior to shipment. Health certificate furnished.

**HOLDER HOMAN APIARIES** 

Rt. 2, Box 123-B SHANNON, MS 38868 Phone: 601-767-3880

A sting is worth a thousand "don'ts".



The Best Investment For The '82 Honey Crop
YOUNG — VIGOROUS — ITALIANS
Our Queens Are Top Quality, Fertile And
GUARANTEED To Arrive Alive And Healthy
1-24 25-99 100-299 300-1,000
\$7.00 \$6.25 \$5.50 \$5.00

1-24 25-99 100-299 300-1,000 \$7.00 \$6.25 \$5.50 \$5.00 Marking or Clipping 25¢ Fumidil-B Treated

Shipped Priority Mail We Pay Postage And Insurance

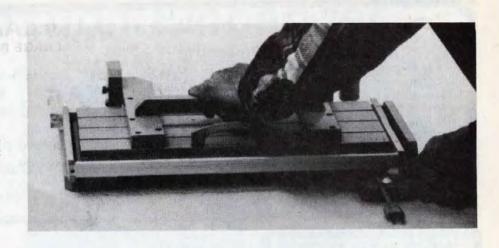
**GLENN APIARIES** 

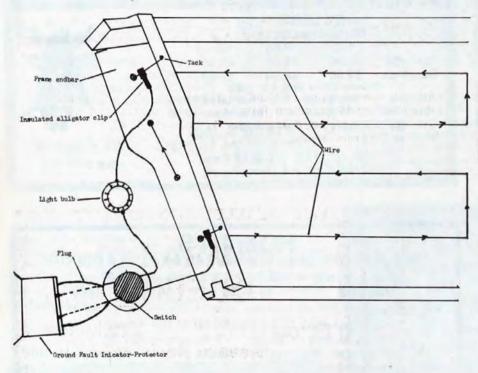
1358 EAST MISSON ROAD FALLBROOK, CALIF. 92028 PHONE: (714) 728-3731 VISA and MASTERCARD Welcome

## Foundation Embedder

(Continued from page 282)

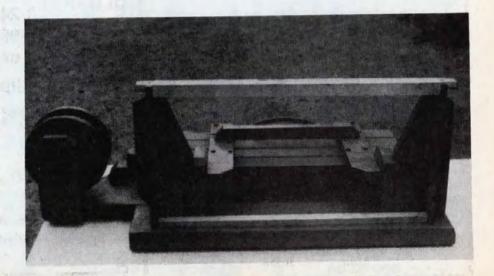
Figure 4 — Slight pressure on handle and a touch on switch, the light blinks. Embedding accomplished.





Electrical Circuit
CAUTION — All shock hazards
precautions should be assured
before energizing this circuit.

Figure 5 — Nailing form standards holding frame and endbars for action.



## THREE BANDED ITALIANS

SERVING THOSE WHO DEMAND THE BEST IN PACKAGE BEES AND QUEENS

- PRICES -

	1-9	10-24	25-99	100-up
2-lb. pkg. with young laying queen	\$20.00	\$19.50	\$19.00	\$18.50
3-lb. pkg. with young laying queen	25.25	24.75	24.25	23.75
4-lb. pkg. with young laying queen	31.25	30.50	29.75	29.00
5-lb. pkg. with young laying queen	37.50	36.75	36.00	35.25
Extra Queens	6.75	6.50	6.25	6.00



Queens clipped 25¢ each Queens marked 25¢ each

Queens are Postpaid and Shipped Air Mail.

Package Bees are F.O.B. Shipping Point.

TERMS - Small orders cash, large orders \$2.00 per package deposit and balance two weeks prior to shipping date.

QUALITY DOES NOT COST - IT PAYS

## THE WILBANKS APIARIES, INC.

CLAXTON, GA. 30417 Box 12 Phone: (912) 739-4820 

"If I were to live my life over again, and knew in advance that I should be a beekeeper, I never would locate in a place with only one source of surplus. When white clover fails here the bottom drops out. Unfortunately the years in which the bottom drops out have been unpleasantly frequent."

Dr. C. C. Miller - 59 Years Among The Bees (1915).

## THREE BANDED ITALIANS **Prices Starting May 5th**

	1-9	10-24	25-99	100-up
2 lbs.w/q	\$16.25	\$15.50	\$15.00	14.75
3-lbs.w/q	20.50	19.00	18.50	18.25
Queens	4.00	3.25	3.00	2.75

The prices above include postage and insurance.

Fumidil-B fed to all Colonies and Queen Rearing nuclei

We do not guarantee live delivery. File claim with your post office and we will replace.

Packages Picked Up At Our Apiary

\$14.00 \$11.00 3-lb. w/q 2-lb. w/q

## **GREGG & SONS** HONEY BEE FARM

Phone: 205-846-2366 Rt. 2 Box 92 Millry, Ala. 36558

**Productive** 

MRAZ
QUEENS

Frugal Productive
Disease Resistant

1-24 --- \$7.25
25-99 --- 6.50
100 or more --- 6.00
Clip or Mark 25¢
Prices good through October 1982

WILDWOOD APIARIES
Box 161
Starkville, Mississippi 39759-01€1
Phone: (601) 323-2341

**MAY 1982** 

# Bee Repellent For Beekeepers

By K. F. SPOREK Sylvania, Ohio 43560

SOME YEARS AGO I started beekeeping in a rural area in Indiana. It took me the usual time as a beginner in this hobby to learn the rudiments necessary for limited success with bees and their products, and along the way I also learned a few painful lessons by being stung occasionally and this in spite of thoughtful precautions and protection

The experts tell us that the ideal time to work in the apiary is during the nice, warm, sunny days because then the bees are so busy going about their business that they will tolerate an intruder removing honey from their combs. However, it soon became obvious to me that if I were to work with the bees under these ideal conditions, which in Indiana summer often means high temperatures accompanied with high humidity, the protective gear of bee suit, boots and veil added considerably to the heat and to my already great discomfort.

As I mentioned earlier, my occupation with bees is as a hobbyist. However, my occupation for living is as a chemist, and this being the case, I have known for sometime that there are chemical substances that act as powerful insect repellents such as that used against mosquitoes. This in particular has been well tested and proved highly effective and is marketed under a number of different proprietary names. I decided to try it as I worked the bees and I had some encouraging though limited results. After these preliminary experiments with the available products I recognized that the usual strength (about 14%) of the active substance, meta N, N-diethyl toluamide, and the cost of the spray cans would not allow them to be used by beekeepers. I obtained therefore the necessary ingredients from a chemical supply house and formulated a product about twice the above strength (25-30%). For application I used either a regular paint sprayer with compressed air or a special pressurized container which could be filled with the preparation and then charged with air to about 80 psi. This had the convenience that it could be carried away from the compressor. I also discovered that it was much more effective to spray the clothing and the bee suit (if any was used) rather than my own skin. This was particularly beneficial with the face veil in that bees did not crawl all over the veil and did not obstruct vision. One thing that I particularly welcomed was that bees were not on the veil near my ears for it is usually very difficult to guess whether the bee is outside or inside the head protection in such a case. Eventually I started reducing the amount of protective clothing (with the exception of the face veil because it is difficult and actually inadvisable if not outright dangerous to spray the eyes). I found that provided I was reasonably well covered with the spray I could work with bees with almost complete freedom from at-

The most convincing test came on one occasion when I and a companion, on a very hot day, were taking a working hive apart in which the frames were strongly propolized and breaking apart when being withdrawn from the hive. The air was thick with highly agitated bees; I was not once stung but my companion, who refused to be sprayed as thoroughly as myself, had fifty stings. Fortunately this did not do him any permanent damage and perhaps increased his resistance to bee venom by a substantial margin.

The trials described above in-dicated that the best compromise between effectiveness and cost is a solution of about 25% of the active agent in a non-toxic, non-irritating inert diluent. There is always some probability of allergic response to the spray although this is very rare. I have been using the above preparation now for three seasons and find that I can work the bees and use only a hat and face veil as protection wearing shorts and a T-shirt which I of course spray before putting on. I also spray directly my arms and legs. This, in my case, ensures no only protection but also complete freedom to work even in the hottest of Indiana weather (when apparently bees are very busy and very tolerant anyway).

## Honeybees In Greenhouses

A report in *Honeybee Science*, published in Japan, showed that in a greenhouse covered with a film cutting off ultra violet light fewer bees flew from hives placed in the greenhouse and those that did were disorientated. The resulting strawberry crop contained eight time as many distorted fruit as crops pollinated by bees in ordinary greenhouses.

From Apicultural Abstracts, Vol. 33 (1), 1982.

## **Heating Honey**

An evaluation of the effects of heating on alfalfa honey showed that flavor, color and sugar content of honey samples after processing at 110 degrees, 120 degrees, and 160 degrees F. for 30 minutes, and flash heating to 175 degrees. F. followed by immediate cooling was not significantly changed. The only consistant variation in contents for fructose, glucose and sucrose was a slightly greater content of sucrose at 175 degrees than at 110 degrees. The tests were conducted at the Department of Food Science, Pennsylvania State University.

From Apicultural Abstracts, Vol. 33 (1), 1982.

# Sunflower Pollination

In studies conducted on three hybrid varieties of sunflowers, grown commercially in six fields, open heads had significantly more developed seeds and higher total seed weight than bagged heads (pollinators excluded). However, there were no quantitative differences in the oil contents of developed seeds. Honeybees comprised 80% of total insect pollinators. The tests were conducted in central Wyoming by the Honeybee Pesticides/Diseases Research Station at Larmie, WY

From Apicultural Abstracts, Vol. 33 (1), 1982.

Phone 215-754-7631 or 234-8904

Dadant & Maxant Quality Equipment Just 30 miles from Philadelphia Ask for Bob or Astrid Brooks

## Perkiomen Valley Apiaries, Inc. **Beekeeping Supply Supermarket Store** Rt. 73 (between Rts. 663 & 29)

Obelisk, PA 19492

DISCOUNT prices in our store - FREE shipping at Dadant Catalog Prices on most items into Pennsylvania, New York, New Jersey, Delaware and Maryland — Package bees available early April, Nucs Mid-May, — reserve early — Queens late May to September — Paying \$2.00 lb. for beeswax — Dealers for the Kerkhof Ventilated Bee Hive winner of the Silver Medal at the International Apicultural Congress, Acapulco 1981

Only old fashion quality and service here and quality modern equipment from the finest modern manufacturers.

VISA & MASTERCARD ACCEPTED

Stores Hours: Wed, Thurs 10:30 to 5:30 Sat. 9:00 to 5:30

Fri. 10:30 to 6:30 Sun 12:00 to 5:00

## QUEENS

Caucasian Italian

Nice Large Queens 1.24 25-99 100-up \$6.45 \$5.80 \$5.30

Queens after May 10th 50-up - \$3.50 1.49 - \$4.00

Clip 50¢ ea. — Mark 50¢ ea. Order 1 or 1.000 See Feb. ad for pkg. prices.

## MITCHELL'S APIARIES

Bunkie, LA 71322 Phone: (318) 346-2176

## HARRELL & SONS

P. O. BOX 215 **HAYNEVILLE, ALABAMA 36040** 

IF YOU ARE INTERESTED IN GOOD QUALITY ITALIAN QUEENS HEADING UP YOUR COL-ONIES, CONTACT HARRELL & SONS. OUR QUEENS HAVE BEEN USED BY BEEKEEPERS ALL OVER THE WORLD AND **FOUND TO BE** VERY SATISFACTORY.

OFFICE: (205) 548-2313

R V. HARRELL (205) 548-2351

(Founded By W. E. Harrell, Sr., 1920)

Ott's Golden Italian Queens Prices After May 15th Dea. 5-49 — \$3.00 ea. \$4.00 ea. 50 & up — \$2.75 ea.

Queen price includes airmail, postage, special handling, insurance.

Ott Honey Farms, Inc.

Rt. 1, Box 143-P Rolling Fork, MS 39159
Phone: 601-873-6275

Bees don't quarrel, only beekeepers do.

### OREGON Pacific Northwest Bee School

The 1982 Pacific Northwest Bee School will be held October 21-23, Thursday through Saturday at the Oregon State University Foundation Center, OSU Campus, Corvallis, Oregon.

The activities will include selected expert speakers: Dr. Mark Winston, Simon Fraser University, British Columbia; Dr. Martha Gilliam, USDA, Tucson, Arizona; Professor Steven Taber, Taber Apiaries, Vacaville, California; Dr. Hachiro Shimanuki, USDA, Beltsville, Maryland; Dr. Carl Johansen, Washington State University, Pullman, Washington; Dr. Eric Mussen, University of California, Davis, California; Dr. John Ambrose, North Carolina State University, Raleigh, North Carolina; and Dr. Pongthep Akratanakul, Kasetsart University, Bangkok, Thailand.

# News and Events



Topics will include: queen breeding for disease resistance, genetics of swarming, parasitic bee mites, pesticides and bees, developments in tropical beekeeping, Africanized bees, colony manage-ment, nectar and pollen sources and much more.

There will be a honey show, social musicale, 1983 Oregon Honey Queen Coronation and Commercial

The registration costs are — \$15.00 per day or \$40.00 for the full three days.

The housing and meals will consist of arranging motel reservations on your own. Information on Corvallis motels available on request. Inexpensive meals are available on campus. RV space (no hook-up) available on campus.

For further information please contact the following individuals: Mr. James Schupp, OSU Foundation Conference Center, Corvallis, Oregon 97331 or Michael Burgett, Department of Entomology, OSU, Corvallis, Oregon 97331.

#### IITAH **WAS Conference 1982**

The Western Apicultural Society 1982 meeting will be at Utah State University, Logan, Utah, August 16th through August 20th. Preregistration is \$30 per person; \$35 at the door and for a child under 12 the fee is \$15 per child. Housing is in the dorms, including bedding and towels at double

occupancy \$7 per night per person; single occupancy \$10.50 per night per person and child 2-17 years old with parents \$5.50 per person per night. In addition to dorm housing there are rooms with private bath at the University Residence Center; \$23 for one, \$26 for two, \$28 for three, etc.

Breakfast is served at 7:15 a.m. Tuesday, Wednesday, Thursday and Firday for \$2.25. Lunch is \$3 and dinner \$4.

Housing and campus meals can be guaranteed only if your registration is returned by July 1, 1982 to: Suzanne Blakely, Program specialist, Conference and Institute Division, Utah State University, UMC 50A, Logan, UT 84322. Phone: 801-750-2302. Make checks payable to Utah State University.

#### Monday — August 16

10:00 a	.m. Registration Begins
10:30	Delegates Buzz Session
12:00	Lunch
1:00 p	.m. Registration for honey, gadets, photos, etc.
2:00	History of Man's Assoc. with Bees -
	W. P. Nye
3:00	Coffee Break
3:15	Delegates Meeting
4:00	Directors Meeting
5:00	Reg. for honey, etc., ends
5:30	Dinner
7:00	Panel Discussion — Troy Fore, Lawrence
	Goltz and Joe Graham
Tuesda	y — August 17
8:00 a	.m. Late Registrations
9:00	Call to Order
9:30	Welcome Dr. Stanford Cazier
0.45	Wild Deep by Dr. Coo Debort

Tuesday	- August 17
8:00 a.i	m. Late Registrations
9:00	Call to Order
9:30	Welcome Dr. Stanford Cazier
9:45	Wild Bees by Dr. Geo. Bohart
10:45	Coffee Break
11:00	Basic Bee Biology — Michael Burgett
12:00	Lunch
1:30 p.	m. Group Photo
2:00	Field Demo - Cut comb & Section honey -
	W. P. Nye
3:00	Field Demo - Pheromones - Dr. N. Gary
4:00	Field Photography — John McDonald
5:30	Social Hour
6:30	Sirloin Steak Cookout
8:00	Honey Queens

#### Wednesday - August 18

8:30 a.	m. Call to order - Announcements & Raffle
9:00	Bee Behavior by Dr. Norm Gary
10:00	Coffee Break
10:15	Honeybee Management — W. P. Nye
11:15	Products of the Hive — Dr. E. Mussen
12:00	Lunch
1:00 p.	m. Tour: Utah Heritage Foundation & Old
	Mormon Homes
4:00	Tour: Intermountain Insect Collection &
	USDA Bee Collection
5:30	Dinner
7:00	Conference Speakers Round-table
	Discussion

#### Thursday - August 19

8:30 a.	m. Call to order, announcements, etc.
9:00	Bee Diseases & pests - Dr. W. T. Wilso
10:00	Coffee Break
10:30	Business Meeting and Elections
12:00	Lunch
1:30 p.	m. Tour: Meyer Honey Co. & Cache Valley
	Cheese Plant
6:00	Social Hour
7:00	Smorgasborg & Awards

#### Friday - August 20

9:00	a.m. Delegates Meeting
9:30	Directors Meeting

(Continued on page 290)

## THREE BANDED ITALIANS

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

Prices After May 1st

2-lb. pkg. w/q 3-lb. pkg. w/q Queens	1-4 \$16.50 21.00 4.00	5-24 \$16.25 19.50 3.25	25-99 \$15.25 18.75	100-up 14.50 18.00
Queens	4.00	3.25	3.00	2.75

Packages picked up here after May 1st 2-lb. w/q \$11.00 Any number 3-lb. w/q \$14.00 Any number

10% to book, balance 2 weeks before shipping date.

All colonies and nuclei fed Fumidil-B.

W. L. TATE & SON BEE CO.

Route 2 Millry, Ala. 36558 PHONE: 205-846-2661

## MRAZ QUEENS

**Productive-Winter Hardy** \$6.50 100-up . . . . . . . . . . \$6.00

Clipped or Marked 25¢

**Shipped Postage Paid Guaranteed Live Delivery** 



## LONE PINE BEES

P.O. Box 75 Falkland, NC 27827 **Adolphus Leonard** Ph: 919-355-2377

## TABER APIARIES

New Stock development by Artificial Insemination (AI)

1.5 6-up Disease Resistant\$10.00 **Ultra Yellow** 10.00 Cordovan (AI) 25.00 Al Breeder Queens for:

Disease-Resistant & Ultra Yellow \$250.00

Queens for Honey Production 1-5 \$7.50 6-up \$7.00

All queens guaranteed for the season Clipped and marked on request. CUSTOM ARTIFICIAL INSEMINATION SERVICE available.

Your Queens ---- Your Drones Write or call for package bee Prices and dates

7052 Pleasants Valley Road Vacaville, CA 95688 (707) 448-7130

Choice Northern California PACKAGE BEES — QUEENS CRAIN APIARIES

10460 Connie Lane LOS MOLINOS, CA 96055 Phone 916-527-2969



## Featuring BUCKFAST Queens

PRICES OF QUEENS QUANTITY ITALIAN BUCKFAST 1 - 4 \$7.60 \$8.20 For clipping add 25¢ 5 - 31 7.00 7.60 For marking add 35¢ 32 - 99 6.40 7.00 For both C/M add 60¢ 100 - 999 6.00 6.60 1000 & up

6.50

Write for prices for Package Bees and available shipping dates.

WEAVER APIARIES, INC. Rt. 1, Box 256 Navasota, TX 77868

5.90

Phone 713-825-2312

Established 1888

## **News & Events**

(Continued from page 288)

#### KENTUCKY Kentucky State Beekeepers' Association

Pictured are the officers of the Kentucky State Beekeepers' Association. From left to right are Roy Tincher, Vice President; Phil Horn, President; Pat Norman, Treasurer; and Allen Holt, Secretary. These officers will serve during 1982 and were elected at the fall meeting of the association held at the University of Kentucky.

## MINNESOTA Minnesota Honey Producers

The 1982 Summer meeting of the Minnesota Honey Producers will be held at the Holiday Inn, St. Cloud, MN on the afternoon of July 15, all day July 16 and the morning of July 17th. The Holiday Inn is located on Rt. 23, west of St. Cloud.

The 1982 Winter Meeting will be held at Radison Plymouth on December 3 during the afternoon and all day on December 4th. The meeting place is located on highway 494 and 55 at Plymouth, MN.

#### MASSACHUSETTS

The Massachusetts Federation of Beekeepers', with the cooperation of the University of Massachusetts in Amherst, and hosted by the Berkshire, Franklin, Hampden, and Hampshire County Beekeepers' Associations, with their respective members, will meet with the United Concerned Beekeepers for an all day workshop on Saturday, June 12, 1982 in Amherst at Fernald Hall on the University Campus. The program will be from 9:00 a.m. to 4:00 p.m. Bring

your own lunch but beverages will be provided. For more information contact Clyde Light, P.O. Box 201, Feeding Hills, MA 01030. Phone 413-786-1533 or Dick Bonney, Mohawk Trail, Charlemont, MA 01339. Phone 413-339-5320.

## **Development Beekeeping Seminar**

International Agency Apiculture Development. A comprehensive and intensive introduction to development beekeeping that will enable development managers and workers to take better advantage of the apiculture potential in less developed countries. The main focus will be on tropical and rural subsistence level beekeeping.

Held at The Ohio State University Agricultural Technical Institute, Wooster, Ohio.

Week I — July 12-17

Led by Dr. James Tew and the ATI staff. It will cover the basics of hive management; honey production; honey and wax processing; disease and pest control; pesticides; queen

rearing; crop pollination; bee biology and behavior. This combination of classroom and apiary work is directed toward inexperienced beekeepers.

Week II - July 19-24

Apiculture as an Appropriate Technology. This week will stress the hands-on practicalities of development apiculture. Various types of hives will be made and demonstrated, as well as extractors, solar wax melters, smokers, veils, pollen traps and queen rearing without commercial equipment. Making foundation and observation hives will also be illustrated. This week will include some educational field trips.

Weeks I & II are prerequisites to Week III for inexperienced beekeepers.

Week III - July 26-30

The Second IAAD-ATI Seminar on Development Apiculture. A wide range of relevant topics in the field of development apiculture will be explored by qualified and experienced persons. Management of bees in various tropical regions, organizing co-ops, the hazard of importing and exporting bees, diseases, pests and predators, finding competent advice and literature, the Africanized Bee in South Central America, pesticides and bees, etc.

Week IV — August 2-7
The Seminar travels to West Virginia University in Morgantown, West Virginia to attend the Twentyeighth Annual Conference of the Eastern Apiculture Society of North America. It will include the E.A.S. Short Course on August 2 and 3, led by Dr. Larry Connor, leader of the Beekeeping Educational Service, Cheshire, Connecticut.

Tuition - \$400 per week or \$1,500 for all four weeks.

Room - Registration form and \$100 deposit are due no later than June 12, 1982.

Meals - Cost includes three meals per day, Monday through Friday. Local restaurants are available on weekends. No rebates for meals missed.

For More Information - R. Dillinger, Exec. Dir. IAAD; 3201 Huffman Blvd.; Rockford, Illinois 61103.

For Registration — Dr. Norman Stanley; Agricultural Technical Institute, Wooster, Ohio 44691.

(Continued on page 292)

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In Lots of	Queens	2-Pound & Queen	3-Pound & Queen	4-Pound & Queen	5-Pound & Queen
1-24	\$6.50	\$25.75	\$31.50	\$37.00	\$42.75
25-99	\$6.20	\$23.75	\$29.25	\$35.00	\$40.75
100&up	\$5.90	\$22.50	\$28.25	\$34.00	\$39.75

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We may run late on shipping, but will come as near to your desired shipping date as possible. Tested Queens are available at \$2.00 extra. Marking and/or clipping of queens is 50¢ extra per queen.

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1-24	\$6.50 \$6.20	\$19.50 \$18.75	\$25.50 \$24.50	\$31.50 \$30.50	\$35.00 \$34.75
100 & up	\$5.90	\$18.00	\$23.50	\$29.25	\$33.50

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#### Norman's Italian Bees & Queens

Prices till May 20th 2 lb. pkg. w/q — \$17.25 25-up — \$17.00 3 lb. pkg. w/q 24 — \$20.50 25-up — \$20.00 Young laying queens
1-10 \$5.75 11-24 \$5.50
25-up \$5.25
Prices After May 20th
2-lb. pkg. w/q = \$14.00
3-lb. pkg. w/q = \$17.00
Young laying queens
1-10 = \$3.25 = 11-24 = \$3.00
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## **News and Events**

(Continued from page 290)

#### FLORIDA South Florida Beekeepers' Association

We are having a chicken barbecue plus a carry in dinner on the 2nd of May, 1982. The hours are from 1:00 p.m. until 5:00 p.m. Place: The Olga Community Bldg. in Olga, Florida, which is located just east of Ft. Myers and just off of Route 80. We expect to have some of the officials here from Gainesville, Florida as our guests.

#### MASSACHUSETTS

Beekeepers in Massachusetts are very concerned with the losses of many hives of honeybees and damage to countless others that were hit with methyl-parathion this past season.

Beekeepers Al Delicata, President of the Massachusetts Federation of Beekeepers' felt it was time to get a campaign under way to protect the beekeepers from losses.

A resolution to ban the use of micro-encapsulated insecticides in the state was presented and the beekeepers are behind it. A Legislative Committee was formed — headed by Beekeeper-Attorney Paul Shagaury. Paul has done a very good job of organizing a state-wide group with beekeepers representing all the county associations in the state.

A bill has been filed in the Massachusetts Legislature, with 17 state representatives co-sponsoring. A hearing was held by the State Pesticide Board with beekeepers filling the conference room.

Many persons testified and the Board was given a very nicely prepared book with information concerning bee losses from other states, bulletins and reports from all over the country regarding microencapsulated insecticides and the effect it has on a colony and the equipment that becomes contaminated.

The Pesticide Board was chaired by Commissioner of Agriculture Frederick Winthrop, who did a fine job of keeping the hearing orderly. Several members of the board were open-minded and asked some very intelligent questions.

The beekeepers present, made the board aware of the problem that is facing the beekeeping industry in Massachusetts and that the loss of many bees is never reported, and that there is not much a beekeeper can do to prevent losses. Moving is not possible; confinement is not practical; and the other pollinating insects are also being destroyed.

It is hoped that the Pesticide Board will render a favorable recommendation and the legislators will pass the bill in support of the beekeepers to protect the pollinating insects of the state.



Paul Shagaury-Chairman Legislative Committee, Al Delicata-Pres. Mass. Federation.

#### CHINA Tour Update

In cooperation with the Chinese-American Friendship Society a trip is being planned for August, 1982 to the People's Republic of China. The trip is scheduled to depart from Los Angeles and will spend 14 days in China. The cost from Los Angeles is expected to be around \$2,400. Deposits are now being accepted and less than 15 people are needed for this first U.S. beekeeping tour of China. For more information and travel details contact; Harold M. Liberman, 2701 Oxford Ct., Upper Marlboro, MD 20870. Phone: 301-627-3990 or 301-627-4777.

### GEORGIA Beekeeping Short Course

The annual beekeepers short course for beginners and more experienced beekeepers will be held on June 5, 1982, at the University of Georgia in Athens, Georgia.

Topics and demonstrations will include honeybee biology and behavior, bee diseases, management for honey production, honey extraction and 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 fee is \$20.00 per person. Advanced registration is requested by June 3, 1982.

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

#### MINNESOTA Minnesota Hobby Beekeepers' Association

The Minnesota Hobby Beekeepers' Association, of the Twin City area, will meet at 7:30 p.m. on Tuesday, May 11th at Hodson Hall on the St. Paul Campus of the University of Minnesota.

Guest speaker, Richard Hyser, State Apiary Inspector, will discuss the beekeeper's role in the "Community Service of Swarm Collecting", as local government budgets dwindie.

(Continued on page 294)

## SPECIAL SPECIAL SPECIAL

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	1-4	5-19	20-49	50-up
2-lb. W/Q	\$17.65	\$16.40	\$15.45	\$14.90
3-lb. W/Q	21.90	20.10	19.05	18.55
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Package Price Includes Postage, Insurance And All Handling Fees. If Packages Arrive Damaged File Claim For Insurance With Your Post Office.

1-4 5-24 100-up Queens \$4.00 \$3.25 \$3.00 \$2.75

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5.8	100-up	6.00	6.50
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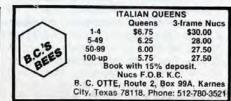
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## **News and Events**

(Continued from page 292)

#### CANADA Fanshawe College Summer Apiary Course In Beekeeping

As formerly, this course will consist of six Saturday afternoon sessions in an apiary owned by the instructor near London, Ontario. Meetings of the group will be held at intervals between May 1st and November 6th. All problems related to efficient production of honey and pollination of orchard and vegetable crops will be considered.

Instructor again will be Harold Killins, B.S.A. He is very competent in teaching those who already keep bees and those who want to establish a worth while hobby or honey production business.

Register with Mr. Dan Link, Department of Continuing Education, Fanshawe College, Bay 20, 520 First Street, London, Ontario, Canada. Phone (519) 452-4425.

#### CALIFORNIA California State Beekeepers' Association Reward Program

In an effort to reduce the incidence of theft and vandalism of honeybee colonies the California State Beekeepers' Association Incorporated is offering a maximum \$10,000 Reward for information leading to the apprehension, arrest and conviction of the person or persons responsible for vandalism or theft of bee colonies. The reward is limited to property owned by members of the California State Beekeepers' Association, Inc. who contribute to the reward program fund. Persons having information on the theft or vandalism of honeybee colonies should contact their local County Sheriff's Office. Anyone wishing further information about the reward program should contact: Mr. Joe H. Wright; C.S.B.A. Reward Program Chairman; 2587 Independence Road; Mokelumne Hill, California 95245.

The California State Beekeepers' Association is comprised mainly of commerical beekeepers but membership is open to any person interested in the welfare of the beekeeping industry. For more information write to: Mr. Frank K. Johnson, Secretary; California State Beekeepers' Association, Inc., 2114 Westminster Drive; Riverside, California 92506.

## PENNSYLVANIA Beaver Valley Area Beekeepers' Association

Dr. Clarence Collison, extension entomologist from Pennsylvania State University will be guest speaker at the May 20 meeting of the Beaver Valley Area Beekeepers' Association, of Beaver County Pennsylvania. Dr. Collison is a nationally known expert on bees and beekeeping topics. His subject for this meeting will be: Bee Diseases and Hive Inspection. A question and answer period will follow Dr. Collison's lecture.

The meeting will start at 7:30 p.m. in the Beaver County Courthouse, Beaver, Pennsylvania.



Miss Debbie Long

#### NEBRASKA Nebraska Honey Producers

Miss Debbie Long, daughter of Doug and Marilyn Long of Lexington, Neb. was crowned Nebraska Honey Queen at their annual meeting held in Grand Island. Debbie is a talented young lady, her interests lying in the areas of music, speech and drama. She is a Senior at Lexington High and plans to attend Wesleyan Universitynext Fall. Debbie is looking forward to promoting honey throughout the state this year. Her reign will end next January as she represents Nebraska

in the American Honey Queen contest to be held in Hawaii.

### IOWA Beekeeping Symposium

The Apiary Division of the Iowa Department of Agriculture under the direction of Mr. Glen Stanley, State Apiarist, will conduct a three day symposium for all interested beekeepers in the United States on August 2, 3, and 4, 1982. This meeting will be held at the Starlite Village Motel in Ames, Iowa.

If you are interested in getting started with bees, have numerous colonies of bees, want to increase honey production or improve your overall practical knowledge of beekeeping, this symposium will let you share more than 100 years of practical beekeeping experiences of the Stanley family, successful practices and ideas of many beekeepers throughout the United States, as well as profitable discoveries from the USDA laboratories.

No matter what your status in beekeeping may be, this symposium will be highly beneficial to you. It will take you through each category of beekeeping via lecture and field work.

Bring the family to lowa this summer and take part in this knowledgeable family program.

For more detailed information contact: Apiary Division, Iowa Department of Agriculture. Wallace Building, Des Moines, Iowa 50319. Phone: 515/281-5736.

#### FLORIDA Hillsboro Community College

Beekeeping Course to be held at Hillsborough Communuity College, Dale Mabry Campus, Tampa, Florida, beginning May 22 through June 26, 1982. Saturdays from 9 until 1 o'clock.

This course is designed to introduce the beginner to the basic principles and procedures of handling the honeybee colony. Topics include: honey production, equipment, control of diseases and processing of honey.

An enrollment fee of \$13 per person is charged.

For further information, contact Hillsborough Community College; P.O. Box 22127; Tampa, Florida 33622.

(Continued on page 298)

GLEANINGS IN BEE CULTURE

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Queens 2 lbs. 3lbs. 4lbs 5lbs. Queens 1- 24 \$19.80 \$24.85 \$30.20 \$35.85 \$6.75 25-100 \$24.20 \$19.10 \$29.55 \$35.15 \$6.50 101-499 \$18.55 \$23.65 \$29.00 \$34.60 \$6.25 500-up \$18.20 \$23.25 \$28.60 \$34.25 \$6.00

Clipping Queens 50¢ each - Marking 50¢ each For queenless packages deduct \$3.00 from above prices Get worker bees only, don't pay for up to 20% drones you usually get in your package bees.

Packages can be shipped only by parcel post or your transportation. Get away for a few days, pool your order with your neighbor, pick your bees up here and save the postage. Deduct \$.75 each if you bring your own usable cages. \$3.00 deposit per package required to book your order - balance due 15 days prior to shipping date. For most desirable shipping dates book your order

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3-lb.	pkg.	w/q	26.25	25.25	24.50	24.00
5-1b.	okg.	w/q	39.50	38.50	37.50	36.50
Queer	ns		6.75	6.40	6.20	6.00

#### STARLINE OR MIDNITE

1-3 4-25 26-99 100-up 2-lb. pkg. w/q \$21.25 \$20.50 \$19.75 \$19.25 3-lb pkg. 26.75 25.75 25.00 24.50 w/q 5-lb. pkg. w/q 40.00 39.00 38.00 37.00 Queens 7.25 6.90 6.70 6.50 Prices F.O.B. Jesup

Queenless packages — deduct \$3.00 per pkg. Tested Queens — add \$1.00 per pkg. or queen.

Clipped and Marked 50¢ each.

Terms: Small orders cash, larger orders \$2.00 deposit per package and balance three weeks prior to shipping date. Allow three weeks for personal checks to clear.

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## **News & Events**

(Continued from page 294)



### MASSACHUSETTS 82 Years Among The Bees Noted

Harold R. Stevens of Weston, Mass., 88 years old, a beekeeper for 82 years, member of Middlesex County Beekeepers' Association which he helped found 54 years ago, Root Dealer for 40 years, and still going strong but slower, was honored recently by his fellow members for his long and faithful service to beekeeping. A highly polished wooden plaque with a silver plated hive tool and a suitable inscription was given this octogenarian by a committee on behalf of the Association.

Left to right, Richard Corrigan, Harold Stevens, and Al Jones.

# Bee Protection Program Begins

MEMBERS OF ARIZONA'S agricultural community, governmental agencies and beekeepers met February 9, 1982, in Phoenix to discuss the success of the Bee Protection Program in Arizona and future plans for continuing the program.

The Bee Protection Program was started in 1979 as a voluntary program among farmers, pest control advisors, manufacturers of agricultural chemicals and beekeepers to protect the bees during application of agricultural chemicals to crops.

Maricopa County was the first area for the program which has now been expanded statewide, primarily in Pinal, Yuma, Graham, Cochise and Pima Counties due to the success in Maricopa County. The 1982 program will run now through April 30 with cooperation from the Arizona Agriculture and Horticulture Commission, Arizona Agricultural Chemicals Association, and the Arizona Beekeepers Association.

There are three steps to the early warning system:

1. Beekeepers register the exact location of their bee colonies within two miles of alfalfa, small grains, safflower or citrus with the Agriculture and Horticulture Commission.

2. Pest control advisors telephone the nearest commission office at least 48 hours or more from the time they write the recommendation and prior to the application of any pesticide which has a bee precaution statement on the label. The pest control advisor notifies the commission of the crop location, chemical to be applied, and estimated time of application.

 The commission refers to its map of the bee colonies in the state and notifies beekeepers within two miles of the application. The beekeeper can choose to move or protect the bees as desired.

"The Bee Protection Program is an example of everyone working together," said Kim de Long, president of the Arizona Agricultural Chemicals Association.

"It allows the farmer to protect his crops from pests and disease while protecting the bees which are necessary for the pollination of many crops. Every precaution needs to be taken to protect the bees," he said.

De Long said, "We were able to work together to solve a problem without extra governmental rules and regulations. It is strictly voluntary but it is working.

The beekeepers also feel the system is working to give them advance notification to move their bees from the area. According to Harold Nipper, past president of the Arizona Beekeepers Association who helped originate the program, it has been particularly beneficial to the beekeepers to receive the notification in the Spring when the bees are in the alfalfa fields looking for the weeds as a floral source.

In addition to implementing the early warning system to protect the bees, educational seminars were held for the pest control advisors by the Arizona Agricultural Chemicals Association on the proper application of the pesticides according to product labels.

Pennwalt Corporation, an agricultural chemical manufacturer, provided convenient pocket cards which describe the procedures for the Bee Protection Program and the phone numbers for the statewide offices of the Agriculture and Horticulture Commission. The cards are carried by the pest control advisors, aerial applicators and beekeepers as a reference when making their notifications.

News Release of Rita Sanders Agency; Tempe, Arizona, 2/9/82. □

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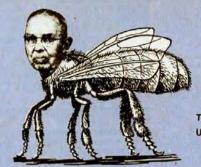
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