April 1986

GLEANINGS IN BEE CULTURE

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GLEANINGS IN BEE CULTURE

Since 1873

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Created To Help Beekeepers Succeed

113 Years Continuous Publication by the Same Organization

THE WORLD'S MOST POPULAR ENGLISH LANGUAGE BEE JOURNAL

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COVER STORY

Beekeeping Ambassadors: Two of our industries most visible salespeople for 1986. American Honey Queen DeAnn Rahija, and American Honey Princess Caroline Comport.

****

If you would like to have DeAnn or Caroline visit your area to assist in Honey Promotion contact JoAnne Weber, Chairman, American Honey Queen Program for ABF. She can be contacted at Rt. 2, Clayton, WI 54004. The Honey Queen Program has been very effective in getting positive media coverage for our industry. Remember — it isn't effective if we don't use it!

Gleanings Mail Box

Recognizes Mr. Kelley

Dear Editor:

I recently received my annual catalog from the W.T. Kelley Company. When I opened it up, I was surprised to see Walter Kelley's picture on the front cover of his catalog.

The picture of Mr. Kelley and the front of his plant brought back many pleasant memories of trips to visit with Kentucky's most famous beekeeper.

Due to his advanced age, Mr. Kelley is not in the best of health now. Of course, Mr. Kelley is widely known to beekeepers the world over as beekeeper, inventor, teacher, producer and seller of beekeeping supplies. We will always owe a debt of gratitude to Mr. Kelley and the many beekeepers like him.

Jim Steed
P.O. Box 115
Richmond, KY 40475

Eleven Frames Didn't Work

Dear Editor:

As with many beekeepers, this is the time of the year when I would like to work with my bees; but I must content myself with preparing equipment for the coming spring and re-reading old issues of *"Gleanings"*.

This letter was prompted by Mike Bennett's question (*Gleanings,* Jan. '86) about eleven narrow frames in a ten frame hive body.

As I recall, the article he referred to was one of Charles Koover's "From the West" columns. I enjoy experimenting and I bought some hard plastic foundation, one of Koover's suggestions, shaved the end bars and top bars of some standard frames, and awaited wondrous results.

I keep Caucasian bees and the first thing which happened, before making any effort whatsoever to draw out the foundation, the bees virtually welded the frames together. With the eleven frame configuration there is very little space between the last frame and side of the hive. The bees filled the gap between the end bars and the hive body with propolis also.

Normally, when I inspect a hive, I push all the frames slightly to one side making it easier to pull out the first frame. With eleven frames, there is no space to push anything. Every time I attempted to look at the bees, I crushed a great many.

Yesterday I was cleaning up some old hive bodies. You guessed it—one of them was my old eleven frame hive which never did produce any noticeable extra amount of honey, but it sure was difficult to manipulate. The only things of use to me are the hive body and the hard plastic foundation.

In all fairness to Koovers' article I should explain that one of the primary reasons for the eleven frames was for better wintering in areas with severe cold, not a problem here in southern Arizona. Another reason was to increase the area available for brood rearing while discouraging the building of drone cells. This was borne out; but what good are extra workers if so many get crushed during routine inspections?

Richard Taylor's reply was quite apropos.

This year I will be experimenting again. I intend to convert a couple of hives to try out Robert Skilling's system. ("Extracting and Supering in One Operation," *Gleanings,* June '85). Wax worms in stored supers can be quite a problem with our mild winters. I am curious to find out if the bees will keep the wax worms out of the empty supers during the winter.

For me, one of the most enjoyable features of *"Gleanings"* are these articles dealing with unique systems.

Demerest B. Howard
Rt. 1, Box 65E
McNeal, AZ 85617

A Great Experience

Dear Editor:

Last July it was my good fortune to attend the "Queen Rearing" and "Instrumental Insemination" seminars offered by the Department of Beekeeping Technology at the Agricultural Technical Institute of O.S.U., Wooster, Ohio.

The program exceeded my greatest expectations. It was intensive, but organized to create enough of a mix of field and classroom instruction that even a beginner (and there were a few in the class) wasn't overwhelmed. Nothing was slighted or rushed over, the instruction always meshed with the skill and abilities of those taking the class. If anyone wanted more opportunity to practice any area (grafting for example) they were always encouraged and helped.

The program was great, but there's more. The so called "icing on the cake" was because the instructors — Dr. James Tew and his excellent assistant Phil Mariola. When anyone truly loves to do something, a special energy and enthusiasm is created, it's hard to describe, but you certainly know when it's there. It's certainly one Dr. Tew's finest qualities.

A side benefit, although one I enjoyed as much as the course, was the opportunity to ask questions and discuss any area of beekeeping. And believe me, all the class exploited the abundance of bee information that Dr. Tew had to offer. What an opportunity to get the answers to those questions which have eluded us for years.

Beekeepers from all over the United States were there, from beginners to inspectors. I only heard positive comments on the course. If I sound more than a little enthusiastic about the seminar, well, just attend yourself and see if a little of Dr. Tew's magic doesn't rub off on you.

Richard E. Porter
Marion, Illinois

More On London Beekeeper

Dear Editor:

Re: Article in December 1985 issue:— London, England, as an environment in which bees are kept varies considerably. The Greater London area extends beyond the city and inner London limits. Conditions which exist in the suburbs do not necessarily apply to the urban situation. For example; woodpecker damage to hives is not part of my experience and I do not know how close to the inner city the woodpecker comes.

Recent Ministry of Agriculture figures for beekeepers and colonies apply to the Greater London area (there is no breakdown of figures for Inner London) and indicate that there are about 2,089 beekeepers with a total of 5,365 colonies. The national average of colonies per beekeeper is around five. Good colonies in London produce as much as 120 pounds of honey or more in a year, but an average yield surplus to the bees' requirements would probably be less. Nineteen-eighty-five, a bad year for many beekeepers and bees in England, still gave me an average of 75 pounds per colony over and above what was stored in double brood chambers.

In, for example, a classroom situation when questions arise about stings, I explain how a sting may be removed by **scraping** it out rather than pulling it. When there is local swelling I recommend application of hot and cold water to the affected area to improve circulation. When someone has been stung an application of homeopathic ledum pal. or pyrethrum can be helpful. Some people find topical application of a commercial product to be useful, but in case there should be a reaction to this, I would suggest leaving that to the individual concerned.

Jennifer Harriott
156 Lancaster Road
London W11 1QU

More On Traps

Dear Editor:

In the February "Questions & Answers" page, George Cross, Oshkosh, Wisconsin asked a four-part query on pollen which my friend Dr. Richard Taylor answered; however, I don't think the Badger State denizen got his "money's" worth. May I offer additional information based upon my four years experience as a hobbyist, having run four traps in 1985?

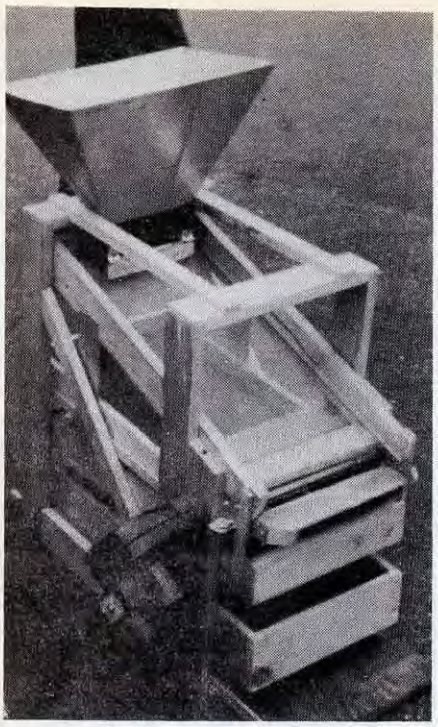
a. I install mine by Feb. 15th for the first available pollen (skunk cabbage). Since no trap is 100% efficient, some always get through (incidentally I've removed one of the two final screens the little ladies must ultimately traverse because I think it's too cruel otherwise).

b. It should be convertible to free flight at the option of the user. Sometimes I do this every other day or every other week, depending upon my fancy. All my traps remain absolutely free-flight (no pollen can be collected) during the honeyflow, May 15-June 1, here. They are still on the hives, mind you.

c. I remove the traps after the last killing frost, usually about October 15, clean, refurbish, make changes and store, since no pollen is available once the flowers have died.

d. There is no quick and easy way to clean pollen for sale. I've spent up to eight hours (not uncommon) cleaning one pound!!! Here's my method. I empty the traps daily, remove the obviously objectionable immediately (like crawling ants), dry 24-48 hours in 10" pie pans on top the oil furnace; freeze each day's catch in individual plastic sandwich bags for 48 hours. When I have at least a pound on hand (I leave the bags in the freezer), I clean as follows: I put four ounces on an 11-inch dish and blow across its surface a few times, stirring up the mixture between blowings with my fingers. All the light stuff disappears (like wings and other body and flower parts). Next, shake through a 15-mesh screen (my frame measures 15" x 15" x 3" deep) to remove all the "dust" (which I save and consume myself). Then tilt the screen slowly in one direction, letting the pellets descend slowly and pick out anything that doesn't look like pollen (especially black pellets), reversing the tilt and repeating the picking as often as necessary (it really works, produces a beautifully finished product for sale, but is very time-consuming). Note that I am not in pollen country; my traps yield only an average of about 15 pounds a year (heavy in March and April and then again in September and October but peanuts the rest of the time).

A pollen cleaner is desperately needed for the hobbyist, small, cheap and efficient. The journals used to advertise a jumbo device out of Toro, Calif. for over $450 for the commercial man. At the Eastern Apicultural Society annual meeting in Lancaster, Pa. in August 1985, Tom McCormack (RD 2, Box 167, Aliquippa, Pa. 15001) demonstrated



the one his father-in-law built for peanuts. I fully intended to duplicate it (blower, with motor, magnet and all) until I discovered that the plastic demo model (size of a large shoebox, 7″ x 7″ x 30″ high) of the Magik Grain Cleaner, WITH NO MOVING PARTS, manufactured in Kearney, Nebraska 68847, was just what you, George Cross, and I, the hobbyist, were looking for!

John Iannuzzi, Ph.D.
The Nectar Collector
RD 4
Ellicott City, MD 21043

P.S. You might want to read my somewhat dated article, "Producing Blue-Ribbon Pollen" (ABJ, April 1984, pp. 299-300) when I had fewer traps.

Tracheal Mite Enforcement

Dear Editor:

The queen and package bee industry is suffering greatly from mite-apprehension and marketing instability. Some producers in Mississippi have not had enough orders to even make up a queen yard.

I, as a State Apiarist, have the utmost confidence in our tracheal mite certification program in Mississippi. For two years we have not found the first mite in our package/queen producers, having examined one hundred (100) bees from each bee yard during this past winter. We have not yet completed our check of migratory beekeepers, so I will not claim we are certified state-wide.

Mississippi is unique in that we do not have Florida, New York, or Texas beekeepers with us. We are greatly concerned that they are inter-mingling with our beekeepers who migrate to the North and Midwest though.

The purpose of this letter is to make the beekeeping public aware of the lack of information on mite distribution and survey results. For example, in the *Beeline Newsletter* of the B.C. Honey Producers Association, it was quoted that "the only mite-free sources of queens are Hawaii and New Zealand." Would Mississippi have been included if they knew of our efforts and certification program? Could some sort of mapping program be instituted in your publication to keep people informed of the extent of infestation? This could be useful in the next few months to people wishing to order packages and queens. If the varroa mite is introduced a progress report on its spread would be even more important.

I believe mites can be controlled once detected, but before becoming widespread in an area. Louisiana should be commended for the job that it has done. Until research is completed (no thanks to USDA yet) and the real destructiveness of tracheal mites is realized, states should not be criticized for trying to prevent and control infestations. The same thing can (probably will) happen when varroa is introduced and beekeepers start whining when a few of their colonies must be destroyed. One "mite" wonder why we have bee disease laws in the first place! Do they serve no purpose but to determine which beekeepers have the most political influence?

I am surprised that the AHPA and ABF passed resolutions recommending that states deregulate the tracheal mite. Most beekeepers in Mississippi are interested in just the opposite. Evidently, the two organizations are in the control hands of migratory beekeepers. As such, the queen and package industry is being forced out of business and the small hobby and part-time beekeepers will suffer. All beekeeping operations will be forced to raise their own queens. As with all farming enterprises, the small operator is being given the raw deal! **Harry R. Fulton**
State Apiarist

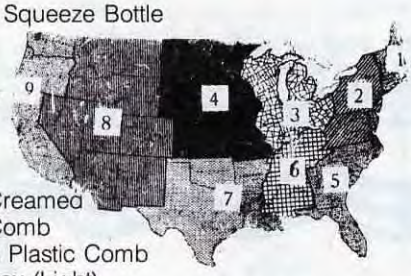
THE MONTHLY HONEY REPORT

March. 10, 1986

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

Wholesale Extracted — **Reporting Regions**

Sales of extracted, unprocessed honey to Packers, F.O.B. Producer. Containers Exchanged	1	2	3	4	5	6	7	8	9
60 lbs. (per can) White	42.00	39.00	40.00	44.40	38.40	38.40	36.00	37.33	47.50
60 lbs. (per can) Amber	42.00	36.00	38.00	44.00	33.00	32.40	30.00	36.00	42.00
55 gal. drum (per lb.) White	.52	.52	.41	.60	.64	.55	.60	.59	.58
55 gal. drum (per lb.) Amber		.50	.38	.65	.54	.52	.50	.55	.54
Case lots — Wholesale									
1 lb. jar (case of 24)	28.50	24.90	24.90	25.03	32.40	22.90	24.00	25.00	30.00
2 lb. jar (case of 12)	27.50	23.30	22.75	20.86	30.00	21.75	21.60	33.12	29.40
5 lb. jar (case of 6)	29.00	27.80	23.87	24.80	28.50	26.25	21.60	25.10	28.50
Retail Honey Prices									
½ lb.	.90	.84	.75	.89	.90	.90	.90	.81	.89
12 oz. Squeeze Bottle	1.50	1.26	1.27	1.14	1.50	1.30	1.30	1.21	1.35
1 lb.	1.50	1.69	1.52	1.50	1.67	1.45	1.50	1.40	1.58
2 lb.	2.70	2.69	2.78	2.35	3.88	2.39	3.00	2.76	3.12
2½ lb.	3.35	3.97	3.97	3.00	4.60	3.25	3.50	3.45	2.49
3 lb.	4.00	4.29	3.15	3.45	4.98	3.85	4.00	3.62	3.30
4 lb.	5.00	5.42	5.89	4.73	4.98	4.90	5.00	4.75	
5 lb.	6.00	6.50	4.95	5.75	5.75	5.65	5.90	5.60	5.35
1 lb. Creamed		1.75	1.60	1.52		1.39	1.50	1.60	1.55
1 lb. Comb	2.25	1.95	2.25	1.85	1.95	1.85	2.00	1.85	2.28
Round Plastic Comb	1.75	2.00	1.85	1.65	2.00		1.75	1.63	1.65
Beeswax (Light)	1.30	1.00	.95	1.02	1.10	.95	1.15	1.16	1.25
Beeswax (Dark)	1.20	.90	.90	.90	1.11	.90	1.10	1.12	1.08
Pollination Fee (Ave. Per Colony)	27.50	20.00	27.50	15.00	30.00	21.00	27.00	18.50	25.00



REGION 1

Proposed new regulations to control *acarpis woodi* in Connecticut. Should go into effect before the shipping season of 1986. Shippers should check on these new regulations before shipping bees to Connecticut. Pollination bees, package bees, queens, nucs or any shipment of honeybees (*Apis mellifera*) could be destroyed if the new regulations are not followed to the letter. Check before you ship. Production of local queens, packages and nucs will increase because of the fear of importing *Acarapis woodi* in bees from out of state. Bees are wintering well so far, some feeding needed now. Honey sales have increased some.

REGION 2

Honey prices steady in West Virginia. Much honey distributed in food programs. This honey seems over processed and not top quality. A few good flight days in February, bees seem in good condition and flying strongly.

REGION 3

Bees have wintered well in Illinois. Pollen being gathered in southern Illinois February 17. Beekeepers checking colonies early. Some temperatures as high as 70°F in Jan. & Feb. Early brood rearing. Beekeepers ordering packages and queens for April delivery. Hardly any honey left in beekeepers hands. Illinois State mite survey just completed again. All samples were negative.

Not much frost in ground in Wisconsin. Snow cover that should give good soil water. Too early to report wintering. March is our hardest month. Honey sales still poor.

REGION 4

Warm weather in January allowed bees to fly and also for some feeding of colonies short of stores. Shortage of light honey for resale.

There is more and more concern about the long period of confinement that the bees have had this winter in southeastern Minnesota. We didn't have a good bee flight in the late October, November period, and winter set in cold and early. We haven't had a really good day for a cleansing flight at this writing (Feb. 27) Signs of dysentary are showing up in a number of colonies. Honey sales continue to be slow.

Missouri temperatures have been fluctuating from 0°F to 60°F. Some colonies are running short on honey and long on brood. Honey sales are still slow, but opportunities for local retail sales should pick up as sp[illegible] progresses.

REGION 6

February temperatures were highly

variable. Fair amounts of maple pollen were gathered during mild periods. Precipitation has been above normal. Some locations required considerable feeding of syrup. A few winter losses will occur from queenlessness. Populations are good. Beekeepers will have marketed all the crop before the new crop is available.

We are having some good rains in Tennessee which we needed very badly. January was the driest on record. Bees have wintered very well but some early feeding will be necessary. Honey sales are down and prices are a little lower in some areas.

REGION 7

Weather has been very mild with temperatures in the 70-80° in Texas. Pollen very heavy due to warm weather in February. Beehives are in good condition due to mild winter.

REGION 8

Unseasonably warm dry weather during the month of January. Bees active during warm days. Some plants blooming early. Dry weather and below normal rainfall during January may affect spring flowers and flow.

Montana's snowpack has improved during February but it has a long way to go to reach 20-year normals. Moisture amounts are behind normals because of dry conditions during December and January. Snowpacks furnish the drinking and irrigation waters for summer and more moisture is needed in the form of snow and rain. The groundhog did not see his shadow and warm weather arrived the last part of February with temperatures in the low 60's. This gave colonies the opportunity to adjust stored honey, cleansing flights and beekeepers the chance to feed colonies. Brood is appearing and the warm weather increases the brood nest. The food is used rapidly and feeding is widespread. The drought and early fall cold prevented adequate winter honey. Spring rains are needed to stimulate the nectar plants now starting to appear. Montana weather is cylical and this is the predictable drought period. Native plants used to drought have replaced those unable to survive — rain is needed.

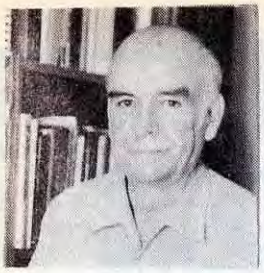
Writing this report the end of February, the weather in Colorado has been like spring, with day temps in the high 60's and nights above freezing, except for the high mountains. Bees are doing great with two and three frames showing brood. Some will need a little feed to carry them over should we get another cold spell. Retail sales are still good and now with with the new honey program in the works it looks as though there will be more domestic honey used in bottling.

REGION 9

Honey sales are slow at the present time in Washington. That is normal for this time of year. January was really warm in most of the Northwest. Towards the end of February we had four days of below zero temperatures that killed a lot of colonies that had already lost part of the cluster of bees. Losses in some areas here are as high as 35% of total colonies. Amount of moisture has improved in the past month. Maybe we can hope for a good honey crop in 1986.

First swarm captured in central coast of California Feb. 21st. This is early for swarms by four weeks. Almonds are placed in orchards by Feb. 8. Weather started good. Then one week of rain and wind. Unclear how almond growers will fair. Avocado pollination contracts are beginning. Earlier bloom reported for avocados than usual. Contracts are going for $10-16 per month with 2-3 month periods. Beekeepers are now trying to find apple contracts and it is unclear when apples will start blooming. Bakery sales of honey are up at $.65/lb.

Winter continued mild with rain in Oregon. So far we have escaped the terrible flooding like the N. Californians have experienced. Bees have been bringing in pollen from willows. Bulk honey sales have increased but other honey sales remain slow.



The Bee Specialist

by ELBERT R. JAYCOX
5775 Jornada Road North Las Cruces, NM 88001

Bee Wear

Beekeepers wear a lot of coveralls, usually white, but also in shades of gray, tan, and propolis. In winter and early spring, I can wear coveralls, but the rest of the year they are much too warm and uncomfortable. When I was just getting started in beekeeping in California, someone, perhaps Marion West, introduced me to the teamster's apron and I've been wearing one regularly ever since.

What, you might ask, is so good about a teamster's apron? It has a number of attributes, including the fact that it covers only the front of your chest, waist, and legs. This makes it cooler than coveralls. Probably the most useful feature is the big double pocket at the waist line. This provides plenty of room for hunks of burlap smoker fuel, queen cages, burr combs, and other balls of wax, and, sometimes, a hive tool. You can also carry matches, nails, and other small items you need in the apiary.

The chest pocket on the apron is also a useful one. In it you can put pencils, other hive markers, and small envelopes for disease smears. This is where I put a couple of caged queens to keep them protected until I need them in the bee yard.

The extended, split legs of the apron catch most of the propolis and dripping honey when you manipulate colonies or pull honey. This leaves your regular clothing looking better and a lot less sticky. The apron will eventually stand by itself if you don't wash it too often.

Teamster's aprons are no longer easy to find. Beekeeping supply companies have never had the real canvas ones with good leg straps. They usually have some poor imitation without the pockets and other useful features. Sears offers one in the power and hand tool catalog for $15. If you know of other sources, please let me know. Students and others who see how useful a teamster's apron is, always end up wanting one of their own.

Push-In Queen Cages

I have always had a hard time accepting the idea that "push-in" queen cages are "one of the surest ways to introduce a queen" as Harry Laidlaw says in his book, *Contemporary Queen Rearing*. Maybe Harry is more adept at using his hands than I, or he has a secret way of getting the queen safely under the cage before he pushes it into the comb.

The homemade push-in cage is usually 8-mesh hardware cloth about three or four inches square and deep enough to provide room for bees and queen beneath it after it is pushed into the comb. It often has a tube filled with queen-cage candy to allow release of the queen, but no special way to get the queen beneath the cage.

To do that, you prop up the cage a little and release the queen beneath one edge as you simulataneously push the cage down into the comb. Invariably, the queens don't walk under the cage as they are supposed to. Instead, they try to back out and are pinned squarely to the comb by the sharp wires of the hardware cloth. If they don't get hurt too badly they may be off and running and must be caught for another try to confine them beneath the cage. The problem lies in the large opening made when you hold up one edge of the cage. No self-respecting queen will fail to try to get out that big gap—and when you slap down the cage you may even produce a two-part queen.

Someone in the old days recognized this problem and did something about it. I have an old push-in cage with a wooden frame and screen top. Beneath the wooden frame are sharp metal teeth that hold the cage securely on the comb. There are two holes in the wooden portion. One allows you to introduce the queen **after** the cage is in place. It is closed with a cork. The other has an excluder slot to allow worker access to the cage. It may also have been closed with a cork. I don't know.

This old push-in cage did away with the problem of getting the queen into the cage safely and probably gave successful introductions. But beware of the present-day cages made of hardware cloth.

Help For Beekeeping

At beekeeping meetings every year resolutions are passed asking for more help from state and federal governments for extension personnel to work with the beekeeping industry. And just as routinely, nothing happens. If you read magazines from other industries, such as *Ag Consultant and Field Man* and *Farm Chemicals*, you find deep concern about the widening gap between academia and practical agriculture. Editors note that applied researchers who took basic research results applied them to industry problems are being replaced by "pure" scientists who can bring in money from competitive grants for biotechnology and other high tech research. University service programs for agriculture are understaffed, and farm people are often turned off by the new breed of researcher. They also need help now, not some time in the future when the biotechnology research centers begin to produce useful output.

The changes in agricultural research, in which the USDA and the universities are moving toward more basic research, will leave beekeeping out in the cold. We do not have private industry to do the applied research.

which we badly need. Large agribusiness companies are beginning to operate as if the university researcher is a dying breed and there will be no extension service by 1995, according to Gordon Berg of *Farm Chemicals*. Yet the needs of farming and beekeeping continue to grow. Who will beekeepers look to for help from now on?

April Is For Requeening

To read some of last year's stories about requeening you would think it is an evil plot foisted upon unwary beekeepers by queen breeders out to make a fast buck. If there were no research on the value of young queens and their effect on honey production and swarming, we could question the value of routinely changing queens that still **look** good and head colonies that appear able to make a crop of honey. But a quick look at the literature supports the idea of pinching the heads of all queens over two years old as well as younger ones that are not performing well.

As I mentioned last month, I.W. Forster, working with a large number of colonies in New Zealand, found that colonies with new queens averaged 30 pounds more honey than those with second-year queens. Consider also the results of Dr. J. Woyke in Poland, who compared colony populations, length of worker life, and honey production. He found that colonies with one-year-old queens produced 19 to 27 percent more honey than those with two-year-old queens because there was a higher brood production and, therefore, better colony strength.

The value of young queens can also show itself early in the season: Avitabile found that colonies with young queens had almost twice as much brood over winter as colonies with old queens, leading to better spring strength.

Other reasons for requeening include reduction in swarming and the prevention of the breakdown of old queens forced to build up their colonies for more than one nectar flow. An estimated 30 percent of such queens will fail and cause losses of honey production or even loss of the colony.

You should already have ordered queens for delivery for this month or next. If not, line some up and keep productive young queens in as many of your colonies as possible. Old queens, like old hens and old cows, need to be culled regularly.

Contract Extracting

It seems odd that there is not more contract extracting in the beekeeping business. Think of all the duplication of equipment among beekeepers, often in a single small city. Each one has his own uncapping, extracting, and honey- and wax-handling setup. There may be many reasons why this is so, and the fear of spread of American foulbrood was probably a potent one in the past. Maybe even more important is the need or desire to conceal the size of your crop from your neighbor. When you hit a good flow, you don't want someone ready to move into the area as a result of word being leaked about the great crop in progress. Whatever the reasons, beekeepers and equipment manufacturers should reconsider the economies to be gained by having special honey extraction facilities suitable for rapid handling of crops for groups of beekeepers. Not only could there be savings of time and money, but honey quality could be improved over what it is now in many inadequate and unsanitary facilities.

I do not know how common contract extracting is in New Zealand, but some of the prices were listed last year in *The New Zealand Beekeeper*. Charges were based on lots of 100 supers and over. They include:

1) $2.00 per super, with honey and wax returned, trash retained ("trash" may include up to 30% of wax).

2) 1 kg per super. The 1 kg includes all wax.

3) $0.13 per kg of honey extracted, honey and wax returned, trash retained.

4) $1.65 per super honey and wax returned, trash retained.

U.S. ANNUAL HONEY CROP REPORT TO RESUME

Special to GBC: Frank Robinson, Secretary-Treasurer of The American Beekeeping Federation reports that Dr. Kibbler, Administrator of the USDA Statistical Reporting Service has agreed to resume publication of the *U.S. Honey Crop Report*.

The report was dropped after the 1981 crop year due to funding shortages.

Dr. Kibbler stated that they will be gathering data this December to publish January, 1987. The federation agreed to furnish its mailing list to help the S.R.S. reach beekeepers with their questionaires.

Mr. Robinson finished with, "Our industry has worked hard to have this reinstated and all involved are to be congratulated."

Flowers For Bees

by Connie Krochmal 119 Bell Road Asheville, NC 28805

Beekeeping and gardening are complimentary activities and hobby beekeepers should select those plants which are nectar and pollen sources for their own bees. In the vegetable and herb gardens the task is made easier as most of our favorites already happen to be good bee plants; squash, melons, cucumbers, mint, and borage are all examples. When planting a flower garden for bees we have to be slightly more discriminating, as there are perhaps 50 or so kinds of flowers actively worked by bees. Happily many of our common grown flowers are on the list, so beekeepers need not give up many of their favorites. It is not common knowledge but even some of the perennial garden mums are good bee flowers, as I found out when planting some of the aromatic varieties this fall. The bees literally covered the flowers during the time I worked with the plants.

Zinnia Dreamland Coral. Courtesy of Park Seed Company.

Seed catalogs and seed packages don't often note good bee plants, but if beekeepers expressed enough interest it might stimulate the companies to package them for sale as a unit, especially as some companies are already doing this for butterfly gardens and hummingbird garden seed mixes.

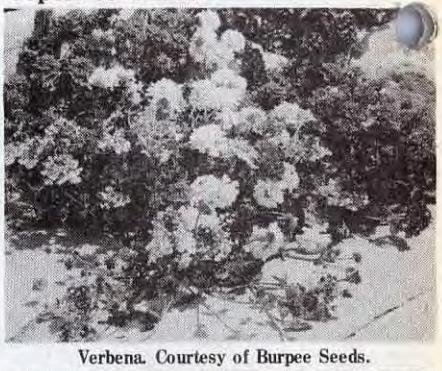
One of the best ways to begin is to find out which of the bee flowers is suitable for your climate, since some are strictly for cool weather (candytuft, larkspur, sweet alyssum) and are grown in areas where the climate is cooler with a gradual warming in the spring; zones 7 through 10 are generally too hot for these flowers.

Planting flowers is a regional activity, since in the colder regions the seeds don't even go on sale in local stores until Valentine's Day creating spring fever; while in warmer regions the seed is available from September on for winter planting. Bulletins available from your local extension service may be helpful as they will often list dates for the first and last frost, and approximate length of growing season. Generally these bulletins will not have glossy color photos, so if you are unfamiliar with any of the lesser known bee flowers mentioned here you might wish to use garden catalogs not only for the photos but for the hints and particular growth requirements. Catalogs usually contain more detailed information than seed packages do, and you can decide at your own leisure at home rather than hurriedly picking out seed or bedding plants at a local garden shop or discount store.

Tree Peony 'Joseph Rock'. Courtesy of Wayside Gardens.

If you only need a few of each kind you might find it easier to simply buy bedding plants, as a seed package contains many more seeds than you will need, and the cost will be about the same if you are buying less than a dozen plants.

Tailor your selection to the type of soil and exposure you have, as some flowers actually do better in poor soil. An example is nasturtium, which produces rampant growth with very few flowers in rich soil. If you have a large garden you might wish to run a soil test rather than adding costly fertilizer. Too much fertilizer may result in abnormally tall growth as I discovered when my cosmos grew to 5½ feet and the coreopsis to 4 feet.



Verbena. Courtesy of Burpee Seeds.

Lisianthus Lion. Courtesy of Park Seed Co.

Annuals are quite easy to grow from seed, and some hardy annuals can be planted long before the last frost date while others should be planted only after the soil has warmed-

ed. Information is readily available on the seed packages. Some annuals will not take transplanting very well, and if started indoors early should be in individual peat pots or cubes where the roots will remain undisturbed. Perennials are easily transplanted, and will bloom the first year if the seed is started early indoors.

Annuals can be planted in any location in the garden while perennials require more thought since, the area must be left undisturbed by garden equipment.

Planning for extended flowering is also good practice for bees, since some flowers will continue right up until a hard freeze while others will perish at the first breath of cold. Planning for late bloom is one of the best ways to provide for your bees with forage to replace the goldenrod, dandelion and fall aster which have departed by that time; of course this technique is also possible in your vegetable garden as well as by planting hardy annuals such as peas and borage.

I have a limited supply of seed available on a first-come, first-serve basis, just send a SASE stating whether you would like perennial mix or annual mix. I'll be more than happy to try to answer any questions you might have concerning bee flowers.

Some of the spring-planted, summer flowering bulbs are also good bee flowers, and include begonia, Galtonia, dahlia, fuchsia, and peony.

Nasturtium. Courtesy of National Arboretum.

Chrysanthemum. Courtesy of U.S.D.A.

Hollyhock. Courtesy of U.S.D.A.

Flower	Perennial	Annual	Planting Time After Last Frost	Planting Time Before Last Frost
achillea	X		X	
anchusa		X	X	
aster	X	X		X
avens	X			X
baby-blue-eyes		X		X
baby's breath	X	X	X	
beebalm	X		X	
California poppy		X		X
candytuft	X	X		X
canterbury bells	X		X	
cinquefoil	X		X	
Clarkia		X		X
coneflower	X	X		X
coral bells	X		X	
coreopsis	X	X	X	
cornflower	X	X		X
cosmos		X	X	
dahlia (from seed)		X	X	
eustoma		X	X	
false rock cress	X		X	
field poppy	X	X		X
flax	X	X		X
forget-me-not	biennial			X
French marigold		X	X	
gaillardia	X	X	X	

California poppy. Courtesy of U.S.D.A.

Flower	Perennial	Annual	Planting Time: After Last Frost	Planting Time: Before Last Frost
garden balsam		X	X	
godetia		X	X	
heliotrope		X	X	
hollyhock	X			X
honesty	X		X	
houndstongue		X		X
Lavatera		X		X
leopard's bane	X		X	
love-in-a-mist		X		X
mallow	X	X	X	
Michaelmas daisy	X		X	
midsummer aster	X		X	
mignonette		X		X
nasturtium		X	X	
penstemon	X	X	X	
Phacelia		X		X
pot marigold		X	X	
rock cress	X		X	
scabious	X	X		X
scarlet sage		X	X	
Schizopetalon		X	X	
sea holly	X		X	
sea lavender	X	X	X	
spider flower		X	X	
statice	X		X	
sunflower		X	X	
sweet alyssum		X		X
sweet sultan		X		X
verbena	X	X		X
violet	X	X		X
wallflower	X		X	
yellow alyssum	X			X
zinnia		X	X	

QUESTIONS & ANSWERS

Q. I have read that the best treatment for acarine, or tracheal mites, is to burn Folbex smoke strips in the hive. Our local organization has gotten quite emotional on the subject, but should we not bring pressure for the approval of such treatment.

Charles Garret, Jr.
Florisant, MO

A. *The experts I have consulted reject this treatment. The consensus seems to be emerging that the tracheal mite is not a serious problem for beekeepers, that efforts to confine or eradicate it would be pointless and futile, and that the best treatment is to protect bees from long periods of stress resulting from dampness and cold during winter. Once a colony builds up strong and a honey flow begins then the presence of mites is not noticeable in terms of honey production or otherwise.*

— Richard Taylor

Q. Are queens reared in the South suitable for our northern climates in terms of wintering, spring buildup and so on?

Steven Moritz
Dayton, Ohio

A. *Opinions differ. I have always found my queens from the southern states satisfactory, but some experienced apiarists think otherwise. Queens reared in the Gulf states can be ready for shipment much earlier in the spring, and I know of no biological principle to suggest that an Italian queen reared there would be inferior to an Italian queen reared in the north.*

— Richard Taylor

Q. Can we feed our bees brown sugar or molasses rather than granulated white sugar?

Keven Williams
Banger, PA

A. *No. Bees cannot properly digest brown sugar or molasses and can be made seriously ill by them. Properly managed bees should not, in my view, need feeding, but if you do feed them, use granulated white sugar. Exception: Confectioners sugar can be used in small amounts as a vehicle for terramycin.*

— Richard Taylor

Q. Does a three-pound package of bees build up faster than a two pound package sufficient to justify the price difference?

Alan Cogswell
Sheridan, Ind.

A. *I think it is worth the saving to start with two-pound packages, provided there really are two pounds there. In either case you need to feed sugar syrup. Better yet, if you already have bees, is to split out three-frame nucs and give them new queens. This is cheaper and far faster.*

— Richard Taylor

Q. I just got into beekeeping and love it. How many hives would I need to make it a full time job earning around $25,000 a year?

Allan Hardin
Poplar Bluff, MO

A. *With skill and decent apiary locations you could do it with a thousand colonies, but you would have to build slowly, getting the necessary experience* and buying abandoned and neglected apiaries along the way at bargain prices. I think no beekeeper *has ever gone from small to big in one leap and who did not regret it.*

Richard Taylor

Q. Would a beekeeper wanting to expand from three hives to three hundred be better off in terms of cost building his own hives or buying used ones?

Alan Cogswell
Sheridan, Ind.

A. *Beekeepers today are enjoying a buyer's market for equipment. Used hives and supers can be purchased more cheaply than they can be made, if you can find them. But make sure the equipment has no history of foul brood.*

— Richard Taylor

Editor's note: Factory made used equipment generally has a better market when and if you want to sell it.

Q. I have read that burlap can be used in place of an inner cover. How is this done?

James W. Nicholson
Beech Bluff, TN

A. *A piece of burlap, cut to about the same size as a standard inner cover, can be used this way. It becomes stuck to the tops of the frames by propolis but is easily peeled off. Its only function then is to prevent the bees from sticking the cover itself onto the frames.*

— Richard Taylor

Q. I have 25 acres of sweet clover. How many colonies will that support, and should they be in the middle or off to the side?

Roy Fleming
Virgie, KY

A. *There is no definite answer to this. It depends on your soil and weather and other variables. But if I knew where I could find a field of sweet clover that big, I'd want to get at least ten colonies within a half mile of it, or preferably a quarter of a mile. That would be plenty close enough.*

— Richard Taylor

Q. I have some terramycin I bought four years ago. Is it still good?

George J. Balzer
Williamsville, NY

A. *The package should have an expiration date on it, beyond which time the manufacturer does not warrant its use. However, a veterinarian I have consulted who is knowledgeable in this matter assures me that terramycin is very stable and should be perfectly good for several years. I would use it without hesitation.*

— Richard Taylor

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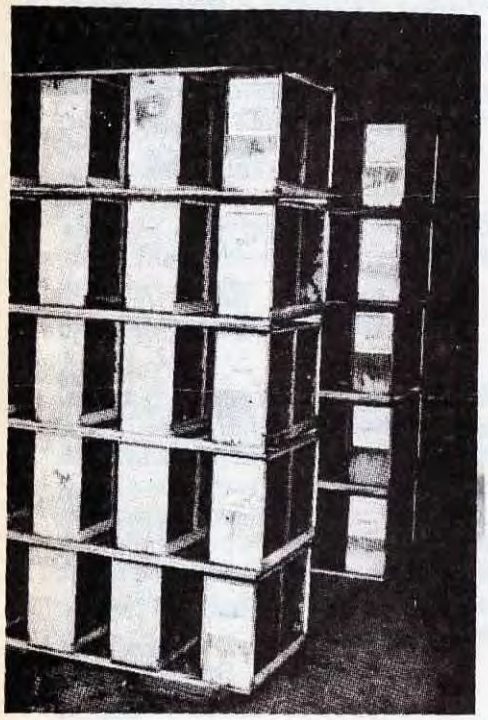

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Madden's Apples and Hiatt's Bees

by ALBERT G. BELL 2857 Colton Blvd. Billings, MT 59102

Blaine Madden, Brewster, Washington, is typical of the orchardists in the Columbia River Basin and Washington State — he needs honeybees to pollinate his apples. Without these insects working under good pollination conditions his apples may not be fertilized and his total crop could diminish as much as 80%.

Washington State produces approximately 48,000 truckloads of apples each year. There are 1,000 boxes to each truckload. This represents about 33% of the total United States Crop. Without honeybees working as pollinators, the economy of the apple industry would be seriously affected.

Madden and the other orchardists prefer to use honeybees to carry the life giving grains of pollen deep into the apple blossoms for production of an abundance of well-shaped apples.

There is a short time in a blossom's life, usually a matter of hours, when it can be pollinated. Madden relies on honeybees to get the job done quickly and efficiently. Actually, an entire crop can be set in a few hours when the blossoms are fully opened. Beehives, however, are left in orchards for a week in case bad weather stops honeybees and a longer pollination period is needed.

A major reason he uses bees is that many varieties of apples, such as Red Delicious, cannot pollinate themselves. Hives are set near Golden Delicious trees, which are good pollinators. Madden states that pollination is more complete when honeybees are used, even on self-pollinating varieties.

Madden contracts with Sidney L. Hiatt, Ephrata, Washington, for well-populated hives to pollinate his orchards and compensates him for his services. No honey surplus can be expected from apple blossoms. The movements and heavy requirements for brood food prevents a surplus of apple nectar honey.

Bees are brought into Madden's orchards when approximately 10% of the blossoms are open. Some orchardists want the bees when the king bloom opens. These events happen anywhere from the end of April to the first week or two in May. A complete pollination of apples trees requires one to two hives per acre of trees. Madden figures one hive to each one-hundred trees for his planting density. All hives are placed in one or two locations as the bees seem to labor better this way. Madden likes well-populated colonies with a field force true to blossom source to work the rows of trees in nectar and pollen collection. Whether there is brood in need of food or broodless pollination packages the orchards are filled with flying food gatherers. Pollen collectors are filling their baskets and nectar gatherers fill their tanks with apple nectar.

Display of Washington, controlled atmosphere, apples invites housewives to purchase. THE GOOD FRUIT GROWER photograph.

Hiatt, who supplies the pollination service, maintains approximately 7,000 colonies for pollination work. He utilizes Italian and Caucasian strains of bees and feels they develop sufficiently in Washington to have an excellent field force and brood nest for apple blossoms.

Hiatt wants a brood area of at least eight frames or more for each pollination colony plus a strong population. His main honey crop comes from alfalfa. He has a standard pollination charge per colony to compensate for the missed nectar and extra handling. His total honey production is 1,000 barrels a year with an average of about 90 pounds per colony. Hiatt's honey is marketed by a commercial packer, which enjoys northwest distribution.

Our pollination purveyor enjoys good rapport with orchardists and is willing to maintain high quality colonies for pollination purposes.

Washington's apple crop is dependent upon honeybee pollination and orchardists like Madden are grateful for bee men like Hiatt, proficient and experienced in bee maintenance to help produce delectable, tasty, Washington apples.

Well formed Golden Delicious Apples result from complete pollination of the blossom by honeybees. THE GOODFRUIT GROWER photograph.

Testing Your Beekeeping Knowledge

by CLARENCE H. COLLISON Extension Entomologist The Pennsylvania State University University Park, PA 16802

In the last couple of years, there has been a great deal written about sagging domestic honey markets and many of the factors that have lead to this serious problem. The basic fact is, that we have an over-supply of honey in the U.S. market place. Since we do not produce enough honey to meet the U.S. demand, the problem has resulted primarily from excessive imports of underpriced honey from around the world. In addition, the Honey Price Support Program has further complicated the situation by paying high support prices and reducing the amount of honey in storage by giving it away.

Regardless of how the industry goes about solving the problem, the bottom line is that we need to increase the demand for honey in this country. The proposed Honey Research and Promotion Program, if passed will undoubtedly help the situation in time, however, individual beekeepers will need to continue to expand local markets. To be successful, the beeekeeper must produce a high quality product and possibly offer the consumer a more diverse line of products. How many of you have ever produced and marketed section comb honey, cut-comb honey, creamed or chunk honey?

Please take a few minutes and answer the following questions to find out how well you understand the production and marketing of honey in its various forms. The first five questions are true and false. Place a T in front of the statement if entirely true and an F if any part of the statement is incorrect. (Each question is worth 1 point).

1. _____ *The color of honey combs has no effect on the honey stored within them.*

2. _____ *Over the past 6 years (1980-1985), world honey production has increased each year.*

3. _____ *Honey is a super-saturated solution.*

4. _____ *The faster honey crystallizes, the larger the crystals.*

5. _____ *Fermentation of honey usually occurs before granulation.*

Multiple Choice Questions (1 point each)

6. _____ To make creamed or finely crystallized honey, _____ percent of finely crystallized honey is blended into liquid extracted honey.

A) 40 B) 20 C) 30 D) 50 E) 10

7. _____ Round comb honey sectons (Cobana or Ross Rounds) hold on the average _____ ounces of honey.

A) 12 B) 14 C) 8 D) 6 E) 16

8. _____ In the production of chunk honey, the liquid honey should be heated to _____°F. before it is poured over the comb pieces to delay granulation.

A) 140 B) 150 C) 160 D) 120 E) 130

9. _____ What is meant by the phrase "card honey"? **(1 point)**

10. _____ Give the dimensions for the two sizes of basswood sections used in the production of section comb honey. **(2 points)**

11. _____ What information is required on the honey label of a 3 pound jar of domestic honey? **(Question is worth 5 points)**

12. _____ Name two ways of protecting section comb honey from wax moth damage. **(2 points).**

13. _____ Describe two techniques used to prevent basswood sections from becoming stained while they are on the colony. **(2 points).**

ANSWERS ON PAGE 204

Bee Talk

By RICHARD TAYLOR
Route 3
Trumansburg, N.Y. 14886

Even after working with bees for most of a lifetime one wonders how they perform their prodigious feats of foraging for pollen and nectar. We see the scattered blooms and we know that a honey flow is on, but even so it taxes credulity that from these tiny blossoms, each containing but a small droplet of thin nectar, the bees are able to gather such vast stores of honey, even beyond their own extensive needs. Sometimes a hive gains twenty and more pounds in a day, and at the end of even a brief flow there will be sixty more pounds of ripened honey in the hive or even, sometimes, twice that. The total nectar that had to be brought to the hive to get that result had to be several times that weight. How do they do it?

Part of the answer came to light, of course, with von Frisch's extensive descriptions and interpretations of the so-called waggle dance. Scout bees go forth, discover the locations of nectar sources, and return to the hive to convey their discoveries to the foragers by means of ritualized dances. This great chapter in the history of scientific apiculture is itself so wonderful as to fill with awe the mind of any thoughtful person who contemplates it. I do not propose to describe that again. Instead I am going to consider the question that it leaves still unanswered.

That question arises from the following considerations. The bees, having discovered, through their scouts, the various far-flung patches of nectar, some of them perhaps two or more miles away, do not continue visiting those same places day after day even though there is still nectar to be found in them. Instead, they continuously shift their attention to new and more abundant sources as these come into bloom. The result is that they are continuously working with the greatest intensity, that is, with the largest field forces, on those areas which offer the richest bounty in terms of quantity and quality of nectar. A linden tree, for example, which on one day is filled with foraging bees, has a few days later but a fraction of that number even though there is still nectar in its blooms. The other bees, meanwhile, have shifted their attention to another source, perhaps another linden tree, where the nectar is richer. The overall result is that, at any given hour, the bees are using their foraging forces to the maximum efficiency, dispatching their strongest forces to those patches where the most and best nectar is to be found and sending to the less desirable sources only to those numbers of foragers as the source warrants. It is, then, this foraging efficiency, this constant readjustment to the constantly changing conditions, that accounts for a colony's prodigious power to make and store such vast quantities of honey.

But this only raises the fundamental question; it does not answer it. For the question is, how do bees do that? That is, how do they know, from one hour to the next, just where, over such a vast foraging area, the most bountiful sources of nectar are? What are good sources one day might still be good the next, but even so, better sources may have come into bloom, and the bees somehow know this and adjust their foraging activity accordingly. How do they do it?

Do the scout bees fly from source to source, making periodic comparisons and then inform the colony of their findings? No. A scout bee, it has been determined, locates a source, of whatever quality, and simply informs the colony of that find. She does not then go checking out other sources, comparing these and choosing among them. Nor do the various scout bees who return to the hive to inform the foragers of what they have found have any way of deciding, among themselves, which have found the best sources. All any scout bee can do is convey its information that it has found a nectar source and, by means of its dance, how far and in what direction it is and what kind of nectar or pollen will be found there. It cannot convey how that source compares with others in quality or abundance. Yet the foraging bees do somehow learn this too. How?

Well, perhaps the foraging bee themselves assess the nectar, scorning the inferior sources and devoting their attention instead to the more promising ones. An individual bee can evaluate nectar for richness. Offered a choice between a thin nectar or sugar solution and one more concentrated, she shows a decided preference for the latter. So it is natural to suppose that the foragers apply their power of discrimination in the field, not wasting their time taking home thin nectar when thicker nectar is available.

But no, that is not the answer either. Individual foragers have no way of making such comparisons in the field, at least not with respect to widely separated sources. A forager, having been dispatched to a perhaps inferior nectar source, does not then compare it with others that may be a mile or more away, and then settle upon the best. Besides that, the foragers always devote their energies, that is, their greatest numbers, to the best sources that are available **at a given time,** and these might be quite inferior to those that will become available at another time. Thus the bees might work apple blossoms in great numbers on one day and then, a few days later, when dandelions come out in great numbers, shift their attention to these, even though the quantity of nectar in the apple blossoms remains undiminished. They do this because the dandelion nectar is better, but, amazingly, they somehow know this without comparing the two.

How, then, do they do it? Well, it is those bees back at the hive, who receive the incoming nectar from the foragers, who make the comparisons, continuously reassign the foragers to new areas, and thus ensure not only that nectar keeps coming into the hive but that the foragers are gathering the best nectar available and with the least

effort. The actual mechanism is as follows. Those foragers returning with the best nectar are "unloaded" by the receiver bees very quickly, and this in-es these foragers to do their waggle dance with great vigor and excitement, thereby recruiting other foragers to their sources. Those returning with thin, inferior nectar, on the other hand, are unloaded last, and slowly, are in effect more or less shunned, so that they are not moved to do their waggle dance or, if they do, it is in a dilatory and half-hearted way. And they thus recruit few if any followers. But again, all is relative. Thin nectar, which during a good honey flow would stir little interest in the receiver bees at the hive, and which would accordingly be unloaded slowly, produces a very different effect during a relative dearth of nectar. When there is little to be had, then the bees devote their full energy to what is available, even though it may be much inferior to what they were getting a week or two earlier. Thus do the bees, from hour to hour and from one day to the next, use their energy to the very best effect possible, always getting the best that they can. And their great forces are dispatched and sent forth in accor-nce with changing conditions, as if y some central control, by those stevedore bees at the hive. There are, indeed, more things in heaven and earth than are dreamt of in anyone's philosophy!

It is needless to say that I did not discover any of these things myself. This is something I learned reading Tom Seeley's wonderful new book, *Honeybee Ecology,* (Princeton Univ. Press).

[Questions and comments are welcomed. Please enclose stamped envelope].

O.J. Blount's Honey Farm offers a 4½" x 10½" bumper sticker to tell the public the importance of bee pollination, their local beekeeper and eating U.S. honey. They are available for a $1.00 each by writing to #7702 Davis Rd., Knoxville, TN 37920.

Research Review

By DR. ROGER A. MORSE
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A Short Visit To Argentina and Brazil

I spent nearly a month in Argentina and Brazil in late 1985 and early 1986. During this time I saw many researchers, teachers and beekeepers and was able to update myself on what is taking place in beekeeping in southern South America.

The Argentine Pampas

I visited Argentina first and was taken onto the Pampas. The Pampas is a great flat plain with obviously rich soil that has a pH of between six and seven. For anyone with an interest in agriculture the area is a delight to the eye with large herds of dairy and beef cows and a wide range of crops. We drove about 50 miles east from the Atlantic coast. I saw great quantities of thistle in flower and was told there are about five species. These are the chief honey plants. There was also a great deal of white sweet clover, *Melilotus alba,* in flower; it is certainly one of the best honey plants on earth. Honeybees were active on both the thistle and clover wherever we stopped. It is easy to understand why the Pampas is such an outstanding honey producing region.

Argentina has been one of the major honey producing and exporting countries for a great number of years. The honey from the Pampas region is very light in color and mild in flavor and has always commanded a premium price on the market. About 80% of the honey in Argentina is produced on the Pampas and about 80% of the crop is exported. There are now about 1.2 million colonies of honeybees in Argentina; that number is higher than it was ten years ago, indicating a favorable world market.

Dr. David De Jong, Cornell University Research Associate, who has been working on varroa disease in Brazil since 1980, examining a colony of Africanized bees. Colonies of Africanized bees vary in their aggressiveness. Some small colonies can be manipulated with only a little smoke, however, this is not true of the larger colonies.

Acarine Disease

Since *Acarpis woodi,* the tracheal mite is very much on the minds of beekeepers in North America, and is present in most of South America, I asked about it first. In Argentina no one was sure just when this mite was first found in the country but 1950 appears to be about the right date. I was told that no one treats bees for the tracheal mite nor is there much concern about it. It is seen but is thought of in about the same way as we think of sacbrood and chalkbrood. Other diseases are far more important. *Acarapis woodi* has been reported from Brazil too but I have been unable to find anyone who can tell me that it is a problem anywhere in that country.

A termite mound near an apiary of Africanized bees. Armadillos frequently attack the mounds and eat the termites. In the process they make a cavity in the mud nest into which a swarm of bees may move.

Varroa Disease

Varroa disease is the number one problem for beekeepers in Argentina. They must treat their colonies twice a year and if they did not they would lose 30 to 40% of the bees in a year. The worst year for varroa was 1978, shortly after the mites were first discovered. The chemical being used to control varroa in Argentina is Amatraz, a material that I am reasonably certain would not be approved for use in the U.S. Some other chemicals are available but apparently are not so effective. In the north of Argentina, as in Brazil, where there are Africanized bees, there is little problem with varroa mites.

Other Bee Diseases In Argentina

European foulbrood is the second most serious bee disease in Argentina; this is followed by nosema. All of the other diseases with which we are concerned are thought to be minor. There is apparently no American foulbrood in Argentina; it is not present in Brazil

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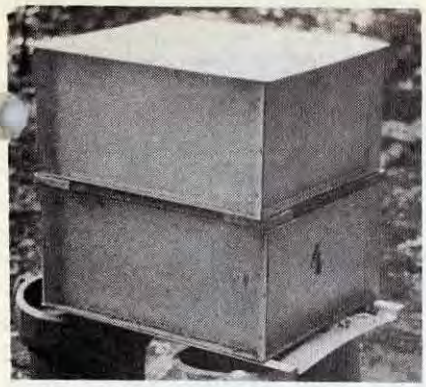


A plastic hive. Plastic hives are popular in Brazil because of ants and termites that may destroy wooden equipment.

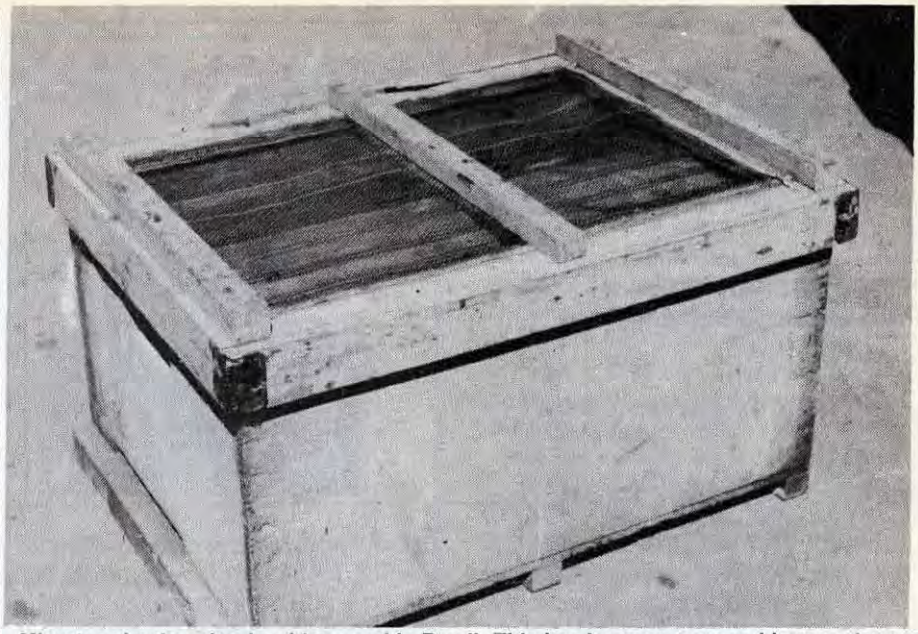
either. This is something I do not understand. It is true that neither country imports any honey and this may help prevent its introduction. However, both countries import queens from Europe and the U.S. Argentine beekeepers have had strong preference for Italian bees for years.

Varroa In Brazil

It is now firmly established that varroa poses little problem in Brazil where they have only Africanized bees (or Paraguay that also has predominantly Africanized bees). African and Africanized bees are definitely resistant to the mites; this is a subject we have under investigation.

Beekeepers do not report the deaths of any colonies and no one

New and repainted supers in Brazil. Most beekeepers make their own equipment; however, most prefer and use the standard 10-frame Langstroth hive.



Migratory beekeeping is widespread in Brazil. This has been encouraged in recent years by the great increase in orange acreage. This picture shows a typical moving screen that is placed on top of the colony to provide adequate ventilation.

treats colonies for the mites in Brazil; this is despite the fact that mites may be found in every colony one examines. In part, the reason is that the life cycle of Africanized bees is shorter; the workers mature in 20 days instead of 21 and a few mites have time to mature in this shorter period of time. More recent studies, that have yet to be published, indicate there is physiological resistance as well. It is also possible that the Africanized bees may show a stronger hygenic behavior. They may more effectively remove varroa mites from their colonies than do European honeybees. I was told that *Braula coeca,* the bee louse, could once be found in Brazil but that it appears to have disappeared since Africanization of the bees had taken place. A researcher from Columbia, who was in Brazil at the same time as I was, told me that the same was true in his country where they now have Africanized bees. I wrote only a month or two ago in this column that we might want to think about importing some African genetic stock into the United States for the express purpose of working resistant genes into our stock and this may some day be the case. However, for now we are searching for the reasons the Africans are resistant with the thought that some of the same traits may exist, though at a much lower level, in our own bees. If this is the case they might be intensified and thus give European honeybees some protection against the mites.

Africanized Bees

I was in Argentina only a few days and did not see as many bees as I wanted to observe but I did see some. I was in the vicinity of Buenos Aires city and in Buenos Aires province where 80% of the honey is produced. Those bees I did see were typical Italian bees that one finds around the world. There was no indication of any effect from the bees that immigrated from Brazil and the Argentinians I spoke with were not the least bit concerned about Africanized bees. The area I visited was too cold to grow oranges but the temperature was warm and the plants reminded me of north Florida, Georgia and the Carolinas.

I was told, as I had heard earlier from others and as has been written several times, that there are Africanized bees in the north of Argentina near the borders with Paraguay and Brazil but they do not move south where it is cooler. It is interesting that many beekeepers in Argentina move their bees north, into the warmer climate, to rear queens and make nucs but even this does not result in Africanization of their bees.

The Washington Scene

By GLENN GIBSON
Minco, Oklahoma

Minco, February 20. A recent trip to Washington (February 10-15) calls to mind the old adage, "The more things change the more they remain the same." 'Tis election year and we find 435 house members and a third of the Senators thinking about the misfortune of their opponents in the last election. Their top-priority resolution is to make sure a similar tragedy does not befall them. Good or bad? Seemingly we approve — judging from the sums spent for re-election.

Gramm-Rudman, the Budget, imports and a bad Farm Bill seem to be the most important agricultural subjects. A lot has been said about these problems, but very little has been done to date. Uncertainty prevails not only among members of Congress but the Administration as well. The solution to the beekeeper's problem would be simple — control imports. As most of us realize, this will be a long and snaky battle. Our new honey program addresses this problem indirectly, but this legislation is dated and its value may be nullified by Gramm-Rudman (Cuts will be deeper next year). Also, the administration and a number in Congress seem determined to reduce domestic farm prices to the level of the Chinese.

Import Protection For Honey?

Administratively this appears remote, but political Washington has been known to change directions if the proper pressure is applied. WE ARE CAPABLE OF APPLYING THIS PRESSURE because "free traders" are losing their charm. Free-trading economist, Murry Weidenbaum, writes an article for the *Washington Times*, December 31, 1985 entitled "Dispelling The Trade Myths". This article was placed in the Congressional Record on February 6, 1986 by Congressman Richard Armey, Texas. Mr. Armey describes protectionism as a descent down a slippery slope of increased trade barriers to the quicksand.

Mr Weidenbaum points out six myths which help to obscure the discussion of our trade policy. They are:

* *First, Japan is the problem. If they would only open up their markets to our products;*
* *Second, the United States is an island in a world of protectionism;*
* *Third, imports are dragging down the American economy and depressing employment, especially manufacturing;*
* *Fourth, imports are the main reason for unemployment in steel, textiles, and other key industries;*
* *Fifth, protection is the way to save jobs; and*
* *Sixth, workers in import affected industries deserve special treatment if they lose their jobs.*

"Ivory Tower" Weidenbaum needs to invest some money in a small domestic industry that produces a raw agricultural product. Hopefully he would learn that farmers do not produce full crops every year no matter what the price may be. Also, he might find it difficult to find help that would work for coolie wages. I would say that he would forget his laissez-faire ideas when the bank said: "Pay up."

The Ghost Of Smoot Hawley

It is fashionable nowadays for laissez-faire traders to remind us that the depression was caused by Smoot Hawley" protectionist policies of the Hoover Administration in 1930. "Smoot-Hawley" or the Tariff Act of 1930 imposed significant increases on a number of items in the Tariff Schedules. A reference to the Smoot-Hawley days is supposed to mean that we will experience a severe depression, high unemployment, widespread poverty and misery and even war. Thus, Smoot-Hawley has become a code word for national economic disaster. Export-import figures for the United States and the world show an orderly reduction in trade for the period of 1929-1933. If Smoot-Hawley was the villian of the thirties, one would assume that it would shut out imports completely. Such was not the case. It should be noted that the law was passed eight months after the stock market crash in October 1929. Some parts of the law are still in effect. Agricultural economics — tsk tsk.

What We Can Do For Import Protection

First, please purge negative thoughts from your mind and think positively and then give us a lift in the halls of Congress. Write, call personally or telephone your congressional delegation and be a part of our campaign to educate members of Congress so that they will have a true picture of our industry — not the story that was covered in the recent General Accounting Office report. Because of the misinformation circulated these last four years in the news media and the Congress, the average member visualizes us as subsidy hogs troubled with killer bees. Also, a number in government feel that the honey producer is not needed for pollination since the farmer can buy bees if the beekeeper goes broke.

Please be advised that the pronoun "your" used in the paragraph above means all beekeepers in your state (This also means that all beekeeping associations should participate). Mr. Beekeeper, when you get down to the nitty-gritty, I doubt that you can give a good reason for not contacting your congressmen.

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Not knowing what to write is a lame excuse. There are more than 1,000 congressional field offices that are manned with personnel who will assist in writing resolutions for a group. They will tell you what their boss's policy might be and how the Congress works. If he doesn't have a position on our problem, ask some questions and don't fail to make follow up calls on a regular basis. If you are hesitant about what questions to ask, study our articles or contact us.

Questions That Should Be Asked

We have asked the Department of Agriculture to pressure Japan and the Economic Community Governments for an elimination of duties on honey. I haven't seen any correspondence that would tell me why our Government has remained silent on this subject. Neither have I seen anything from foreign shippers. Senator David Boren tells me that these countries are protecting an inefficient agriculture. (Boren favors import duties for honey.) ASK YOUR CONGRESSIONAL DELEGATION TO CHECK THIS MATTER.

Mr. & Mrs. Beekeeper give us some help, please.□

Madison Madness

The rumor mill is running full speed again regarding the USDA Bee Lab in Madison, WI. The latest report, received from Alan L. King, President, Indiana State Beekeepers Association, quotes Dr. Edward Knipling, USDA Ag. Research Service Administrator, who reports the Lab will probably close in October. This is because the fiscal year 1986 budget contains no funding provisions for the Madison Lab. If this occurs, the current research objectives and personnel will be 'redirected' to the Baton Rouge or Tuscon Labs.

Mr. King goes on to say that swift action is imperative if the lab is to be saved. Congressional action is required to 1) insert funding provisions into the F.Y. 1986 budget; 2) provide long range funding and 3) guarantee long range staffing.

To spur this action Mr. King suggests you contact your U.S. Representative and both U.S. Senators. Indicate that Madison is the **ONLY** lab capable of carrying on the studies of Overwintering, crop pollination, and pesticide problems inherent in the northern U.S.

Mr. King summed up the situation with "We need your help — and we all need the Madison Bee Lab".

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About the third day I was in Brazil we went to the laboratory as usual only to be greeted by stinging bees as we walked up the sidewalk to the entrance. They were typical Africanized bees ready to sting at the slightest provocation. The apiary of over 100 Africanized colonies is about 15 yards behind the laboratory building and usually there are no bothersome bees in front. It was suggested that someone had been in the apiary the night before, perhaps to steal honey, and that is why the bees were so upset. However, I was reminded that Africanized bees are different and that one must take certain precautions in locating apiaries.

Genetic Dilution

Recently it was reported that some colonies of Africanized bees were found in California. However, these bees appeared to have little effect on the American bees in the vicinity. As a result it was finally concluded that there had been genetic dilution of the African stock and that they did not pose a threat.

I read a paper a few months ago that said that the reason the African bees introduced into Brazil were so successful and took over so rapidly was that there were few or no European honeybees in the area where the Africans were introduced to dissipate the gene pool. I asked my colleagues in Brazil if this was true. The answer was a strong "no". Beekeeping was a popular vocation and hobby in the area where the Africans were introduced that is only 70 miles from the laboratory where we now have the Cornell University of Sao Paulo varroa research project. Also, further south in the Brazilian province of Santa Catarina there was an even greater population of European honeybees that became Africanized rapidly. Unfortunately, there are no precise records as regards the number of colonies present in Brazil at the time. It is clear that despite the theories and hypothesis that have been advanced that we do not understand how a small number of queens (and gene pool) from Africa managed to overwhelm an estimated one million colonies of bees in Brazil within a short period of time. Equally mysterious is what it is about climate that confines African bees to the tropics. To my mind these are major questions in apiculture that must be answered.□

Adventures In Bee Inspection — Part II

by JOHN N. BRUCE 207 W. Darland Goldendale, Wa. 98620

Saving The Orchards

I learned that many orchard men were pulling out orchards and planting row crops. This alarmed me because I knew that those hills would wash away. One day I went to the state capitol to talk with the Director of Agriculture, Mr. Jardine, and informed him of the erosion problem he would be facing. Of course, he wanted to know why he would be facing this problem. I told him that the orchards were not producing enough because of insufficient pollinators. I told him that he should get someone to work with these orchard men. He informed me that he had a man for the job. I inquired who he was, so that I could work in harmony with him. He replied to me, "Oh, you can work well with him; furthermore, you know him, it's you!" I was thunderstruck — to say the least! I said, "I don't know anything about what do do. You'd better get someone that's qualified."

He looked me in the eye and replied, "You found out the problem, you are seriously interested, you have been doing an extra good job at your present job, you know the cause of this upcoming problem, so who could I get to do it better? I think you will rise to the occasion — just like you have to the bee problem. You are it!"

I went home, worrying about the problem and thinking, how I had handed myself a package that I didn't want nor did I know what to do with. The rest of the season, I called on orchard men that were quitting and asked all kinds of questions. Also, I studied, all I possibly could, on pollination and the need for pollinator varieties.

By March of the next year, I had a plan of action. I wrote to Mr. Jardine, requesting funds to make a test of my plans. I asked for fifty dollars to buy some box hives of bees, which I was going to use for pollination. About the middle of March, I called for a meeting of all the fruit growers of Jersey, Greene, and Calhoun counties to meet at Hardin, Illinois in the Farm Bureau Hall.

My Inspector boss had been clued in and he came down to attend the meeting with me. On the way to the meeting he asked what my plan was. I told him of a test plot of Winesap apples that were fourteen years old, well cared for; yet had never bourne out but a half bushel to the tree. I told him that I intended to bouquet the orchard and set the bees where they would not be stopped from flying by cold winds.

When we got to the meeting, as the "VIP", he was introduced first and he told them my plan. In fact, he left me "out on a limb", with no way off of it. When I was introduced, there was only one thing left to say and that was: "Men, Mr. Killion has told you of our plan in detail; so you know everything, except that, I am the one that is going to do it." I sat down; there was silence for a minute, then a roar of applause. When the chairman was able to speak again, he said, "John is a young man of few words and lots of action. We will all be watching him."

On the way home, Mr. Killion said, "Sorry, John, I stole your speech, didn't I? I came down here unprepared and I was grabbing at straws. I really deserved that speech you gave." I replied, "It's alright, Carl, all I want is to get people interested in this project, because I think it is their problem. They have block-planted their orchards and where they have two or more varieites of apples or peaches, they get normal yields for four or five rows each way from the dividing line. The further you get the varieties apart, the less the apples mature. Also, more apples are lopsided which, if you cut across the seed pockets, only have seed in three or four pockets of the five. If there is less than three seed pockets, with seed in them, they drop off in June; when they are about golf ball size."

When it was blossom time, I put in forty box hives that I had bought for a dollar each and I also got twenty lard cans for ten dollars; then we went to an abandoned Baldwin apple orchard for a truckload of brush that was in bloom. We divided these bushes of bloom into the lard cans, filled the cans with water and hung in all parts of the Winesap orchard. More brush was put in water holes. We had a good warm blossom time and the bees worked everything over and over. When the petals fell, the bees were moved out and orchard sprayed. When June rolled around there were some drops, but not much. At picking time the trees produced fourteen bushel boxes per tree.

Many orchardists called or wrote me about their problems on providing pollinators. Most of them were "on the fence" about pulling their trees. I suggested they go through their orchards and graft a different variety on one limb of each tree, where they were block planted. I also suggested they pull out two rows of trees and leave four. They could then plant interpollinator varieties. When these grafts got big enough, they could cut off the grafts and with sufficient bee colonies, they would be back in business.

Most of the orchardists did this and were soon trying to get me to do all the pollination for them. I rented bees that had been inspected and were healthy, for the orchard men. I supplied as many as I could, out of the bees I was getting. I built up my colonies to around six-hundred by buying up

equipment that was for sale. I acquired much of this from those who had lost their bees and were quitting. I would buy an outfit and haul it home in my car. At night I would fire up a vat that I had made, and boil everything in lye water. If the bees had died of AFB, it was now clean. If the bees died otherwise, I was still alright because I wasn't taking chances. Some of this equipment I sold and some I didn't.

I let the bees out to the orchards at cost. I got two dollars per hive, to get them ready to move; hire a truck to move them; brought them back to their owners, and paid the owner, one dollar per colony, out of this two dollars. It was a lot of long hours and very hard work. I once worked three days and nights without stopping and only one meal. When I returned home, I told Mary, my wife, that I hadn't eaten for some time. So she started to fix me something to eat. Meanwhile I had laid down on the living room sofa. When the meal was ready, she called me. But try as she may, she couldn't wake me. She called the doctor and when he came, he couldn't wake me either. He inquired as to what I had been doing, and she told him of my seventy-two hour work orgy and without eating. He said, "Good God, girl, let him sleep then— he's exhaused!" She said, "but, doctor, he's hungry as he's not had anything to eat." But the doctor replied, "Well, he'll survive. Just let him sleep. When he gets up, you can feed him. He won't starve in that much time." I slept there on the sofa for twenty-four hours before waking. I had more time to take the bees out, as I didn't have to inspect and nail them up — just load them up and bring them home. This was how pollination was started in Illinois. (Rather cross pollination).

Bees On Grapes

Once I was called to Rosedale, a small village, to settle a dispute, between some neighbors, over bees. One of the men had about thirty hives of bees and his neighbor had a small vineyard. The latter man saw bees working on his ripe grapes and the two were almost at the shooting stage, when I arrived. The vineyard owner had sent for me, so I stopped there first. He took me out to see the bees on the grapes. They were there, alright, but there were many more Mexican hornets there, I showed him the hornets and he insisted they were bees. So I got several of them and also some bees. I took the dead hornets and showed them their sharp sawtooth mandibles, explained that they were for cutting wood and the skin of any fruit that was juicy and that they liked. When I showed him the mandibles of the honeybees, how they were shaped like butter paddles. I told him they were made this way so that they could shape wax into honeycombs. I told him that the bees, that were on the grapes, were merely sucking the juice, left in the grape, after the hornets had cut the skin and had got all the juice they wanted. But he wanted more proof, so I told him to pick a bunch of grapes and remove the ones that were punctured. We took the bunch over to the beekeeper's hives. I had the bee man open one of his hives and take out one frame, where most of the bees were. I hung the grapes in the space left by the removed frame.

That evening on my way home, I stopped there. We took the bunch of grapes out of the hive and examined them. They were all sound, so after some embarrassment, apologies were made and the two men became friends again. I met lots of people; some hostile and other friendly, but I never met very many hostile ones that I didn't become a friend to afterwards. I believed that, if you are a friend, you will get a friend in return. I also felt that you have to make an extra effort at making friends, or work, if you want to be successful.

Sugar Was Scarce

A card came in the mail, one day, telling me that a beekeeper needed feed for bees and been turned down by the War Procurement Board. I had given him an order ten days before and by this time, his bees were near starvation. He had eighty colonies that had been in top condition for the coming honey season except they consumed almost all their stores. I went over to his home and saw that the bees had already starved and dropped. There were a few bees left, with the queens in most of the hives and some of the brood was hatching. I told him it was possible to build them up with syrup and the honey flow; but he had lost his chances for a honey crop. We went to his "War Board" and I told them that we wanted an order from them for eight-hundred pounds of sugar. The lady that was the head of this board was really unfeeling. She said, "Who do you think you are, trying to get sugar for bees, when I can't have any for my coffee. I told you once before you can't have any." To which I replied, "Will you look up directive number— and read it to me. She said, "I don't have to." At that, I showed her my social deputy's badge and told her she had better. She was angry and so very sure that she was right. But she found the directive and stammered through it. Then I told her if the beekeeper wanted to, he could sue her and recover damages for a loss of 80 swarms of bees, plus their crop, and that I was his witness against her. But he was a forgiving man and declined to take that action.

The War Calls

These kind of things happened frequently during the war. As the war progressed, the calls were sent and every man, from eighteen to forty-five was given a classification. I had a wife and a child at this time and was thirty-one years old. (Almost thirty-two and in civil service).

Men were being taken up to thirty-two years of age then. I was classified 1-A and notified that I must be ready to go ten days after a notification from my county draft board. They also instructed me to get into defense work, until I was called, saying that with my age, having a wife and child (with another child due), that I was not apt to be called very soon, if ever. I went to the state capitol and went into the room where interviews were being given for defense work. I qualified as a foreman in a ship yard. I was to report to Kaiser Shipyards (on the West Coast) within ten days. When I got home, I started to make arrangements for this move by selling all my tools, bees, and household goods. The next day after, I was getting my car ready to drive out to the West Coast, when the mailman arrived and I received a reprieve on my 1-A notice to appear.

I had sold my bees at about half price to a fellow and he came after the mail had arrived. I would have gone through with the deal, but he had taken my extractor and tanks home with him. He now told me (thinking I was ready to go) that his wife and he had talked it over and couldn't pay me as much as we agreed on. He would give me seven hundred dollars for the outfit. Well, that made me mad! So much that I ordered him off the place, and told him I didn't want to see his face again. He wanted to know what I was going to do with the bees, thinking, I was at his mercy. I roared, "You get the h--- off this place; it isn't any of your business what I do with the bees. But if you are still here in five minutes, I'll fill your hide with bird shot!"

One reason I was so angry was that in early spring I had worked around the clock for two days and nights to help him to get his bees cleaned up. He had brought in about eight-hundred colonies from Missouri without a permit and many of them were diseased. I did this to help him and didn't get paid for it. Otherwise, this bunch of bees would have been burned. So much for "bread on the water". Sometimes, it comes back soaked with filthy water. The second-hand furniture man gave me my furniture back, at the price he paid me. But most of my tools that I sold, except some hand tools, I could not get back. The tools were not replaceable, so no one would sell them back. Mr. Wesley Osborn, Secretary of the Illinois Beekeepers Association, found out about the trouble I had experienced and came to see me. He made a deal with me to operate my bees for the duration of the war. If I did have to go into the service and anything happened to me, he would take my son in when he turned sixteen, and teach him to care for the bees. In the meantime, he would operate them on the halves. A few weeks later, we made it a partnership and Wesley became one of my best friends.

I was not footloose. I still had my inspector's job and I couldn't leave it because at that time you weren't allowed to change jobs. I started to do handyman jobs patching plaster, replacing roofs, cement work and carpentry. I was good at most anything that came up, so I soon had all the work I could do. I bought an old house, using a personal note as a down payment. My wife had had surgery and was recovered from it. She was now baking honey cookies and supplying the local food markets. Her cookie business was, at that time, bringing in more money than I was. That year became a very busy one. Life went on like this for another year. The jobs got scarce as material became scarce. By winter, odd jobs were obsolete, and I was driving to Alton, trying to find a job there. But no one would hire me as I had a 1-A card. This they kept up to date, occasionally demanding I show up for an exam; then cancelling it the day before I was to show. I got thirteen cards before the war ended.

Campaign Contributions

During the election campaign, there was a knock at my door. When I answered it, there was a man standing there that I had never met. I asked him in and to be seated. He informed me that he was there for Governor Horner. I was puzzled as to what the governor would want and told him so. He then went into detail about all state employees being required to give at least $500.00 for campaign funds. I told him that I felt that was coercion. He said, "You'll pay it or lose your job." I told him what he could do about it. He became angry and said that I didn't have a job anymore. I said, "Fine, I have completed what I set out to do. The beekeepers can get along without me now. They have learned to look after themselves or can get help from others. I give things to people at my own desire, but I don't take kindly to being held up by threats. I made a living before I had this job and I can still do it. This job is not that good anymore, I am not going to buy a job from anyone."

That was the last I saw of him. I sent in a letter of resignation, but got word from Mr. Killion that he wanted me to stay on. I had already made up my mind, though, and wrote him that I would not work at inspection anymore, if he refused to accept my resignation. I informed him that he had better get another man.□

Who's Who in Apiculture

To supply a handy reference of the names and addresses of State and Provincial Apiary Inspectors, Secretaries of Beekeepers' Associations, Extension Workers in beekeeping, and other information often needed by our readers and Industry Leaders, we have amended our Who's Who in Apiculture effective March 1, 1986

State or Province-	Bees on Combs Admitted	Apiary Register Required-	Fee	Secretary State Association	Address & Phone Number
AL*	Not Allowed	Yes	Yes	Mrs. R.V. Harrell,	Hayneville 36040
AK	None	No		Cook Inlet Beekeepers Assoc.,	P.O. Box 8-173, Anchorage 99508
Alta.*	Not Allowed	Yes	No	Louise Zwaenepoel,	#24 7215-147 Ave., Edmonton T5C 2T1
AZ	Cer. & Per.	Yes	No	Clarence L. Benson,	Box 858, Oracle 85623
AR*	Cer. & Per.	Yes	No	Darrel Jester,	Rt. 1, Box 489, Osceola 72370
B.C.*	Not Allowed	Yes	No	Rose Fuhr,	RR 1, Fort St. John, B.C., Canada V1J 4M6, Ph. 785-4808
CA*	Certificate	Yes	No	Frank Johnson,	2114 Westminster Dr., Riverside 92506
CO*	Cer. & Per.	Yes	Yes	Mrs. Tom Jones,	605 No. Columbus, Yuma 80559
CT*	Cer. & Per.	Yes	Yes	Chuck Howe,	5½ Mile Rd., Goshen, CT 06756
DE*	Cer. & Per.	Yes	No	Connie Groll,	R.D. #1, Box 132D, Lewes, 19958
FL*	Cer. & Per.	No	No	Mary Fay Roberts.	601 South Taylor Rd., Seffner, FL 33584
GA*	Cer. & Per.	Yes	No	Cecil T. Sheppard,	4054 Briarglade Way, Doraville, GA 30340-5112, Ph. 404-491-3734
HI*	Not Allowed	No	No	Lee Ong Chun,	2115 N. School St., Honolulu 96819, 808-841-6440
ID*	Certificate	Yes	Yes	Debbie Millet,	Rt. 1 Box 8 Bee, Marsing 83639
IL*	Cer. & Per.	Yes	No	Rita Taylor,	Rt. 2, Box 249, Pleasant Plains 62677
IN*	Cer. & Per.	Yes	No	Claude F. Wade,	Room 613, State Office Bldg., Indianapolis 46204
IA*	Cer. & Per.	Yes	No	Glen L. Stanley,	Agric. Dept., Wallace Bldg., Des Moines 50319, Ph. 515-281-5736
KS*	Cer. & Per.	Opt.	Yes	Duane Levin,	Box 5, Stuttgart 67670-0005, Ph. 913-543-6210
KY*	Cer. & Per.	Yes	Yes	Charles Barton,	791 Sherwood Dr., Lexington 40502, Ph. 606-277-3787
LA	Not Allowed	Yes	No	Patricia Harper,	Rt. 1, Box 197, Carencro, LA 70520
Man.*	Not Allowed	Yes	No	Don Dixon,	911 Norquay Bldg., Winnipeg R3C 0P8, Ph. 204-945-3861
ME*	Certificate	Yes	Yes	Beth Pritchard.	RD #1, Readfield, ME 04355
MD*	Permit	Yes	No	Gordon Schweizer,	1714 Green Spring Valley Rd., Stevenson, MD 21153, Ph. 301-465-1809
MA*	Cer. & Per.	Pending	Pending	Ellis B. Hayden, Jr.,	62 Main St., Norfolk, Mass. 02056, Ph. 617-528-5362
MI*	Cer. & Per.	Yes	Yes	Mary Falkenburg,	1205 Klug Rd., Harbor Beach, MI 48441, Ph. 517-479-9075
MN*	Cer. & Per.	Yes	Yes	Fred Holte,	2185 W. County Rd., B, Roseville 55113
MS*	Cer. & Per.	No	No	Harry R. Fulton,	P.O. Box 5207, Mississippi State 39762, Ph. 601-325-3390
MO*	Cer. & Per.	No	No	Jim Thaxter,	Rt. 4, Box 60E, Moberly, MO 65270, Ph. 816-263-2694
MT*	Cer. & Per.	Yes	Yes	Shelley Rodenberg,	200 E. Johnson St., Wolf Point, MT 59201, Ph. 406-653-2565
NE*	Cer. & Per.	Yes	No	Sally Leu,	Rt. 4, Box 194. Norfolk, NE 68701, Ph. 402-371-0636
NV	Permit	Yes	Yes	Bill Goff,	14060 Edmands Dr., Reno 89511, 702-673-1913
N.B.*	Not Allowed	Yes	No	Vern Smith,	46 Beaconsfield St., Fredericton, NB E3B 5H2, Ph. 506-454-0609
NH*	Certificate	Yes	No	Franics W. Dodge,	P.O. Box 91, Goffstown, NH 03045, Ph. 497-4507
NJ*	Certificate	No		Mrs. Elizabeth Rodrigues,	157 5 Point Rd., Colts Neck 07722
NM*	Certificate	Yes	Yes	Mrs. Betty J. Cole,	600 N. Bosque Loop, Bosque Farms 87068
NY*	Certificate	Yes	No	Judith A. Doan,	1263 Redman Rd., Hamlin, N.Y. 14464, Ph. 716-964-3121
NC*	Cer. & Per.	No		Dorothy Humble,	Rt. 3, Box 160, Liberty 27298
ND*	Cer. & Per.	Yes	Yes	John Miller,	Box 213, Gackle 58442, Ph. 701-485-3350; Winter: 916-823-1369
N.S.*	Not Allowed	Yes	Yes	Earl Blades,	P.O. Box 550, Truro B2N 5E3
OH*	Cer. & Per.	Yes	Yes	Rhoda Reynolds,	2477 Columbiana Rd., New Springfield, OH 44443
OK*	Certificate	Yes	No	Dorothy Smith,	Box 34, Guthrie, OK 73004, Ph. 405-282-4002
Ont.*	Permit	Yes	No	Patricia Westlake,	RR#3, Bayfield, Ont. NOM 1G0
OR*	Certificate	Yes	Yes	B. Patrick Sughrue,	430 Furknon Lane, Salem, OR 97301, Ph. 363-0817
PA*	Cer. & Per.	No	No	Yvonne Crimbring,	R. D. 1, Box 315, Canton, PA 17724, Ph. 717-673-8201
P.E.I.*	Not Allowed	Yes	No	Steve Wonnocott,	Isecond St., Charlestown, P.E.I. CIA IEO
P. Rico	Not Allowed	No	No	Tito Nieves,	P.O. Box 471, Lares, Puerto Rico 00669
Que.*	Not Allowed	No	No	L. Dion,	C.P., 656 St. Hyacinthe, Que.
RI*	Certificate	Yes	No	Elizabeth Latham,	Pole 36 Hopkins Ave., Johnston, RI 02919, Ph. 401-934-1767
Sask.*	Not Allowed	Yes	No	John Gruszka,	Box 3003, Prince Albert S6V 6G1, Ph. 306-953-2790
SC	Certificate	No		William L. (Bill) Baker,	2663 Ford St., Sumter 29150
SD*	Cer. & Per.	Yes	Yes	Gary Schmidt,	Star Rt. 2, Box 249, Martin 57551, Ph. 605-685-6528
TN*	Cer. & Per.	Yes	No	Howard Kerr,	Rt. 11, Box 7 Big Springs Rd., Maryville 37801, Ph. 615-982-6750
TX*	Cer. & Per.	Yes	No	Margie Coplin,	3512 Jack Beaver Rd., Arcadia, TX 77157, Ph. 409-925-6338
UT*	Certificate	Yes	Yes	Davis S. Miller,	3000 S.W. Temple, Salt Lake City, UT 84116
VT*	Certificate	Yes	No	Mary Ann Eaton,	RFD 1, Box 97, Barton, VT 05822, Ph. 802-525-4053
VA*	Cer. & Per.	No		Maryethel Miller,	Box 212C, Millboro 24460
WA*	Certificate	Yes	No	Alice Bounds,	P.O. Box 602, Toppenish, 98948, Ph. 509-865-2279
W.VA*	Cer. & Per.	Yes	No	Mary C. Topp,	Highland Park, Wheeling, W.VA. 26003, Ph. 304-242-5846
WI*	Cer. & Per.	No		Linda Hauri,	R.#2, box 32, Beloit, WI 53511, Ph. 608-362-6477
WY*	Certificate	Yes	No	Carol Miller,	P.O. Box 619, Sundance 82729

*Publish a newsletter sent to State Association Members

State or Province	Professor In Charge of Beekeeping Course (Write Prof. of Apiculture c/o State University)	Extension Personnel in Beekeeping (Write Beekeep. Exten. Spec. c/o State University)	Inspector State or Province (Write c/o Dept. of Agric.) State Capitol
AL	Dr. James H. Cane	Carl Dennis, Auburn	St. John Bloch, Montgomery 36193
AK		Wayne Vandre	John Cramer, Pouch A Wasilla
Alta.	Dennis McKenna	D. MacDonald, Falher TOH 1MO	D. Colter, Falher, TOH 1MO
AZ	Dr. Norbert Kauffeld, Tucson		R.W. Hancock, Phoenix 85005
AR		Dr. L.O.Warren, Fayettville, Ark.	Donald E. Bailey, Little Rock 72205
B.C.	Dr. Mark Winston, Burnaby	Douglas McCutcheon, Abbotsford	Douglas McCutcheon, Abbotsford
CA	Dr. Norman Gary, Davis	Dr. Eric C. Mussen, Davis	James Passwater, Sacramento 95814
CO	Dr. Robert Simpson, Ft. Collins		Leslie A. Zermuehlen, Denver 80203
CT	Prof. A. Avitabile, Waterbury	Prof. A. Avitabile, Waterbury	Robert Purvis, New Haven 06504
DE	Dr. Dewey Caron, Newark	Dr. Dewey Caron, Newark	Michael Brown, Dover 19901
FL	Dr. M. Tom Sanford, Gainesville	Dr. M. Tom Sanford, Gainesville	Laurence Cutts, Gainesville, FL 32602 Ph. 904-372-3505 Ext. 128
GA	Dr. Alfred Dietz, Athens	Rodney Coleman, Athens	James P. Harron, Atlanta 30334
HI			None
ID			Dr. Robt. C. Saunders, Boise 83707
IL		E.E. Killion, Paris	E.E. Killion, Paris 61944
IN	Bill Chaney, W. Lafayette	Prof. D.L. Matthew, W. Lafayette	Claude F. Wade, Indianapolis 46204
IA	Richard Trump, Ames	G. Stanley & R. Wells & Jerry Dewitt	Glen L. Stanley, Des Moines 50319
KS			Gary R. Ross, Topeka 66612, Ph. 913-296-3016
KY	Prof. Robert Lay, Richmond	Dr. R. Scheibner, Lexington	Wm. G. Eaton, Frankfort 40601 Ph. 502-564-4696
LA	Dr. Anita Collins, Baton Rouge	Dale Pollet, Baton Rouge	Dr. Jimmy Dunkley, Baton Rouge 70893
ME		Anthony Jadczak, Augusta	Anthony Jadczak, Augusta 04333
Man.	Dr. S.C. Jay, Winnipeg	Don Dixon, Winnipeg	Don Dixon, Winnipeg R3C OP8 Ph. 204-945-3861
MD	Dr. Lee Hellman, College Park	Melanie Odlum, College Park	Barton Smith, Jr. Annapolis 21401
MA	Richard Bonney, Amherst	Richard Bonney, Amherst	Alfred R. Carl, Jr., Springfield 01089 Ph. 413-736-2764
MI	Dr. Roger Hoopingarner, E. Lansing	Dr. Roger Hoopingarner, E. Lansing	John Dreeves, Lansing 48909
MN	Dr. Basil Furgala, St. Paul	Dr. Basil Furgala, St. Paul	Richard A. Hyser, St. Paul
MS	Harry Fulton, MS State (Short Course Only)	Dr. James Jarratt, Starkville, MS	Harry R. Fulton, Starkville, MS 39762 Ph.601-325-3390
MO	Dr. Wayne Atkins, Columbia & Dr. Michael Roling, Springfield	Dr. Fiernoy Jones, Columbia	Joseph Francka, Jefferson City 65102
MT			Willard A. Kissinger, Helena 59601 Ph. 406-444-3730
NE	Cliff Walstrom, Lincoln	Dr. David Keith, Lincoln	Marion D. Ellis, Lincoln 68509
NV	Dr. Harold Arnett, Reno	John O'Brien, Reno	John O'Brien, Reno 89510, Ph. 702-789-0180
N.B.			Bruce Palmer, Fredericton, E3B 5H1 Ph. 506-453-3487
NC	Dr. John Ambrose, Raleigh	Dr. John Ambrose, NCSU, Raleigh	James F. Greene, Raleigh 27611
NH	Mr. Robert Paige, Dover	Robert H. Keating, Concord	Robert H. Keating, Concord 03301, Ph. 271-2750
NJ	Dr. Radcliffe B. Roberts, New Bruns.		Jack Matthenius Jr., Trenton 60625
NM	Dr. Elbert Jaycox, La Cruces		Bob G. Campbell, Las Cruces 88003
NY	Dr. Roger A. Morse, Ithaca	Dr. Roger A. Morse, Ithaca	
ND	Dean McBride, Fargo	Dr. Dennis Kopp, Fargo	Judy Carlson, Bismarck 58505
N.S.		Lorne Crozier, Truro	Lorne Crozier, Truro, Ph. 906-895-1571
OH	Dr. Robert Page, Columbus	Dr. James Tew, ATI, Wooster	Gordon Rudloff, Reynoldsburg 43068
OK	Dr. Moffett, Cushing, OK		Dr. Vernon Harrison, OK City, 73105
Ont.	Dr. R.W. Shuel, Guelph	Prof. G.W. Otis, Guelph	Doug McRory, Milton L9T 357 Ph. 416-878-2314
OR	Dr. D.M. Burgett, Corvallis	Dr. D.M. Burgett, Corvallis	David Turner, Salem 97310
PA	Dr. Robert Berthold, Doylestown	Dr. Clarence Collison, State College	James Steinhauer, Harrisburg 17120
P.E.I.		Elaine Clark, Charlottetown	Elaine Clark, Charlottetown C1A 7J8
P. Rico	Dr. M. Moya, Quintana	Jose Munoz, Humacao	
Que.	Dr. J. Louis Villeneuve, Sainte Foy	Dr. J. Louis Villeneuve, Sainte Foy	Dr. J. Louis Villeneuve, Sainte Foy
RI			Robert Relli, Providence
Sask.	Dr. S.H. Nelson, Saskatoon	John Gruszka, Prince Albert	John Gruszka, Prince Albert
SC	Dave Alverson, Clemson	J. Howard Jr., Clemson	J. Howard Jr., Clemson 29621
SD	Dr. Robert Walstrom, Brookings		Bob Reiners, Pierre 57501
TN	Dr. Charles Piess, Knoxville	Harry E. Williams, Knoxville	Thomas Hart, Nashville 37204, Ph. 615-360-0137
TX	Paul Jackson, College Station	Dr. John Thomas, College Station	Paul Jackson, College Station 77843
UT	Prof. Wm. P. Nye, Logan	Jay B. Karren, Logan	Ed Bianco, Salt Lake 84116
VT			Richard Drutchas, Montpelier 05602
VA	Dr. Richard Fell, Blacksburg	Dr. Richard Fell, Blacksburg	Homer Powers, Richmond 23209
WA	Dr. Carl Johansen, Pullman	Dr. Dan Mayer, Prosser	James C. Bach, Olympia 98504 Ph. 206-872-6005
W.VA	Dr. James Amrine, Morgantown	Bardwell, Montgomery, Charleston	Bardwell Montgomery, Charleston 25305 Ph. 304-348-2212
WI	Dr. Walter Gojmerac, Madison	Dr. Walter Gojmerac, Madison	Marlin Conrad, Madison 53707
WY			Walter Patch, Cheyenne 82002

GOVERNMENT AGENCIES

USDA—Agricultural Research Service, National Program Staff, Dr. James E. Wright, Rm. 225, Bldg. 005, BARC-W, Beltsville, MD 20705, Ph. 301-344-3301.

Agriculture Canada Research Branch— Research Coordinator (protection), Dr. R.J.T. Trottier, Rm. 731, Sir John Carling Bldg., Ottawa, Ont., Canada K1A OC5, Ph. 613-995-7084. **Prairie Region —** Dr. D.L. Nelson, Dr. T.P. Liu and Dr. T.I. Szabo, Research Station, Research Branch, Agriculture Canada, P.O. Box 29, Beaverlodge, Alta., Canada TOH OCO, Ph. 403-354-2212.

Northeastern Region—Dr. H. Shimanuki, Research Leader, Beneficial Insects Lab., Rm. 211, Bldg. 476, BARC-East, Beltsville, MD 20705, Ph. 301-344-2205.

North Central Region—Dr. Eric Erickson, Research Leader, North Central States Bee Research Unit, Rm. 436, Russell Laboratories, Univ. of Wisconsin, Madison, Wis. 53706, Ph. 608-262-1732. **Mid-South Region—**Dr. Thomas E. Rinderer, Research Leader, Honeybee Breeding and Genetics & Physiology Research Lab, 1157 Ben Hur Rd., Baton Rouge, LA 70820, Ph. 504-766-6064. **Western Region—** Dr. W.T. Wilson, Laboratory Leader, Agric. Research Service, 509 W. 4th St., Weslaco, TX 78596, Ph. 512-968-3159; Dr. F.D. Parker, Laboratory Leader, Bee Biology & Systematics Laboratory, UMC 53, Utah State University, Logan, Utah 84322. Dr. M.D. Levin, Center Director & Research Leader, Honey Bee Nutritional Unit; and Dr. G.M. Loper, Research Leader, Honey Bee Crop Pollination Unit, Carl Hayden Bee Research Center, 2000 East Allen Road, Tucson, Ariz. 85719.

United States Marketing Aid— U.S. Dept. of Agriculture, Washington, D.C. **Marketing Programs,** Specialty Crops Branch, Fruit and Vegetable Division, Agricultural Marketing Service, USDA, Washington, D.C. 20250, **Honey Market News,** Market Reports Section, Fruit and Vegetable Division, Market News Branch, 2503 South Bldg., Washington, D.C. 20250, **Price Support Program,** Commodity Analysis Division, Agricultural Stabilization and Conservation Service, USDA, Washington, D.C. 20013, Harry Sullivan, Tel. 202-447-6758.

Extension Service (Federal) Paul W. Bergman, Pesticide: Use & Impact Assessment, USDA, Washington, D.C. 20250, Ph. 202-447-3511.

INDUSTRY ORGANIZATIONS

American Bee Breeders Association— Pres., Roy Weaver, Jr., Rt. 1, Box 256, Navasota, TX 77868; First Vice-pres., Lawrence O'Ferrell, Box 221, LaBelle, FL 33935; Second Vice-pres. Fred Blossman, P.O. Box 905, Moultrie, GA 31768; Sec.-Treas., Delaine Harrell, P.O. Box 215, Hayneville, AL 36040.

American Beekeeping Federation—Pres., E. Randall Johnson, 720 Fletcher Dr., Nampa, ID 83651; Vice-pres., Reg Wilbanks, P.O. Box 12, Claxton, GA 30417; Sec.-Treas., Frank A. Robinson, 13637 N.W. 39th Ave., Gainesville, FL 32606, Ph. 904-332-0012.

American Honey Producers Association— Pres., Glen Gibson, P.O. Box 368, Minco, OK 73059, Ph. 405-352-4126; Vice-pres. Richard Adee, P.O. Box 368, Bruce, SD 57220, Ph. 605-627-5621; Sec. Kay Gibson, Box 368, Minco, OK 73059.

American Honey Queen 1986— DeAnn Rahija, Kansas

Apiary Inspectors of America— Pres., James Paswater, Calif. Dept. of Agric., 1220 N. St., Rm. A-357, Sacramento, CA 95814; Vice Pres., Marion Ellis, State Apiarist, Neb. Dept. of Agric., P.O. Box 94756, Lincoln, NE 68509; Sec., I. Barton Smith, Jr., State Apiary Inspector, MD Dept. of Agric., 50 Harry S. Truman Pkwy., Annapolis, MD 21401, Ph. 301-841-5920; Treas., Willard Kissinger, State Apiarist, Montana Dept. of Agric., Agric. & Livestock Bldg., Helena, MT 59620

California Honey Advisory Board— Manager — Marilyn Kiser, 522 W. Napa St., Box 265, Sonoma, CA 95476, Ph. 707-935-1185.

Eastern Apicultural Society of North America, Inc.— Chairman, Robert Cole, Rt. 1, Box 175, Blowing Rock, NC 28605; President, Dr. Dewey Caron, Dept. of Entomology, P.O. box 1303, Univ. of Delaware, Newark, DE 19717-1303 Secretary, Loretta Suprenant, Miner Institute, Chazy, NY 12921, Ph. 518-846-8020.

Western Apicultural Society of North America— Pres., Doug M. McCutcheon, 5940 Angus Place, Surrey, B.C. V35 4W7, Canada, Ph. 604-574-7941; Vice-pres. Wilford Baird, 393 E. 4750, No. Provo, Utah 84601; Sec.-Treas. Zandy Neese, 711 College, Woodland, CA 95695, Ph. 916-661-3659.

Honey Industry Council of America— Chairman, Binford Weaver, Rt. 1, Box 111, Navasota, TX 77868; Sec.-Treas., Frank A. Robinson, 13637 N.W. 39th Ave., Gainesville, FL, Ph. 904-332-0012.

Ladie's Auxiliary of ABF— Pres., Mrs. Shirley W. Miller, P.O. Box 15807, Salt Lake City, UT 84115; Vice-pres., Kathi Brandi, 1518 Paradise Lane, Los Banos, CA 93635; Sec.-Treas., Jan Olson, 4532 Boone Ave. N., New Hope, MN 55428, Ph. 612-533-3462.

Mid-U.S. Honey Producers Marketing Association— Pres., Gary Reynolds, Box 363, Concordia, KS 66901; Vice-Pres., Bob Barnes, Dillion, MT 59725; Sec.-Treas., Glen Wollman, P.O. Box 458, Parker, SD 57053, PH. 605-297-4181.

National Honey Packers & Dealers Association— Pres., Neil Miller, Miller Honey Farm, 1167 N. 600 W., Blackfoot, ID 83221; Vice-pres., Robert Appel, Sunstar Food Inc., 118 Iowa Ave., Streator, IL 61364; Sec.-Treas., David McGinnis; Exec.-Sec., J. Douglas McGinnis, Tropical Blossom Honey Co., P.O. Box 8, Edgewater, FL 32032, Ph. 904-428-9027.

Professional Apiculturists Association— Pres., Eric Mussen, First Vice-pres., Mark Sugden, Entomology Dept., University of Minnesota, St. Paul, MN 55108; Sec.-Treas., Malcolm T. Sanford, Entomology Extension Dept., University of Florida, Gainesville, FL 32611, Ph. 904-392-1801.

Southern States Beekeepers Federation— Pres., Steve Forest, Rt. 1, Box 135, Moravian Falls, NC 28654; Vice-pres., Paul Harrison, 978 Bramwell Lane, Stone Mtn., GA 30083; Sec., Lee Russell, 1895 Commerce Rd., Athens, GA 30607; Treas. John T. Ambrose, 1403 Varsity Dr., Raleigh, NC 27606, Ph. 919-737-3140.

The Canadian Honey Council— Pres., Jerry Awram, Box 637 Hines Creek, TOH 2AO, Alberta; Vice-pres., John Uhrin; Executive Member—Bob Knox; Sec.-Treas., Linda Gane, P.O. Box 1566, Nipawin, Sask. SOE 1EO.

Canadian Association of Professional Apiculturists— Pres., Don Dixon, 911 Norguay Bldg., Winnepeg, Manitoba R3C OP8; Vice-pres., Doug McCutcheon, 32916 Marshall Rd., Abbottsford, B.C. Canada V25 1K2; Sec.-Treas., Lorne Crozier, P.O. Box 550, Nova Scotia Dept. of Agric., Truro, Nova Scotia, Canada B2N 5E3, Ph. 902-895-1571.

American Mead Association— Director; Pamela J. Spence, 4236 Fry Rd., Ostrander, OH 43061.

North American Apiotherapy Society— Pres., Ann W. Harman, 15621 Aitcheson Lane, Laurel, MD 20707, Ph. 301-253-5313; Vice Pres., Dr. Stan Somerfield, 6295 MacDonald Ave, Montreal H3X 2X3, Quebec, Canada; Secretary—Treasurer, Ernest H. Miner, Jr., 9933 Kelly Rd., Walkersville, MD 21793; Exec. Director, Charles Mraz, Box 127, Middlebury, VT 05753, Ph. 301-253-5313.

Agricultural Technical Institute — Beekeeping— Wooster, Ohio 44691, Ph. 1-800-647-8283.

INTERNATIONAL ORGANIZATIONS

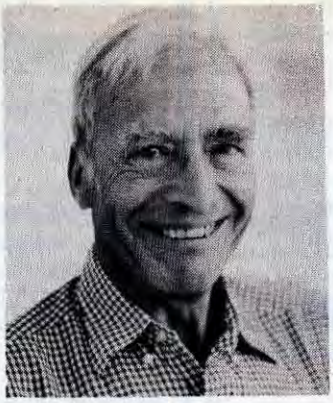
International Bee Research Association— Hill House, Chalfont St. Peter, Gerrards Cross, Buckinghamshire, England SL9 0NR. (Write for our free catalogs of publications on beekeeping and allied subjects.)

Apimondia— International Federation of Beekeepers' Associations — Italy, Rome, Corso Vittorio Emanuele 101. President, Prof. Eng. V. Harnaj (Romania); General Secretary, Dr. S. Cannamela (Italy). Periodicals: Apicata (quarterly); Agrindex (monthly). (Write for our catalogue of publications on beekeeping and allied subjects.)

NOTE: Where we did not hear from a state or organization we repeated last year's listing.

Siftings

Charles Mraz
Box 127
Middlebury, VT
05753-0127



There appears to be changes taking place in the Food and Drug Administration relative to "Health Claims" that can be made on food package labels.

For a number of years it was illegal to make health claims by food manufacturers on their labels. If such claims were made, it was no longer classed as a food but as a drug, requiring the same extensive testing for safety, efficacy, etc. as for cancer drugs, for example.

Perhaps you may remember the classic book that sold so much honey in the U.S. and Japan, *"Folk Medicine"* by Dr. D.C. Jarvis of Vermont. After becoming a best seller, the FDA ruled that this book could not be displayed in the same room where honey was being sold. The FDA continued it was the same as if the book was a label on the jar of honey, thereby making illegal health claims. Many stores that displayed *"Folk Medicine"* had honey seized and impounded by a Federal Marshall, as some of mine was at the time. To get your honey back it was necessary to sign a statement to cease and desist displaying the book with the honey, or go to court and fight the case.

Most of us paid the fine and signed up, however, one store took it to court. As I heard the story, the lawyer fighting the case for the store found out that the Judge presiding was quite religious. The lawyer pointed out, that, according to the FDA ruling, it was illegal to have the Holy Bible in the same room in a store selling honey. This sent a jolt to the Judge and he demanded to know why. The lawyer explained that in the Bible, King Solomon said, "Eat thou honey, it is sweet to the taste and health to the bones." The lawyer pointed out, this constituted illegal labeling as honey was not, "health to the bones," to acceped medical opinion. Therefore honey and the Bible cannot be displayed together.

The judge demanded an explanation from the FDA lawyers. This apparently was something they were was not prepared for. When a satisfactory explanation was not forth coming, the judge told the FDA lawyers to get out of court and if he saw them again he would probably throw them in jail.

Now, apparently if they can be proven, health claims for food can be made on package labels. Anyone that watches television should be aware of this by the advertising of foods containing fiber to help prevent colon cancer. For a long time it was claimed that diet had no effect on causing or curing cancer. However, recent research has proven fiber can help prevent colon cancer because its bulk makes for better bowl movement, and there are some protective factors in the fiber that actually prevent cancer development.

Recently an ad for oatmeal on TV made the claim that the fiber in oats could help reduce triglycerides in the blood, thus reducing danger of heart disease. This new ruling, permitting health claims on labels of food (if they can be proven), should be of tremendous importance to beekeepers to offset the beating we are taking with bad publicity, that honey may be bad for infants and children. We must take advantage of this opportunity to put honey back into its rightful place in the diet as a health food for people of all ages.

In August, 1981, the U.S. Dept. of Agriculture Research Service sent out a public release to the effect, "The kind of sugar eaten can make a difference." Sugars tested were monosaccharides (dextrose and levulose, as in honey), disaccharides (table sugar) and polysaccharides (starches). It reported various adverse metabolic changes among rats consuming dissacharide (table sugar) diets.

"Rats displaying the disaccharide (table sugar) effect had larger livers, increased fat inducing enzymes, and higher levels of insulin in the blood, and more body fat. Most of these changes are considered risk factors for diabetes and heart disease in humans. This problem was not so evident in rats on equivalent monosaccharides (as honey), or on polysaccharide diets." It goes on, "further research is being done to determine the mechanism by which the body recognizes and reacts to disaccharides."

Just think what this would mean to beekeepers if this is proven by the U.S. Dept. of Agriculture. Then we should have no problem to get permission to advertise on our honey labels, "Use honey in your diet to help prevent heart disease".

How many people die of cardiovascular (heart) disease every year? About one half of all deaths in the U.S. today are from the many forms of heart disease. Biopsies on young people, in their early 20's, start to show early stages of arterial sclerosis, perhaps caused by the high sugar consumption of infants and children.

Needless to say, if it does prove that using honey in the diet, in place of sugar (sucrose), reduces deaths from heart disease, there would be no such thing as a surplus of honey. The consumption of sucrose in the U.S. is over 100 lbs. per person per year, whereas consumption of honey per capita is less than two pounds per year!

If the national beekeeping associations spent half the effort in time and

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money in research to prove that honey is still the health food it always was as they do in trying to raise the price, the tremendous demand for honey would be higher than we ever thought possible. In fact, it would put honey out of reach for most people. It is great to think about these possibilities. But we need not worry, for the past history has shown nothing will be done. We will continue to be kicked around with bad honey publicity as long as we do nothing to stop it.□

Adopt — A What?

You've all heard of adopting a cabbage patch doll and you're probably aware of a fund raising technique called "Adopt a Park", "Adopt a Tree' program, etc. They provide a catchy and effective means of promoting awareness and committment to your project while generating funds as a bonus.

At the Ramsey Natural Center in Alexandria, Virginia, they use this idea to raise money for the construction of an indoor observation hive. For $1.00 an individual could adopt a bee. As an adoptive parent, he or she received a baby bee certificate and an invitation to a special "unveiling" program after the project successfully raised the $450.00 necessary to build a hive. The queen bee certificate was sold for $15 and that parent received special recognition for the important contribution that he or she and the queen made to the hive.

The project raised the necessary funds in a few months and the founding colony of honeybees was placed in it's home. The "parents" have visited the hive again and again, some even requesting additional adoption papers upon learning that the average honeybee lives only six weeks! The hive has become their most popular exhibit — a focus and inspiration for many educational activities and a source of endless fascination for both visitors and staff.

Give you any ideas?□

LESS GOVERNMENT HELP

The *New Zealand Beekeeper* reports a move by the government to progressively reduce support for their agricultural producers. They compare it to the United States. In the editorial they recommend that the beekeeping industry put more emphasis on expanding the market for bee products through promotion. Sound familiar?□

Ireland Reports Slugs In Hives

A result of the continuous wet weather is the presence of slugs in hives; they thrive on dampness and hence the plague of slugs this last season. They seem immune to bee stings, or do the bees tolerate them, and make a mess of combs, generally at the back of the hive. Draza pellets scattered on the ground in front of the entrance will control the slugs.□

Beekeeping In The Third World

by ARNOLD KROCHMAL 119 Bell Road Asheville, NC 28805

During a lifetime spent working in agriculture in odd corners of the world, including Greece, Afghanistan, Honduras, Virgin Islands and Puerto Rico, and serving as an agricultural consultant in the Dominican Republic, Jamaica, Montserrat and Surinam, I have become convinced that the typical American government approach is pretty much without value to the poor peasants of the world.

On my last overseas consulting assignment, in May of 1984, in the Dominican Republic this heavy-handed approach of Americans became quite apparent.

I had been to the Dominican Republic twice before, once in 1964 during the last great revolution which was put down by American troops and the Organization of American States.

I am fluent in Spanish, and pretty well knew my way around the country. After meeting with some people I made three recommendations for creating jobs, augmenting food supplies, and bringing in some foreign currency, desperately needed for buying foreign items from gasoline to medicines.

My first recommendation was to increase beekeeping in the Republic by a modest program which called for a young Dominican to be sent to the University of Georgia for a year program they have there. The industry doesn't need a Ph.D and research—it needs modest expansion among the poor peasants who would gain an improved diet and some small cash from a few hives. We also asked for a modest sum for posters praising beekeeping, and some effort to be spent inventorying nectar sources and seeking American companies which might provide aid. The total amount we suggested was in the neighborhood of $45,000 the first year.

A lady beekeeper in central Dominican Republic welcomed us on a visit to observe her activities.

In the Republic there is a small factory producing all of the equipment needed for beekeeping, and a German food technologist who has become much involved in encouraging beekeeping and pollen production. This man went to Washington to meet with the Food and Drug Administration to study the requirements for pollen processing. He and his partners have provided something like 8,000 beehives to local farmers. When the crop is harvested the beekeeper has some of his income deducted to pay for the equipment that has been provided him on credit.

Our recommendation was rejected by the coordinator, an American sociologist who recommended cotton, strawberries and tomatoes. These are industrial crops and regretfully to the American mind often the sound of tractors is soothing. The Chilean team leader accepted the bee recommendation, although we have heard nothing more since then.

Local people with a modest amount of training and a pick-up truck to reach rural people is needed. Vocational training like that offered by the Salesian Fathers in La Vega, Dominican Republic, is a fine

way. University courses do not reach the actual beekeepers, but a future manager of a large farm.

If we are going to help the poor peasant we must help him directly and there is no simpler and inexpensive way than encouraging beekeeping. An industrialized large scale farm project will not provide work for the peasant nor augment his income.

Some of the hive products, such as pollen, wax and honey would wind up in foreign markets, including our own. But the quantity would be very small, and the economic gains to the Dominicans for example, would enable them to use the hard currency to buy the products of the industrial countries, such as the United States, and would in time, begin to make American cash transfers become smaller, relieving the U.S. taxpayers to some extent, and reducing the danger of hungry peasants becoming Marxists in desperation.

Marxism doesn't have to be exported from Cuba or Nicarauga. It, or what the media may call Marxism will arise when the poor peasant feels there is no way for him to earn a little money to feed and clothe his family. Beekeeping provides just such an opportunity, and our overseas projects should begin to think 'small' and put the large mechanized programs on the back burner for awhile.□

These hives are located in a semi-arid part of the Dominican Republic, but provided an adequate nectar flow for a good honey production. We want very much to complete a survey of nectar plants in the country and time of the bloom.

The Solitary Beekeeper

By DR. JAMES TEW.

The Agricultural Technical Institute Wooster, Ohio 44691

Speaking of Africanized Bees

It is part of my job responsibilities to make radio tapes for distribution across Ohio. They're very short. The kind of "filler" that turns up in the early morning or around noon mixed in with the agricultural news. They may be run over a period of several months so there can be no reference to time or dates. They're not really hard to do, but practice does help.

Since I had just returned from a trip to Venezuela, I was asked to stop this past week to do one on the "Killer Bees". The only thing that never changes is that everything changes. The radio format no longer was able to be the usual interviewer/interviewee concept. It would be only the authority introducing his topic and himself and then presenting a very brief discussion on the material. That didn't sound so difficult.

My opening grabber statement was to be "Are Africanized bees really as bad as we've heard?" The immediate response to that from the public relations man in charge was that no one knew what Africanized bees were, **but** everyone knew what "killer bees" were. I explained that we really didn't like to use that term and then he explained that if I didn't, few people would know what I was talking about.

OK — I'll do it, but somewhere in the piece I'll take 20 of my 120 seconds to say that they were not killers in the worst sense. So I began.

"Are killer bees really as bad as we've heard? Killer bees, in fact, have killed very few people. We lose more people in highway deaths in Ohio in a month than we lose all together from bee kills." That didn't work. Even as I was speaking, I envisioned two groups of bodies: one labeled "Ohio Highway Deaths" and the other labeled "Killer Bee Deaths". I asked to start the taping over.

"Are killer bees really as bad as we've heard? Hi, I'm Dr. James Tew, extension specialist in beekeeping for Ohio State University." And then I began to get into the subject. Things went better this time.

"The bees are aggressive. They can be worked. The problem has great potential for solution and importantly, Africanized bees (I changed the name from 'killer') are not in the U.S. Even if they got to the U.S. and even if they, at some time, would get to Ohio, most people would never come in contact with them. Infrequently, people cutting firewood or taking walks in the forest might be exposed." I'm getting into trouble again. "The simple solution is to run away." And I suppose, if one is following my directions, to leave their saws, trucks, firewood and everything else behind. Great — just great.

I began to stall more deeply. "But this will rarely (?) ever happen." Cut!! Do the tape again.

I was getting rattled. The public relations man was not quite as patient as he had been. I boldly decided just to say very plainly what I had been trying to say with a great abundance of jargon.

"Are killer bees as bad as we've been led to believe?" (2 second pause)"Hello. I'm Dr. James Tew, OSU

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BEE TALES

by N. EUGENE SHOEMAKER

One of the fun things for the hobbyist beekeeper to do in the spring time and early summer is catching swarms. One meets some interesting people and certainly gets into some very amusing situations. Naturally the swarms you catch are not from your apiary for you take such good care of your bees that you prevent swarming. So where do you get the swarms you catch and how do you learn about them? First, you should record your name and telephone number with the County Farm Agents Office and tell them you will remove unwanted swarms. The same message could be given to the Bee Supply dealers, the exterminators, the Police Department and other Borough and Township officials in your vicinity. Most of these people can be depended upon to give you reliable information.

Usually when you hive a swarm you have an audience. You should remember that most of the people who watch you have had the unpleasant experience of having been stung by an insect. Maybe they became frightened by the pain and swelling and even paid a visit to a doctor for treatment. Now they see you handle the bees with such ease and safety and inadvertently you are putting on the best show they have seen for awhile. Many times these shows gather quite an audience. Each of the people in the audience tell about the show later and the story is embellished with the telling. Word in this way gets around and so you will get more calls because of these shows.

One should not be surprised to find that bees to some people means any insect that flies and looks dangerous. Because of this you will get calls that may not always be reliable so you will be led on some wild goose chases that turn out to be encounters with hornets, wasps or yellow jackets. When you find yourself confronted with the hornets etc., you will be expected to remove the same from the persons property. One prime example of this last August was a call from a lady offering me a swarm of bees. I told her I did not believe they were honeybees and anyway a swarm in May a load of hay, a swarm in June a silver spoon, a swarm in July, let them fly. Now this is even later, this is August and if it was a swarm of bees I would have to literally feed them to keep them over the coming winter. She persistently pled with me saying they could not mow the lawn because of this very large ball of bees. I said, "I believe it's a hornets nest"and she said again that she was quite sure they were bees. Well I was so right; I sprayed the hornets, cut them down and put them in her garbage can. I got in my car and said "I am happy to have been of service" and departed.

I reward the people who call me and actually tell me of a swarm of bees and I also reward the person on whose property the swarm is hived with some honey. This should help their memories in the future when they are deciding who to call.

It is always interesting to me to see the kind of bees in the swarms. Mostly they are Italian but recently I have been catching some swarms that are quite dark in color. I take them to be Carniolan or hybrids of this race of bees. I can well recall back in the 1930's and 1940's there were quite a few colonies of Black German bees and hybrids as the result of crossing with Italian stock. These black bees were easily excited and would frequently run down and form a ball of bees on the bottom of the frame you were handling. Then if they fell off, as frequently happened, and landed on your foot they would run up your pants legs and make life interesting. These bees seem to have vanished completely and you are spared this fun. Comb honey from those black bees always seemed white because they did not fill the cells quite full and the caps were away from the honey. This made the comb honey seem white. Another observation is that the gentleness of bees has greatly increased over the years. Genetics is a wonderful science.

I practically always hive swarms on foundations. Swarms may be desertion swarms from a diseased colony. This is especially true of late swarms and although drawn comb is preferred by the bees if perchance you have a swarm from a colony diseased with American Foul Brood the honey that the bees will be carrying will contain the spores of the diseases. If you hive the bees on foundations they will have to digest the honey to draw out the combs, and will not store any of it which could later be fed to larva bees thus preserving the infecting of them with the disease.

The greater the interim between the swarm leaving the hive and their finding a new home the more of the honey they are carrying with them will be consumed and the worse their disposition becomes. Bees that have hung for sometime as a swarm can be handled more readily and with less stinging tendency if they are sprinkled rather generously with sugar syrup. This sweetens their disposition it seems. Therefore, when I go to hive a swarm I carry a small can of sugar syrup with me as part of my equipment, just in case it is needed.

The largest audience I had last summer was at Suburban High

School. The swarm was in a small tree on the school lawn. I could reach it by standing on the bumper of my car. The ground was dry and the principal of the school had given me permission to drive my car over the lawn to the bees. I shook the bees into a cardboard box and then dumped them into the hive on the ground. I made several trips with my box to get as many of the bees as possible away from the school yard. When I decided I had most of them I pulled off my veil and sat on the car bumper to watch and see if the bees were content in their new home. All of a sudden there was a great round of applause. I looked up at the school to see the eight or nine classroom windows all open and lined up with students. I guess it all looked easy and I wonder how many of those kids caught the bee fever?□

Handy Beeswax Mold

Oscar Nightingale of Salem, Ohio has suggested that half gallon of milk cartons make good beeswax molds. You pour the molten wax into the container, let it harden, then later peel the container off of the cake of wax. This gives you uniform rectangular chunks of wax that can be easily stacked and stored.□

extension beekeeping. I recently visited USDA scientists in Araure, Venezuela. Unfortunately, the bees there, on some occasions were very aggressive, but never totally unmanageable by an experienced beekeeper. If they should get into the U.S., and there's no obvious reason why they won't, they could be potentially disruptive to the beekeeping industry, but only on the rarest occasion would a non-beekeeper be affected. Some incidents have occurred in Central America in which massive stinging attacks reportedly killed someone. Make no mistake that even one death is horrendous, but fortunately, such instances rarely occur. We frequently take much great risks in the routine of our everyday lives."

"Many competent scientists are working on the Africanized bee problem. Progress is being made, but many questions remain unanswered just now. Africanized bees are not currently in the U.S. Even if they were and dead specimens were being examined, they would be indistinguishable to the uneducated observer. This potential problem has genetic and managerial solutions. Beekeepers and scientists need public support to develop and implement these solutions. Thank you."

110 seconds—not as smooth in spots as I would like, but this was a "take".□

QUEEN REARING: Theory and Practice

Part II. Queen Rearing Systems

by Roger Hoopingarner Dept. of Entomology Michigan State University East Lansing, MI 48824-1115

Introduction

In Part I of this article I discussed how all queen rearing systems depend upon the reduction or loss of the queen pheromone to produce queens. This is an important fact to remember and could help explain why sometimes it seems easier to raise queens than at other times, or why one colony will be better at producing queens than another. A beekeeper can take advantage of certain colonies that are in the process of supersedure and raise queens, though this is generally so unreliable that regular systems have been developed. What must be done to make a colony a queen rearing unit is to either eliminate or reduce the queen pheromone level within the colony, or at least to reduce the pheromone level of some of the bees within the colony. If a person only wants to raise a few queens, or in fact only wants to replace the queen in the colony, then the simplest scheme is to make all, or part, of the hive queenless. In a feral colony, supersedure takes place when the pheromone dips below the threshold level within the individual bees. Unfortunately, this can happen at any time of the year. A beekeeper, on the other hand, can determine when a colony will replace the queen and can pick a time that is best for the colony's honey production. For example, a period of queenlessness in late August probably does very little harm to the colony. By contrast, even a few days without eggs in early spring could have serious effect on production. A major reason why many beekeepers re-queen on a yearly or regular basis is because then THEY determine when the replacement takes place.

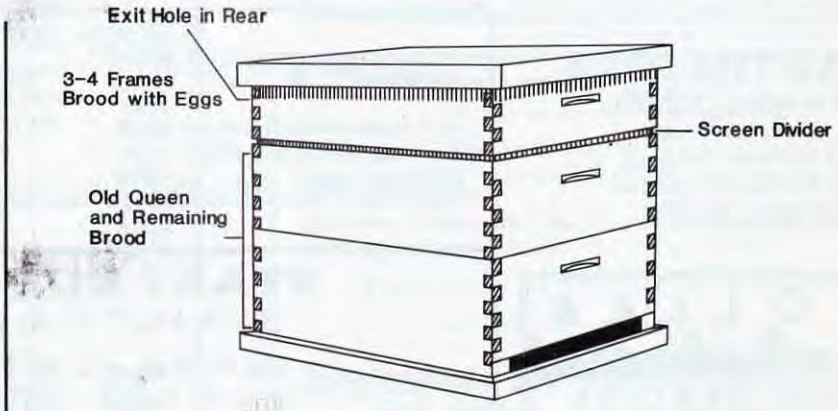

FIGURE 1. Division nucleus (nuc) above a normal colony.

What follows are some typical queen rearing systems. There are probably as many variations as there are beekeepers. What needs to be remembered is that some disruption of pheromone level (or pheromones) within the individual bees must take place. The queen within the colony could be young and vigorous and producing lots of pheromone, yet if the distribution of this pheromone within the colony is not good or complete the colony can be used to raise queens.

In many of the queen rearing systems breeders use the grafting method for producing queen cells. This means that small (0-24 hr.) larvae are lifted out of worker cells and placed into beeswax queen cups using a flattened, curved wire. The queen cell cups are usually primed with diluted royal jelly, and are fastened from a cell bar (wooden slat) on an empty hive frame.

Division Nuc

If you only want to replace the queen within a single colony this may be the best method. All that is required is a screen stapled to a frame that is the same dimensions as a hive body (Fig. 1). Then three or four frames of brood and bees are moved above the screen to form the division. (This is obviously a queenless rearing unit.) Be sure there are plenty of bees on the frames because many will return to the hive below. Also there must be eggs, or very young larvae, in one of the frames of brood. The unit has to have a flight entrance and it is best if it is to the rear of the hive. The entrance can be a notch cut in the wooden frame or an auger hole drilled in the hive body. This unit will raise a queen about 75% of the time. Check the division after two or three days and if you do not find queen cells add a new frame, with eggs, from the colony below. This additional visit will usually increase your percentage of successful divisions.

Allow at least three weeks for the queen to emerge and begin laying eggs. I like to have the queen laying well before she is used to re-queen the

FIGURE 2. Queenright queen rearing colony.

colony below. It is best if the old queen is found and killed, but even if the two brood nests are just united the young queen is almost always the survivor.

I find that the best time to do this type of queen rearing is just after the main honey flow, which for us is mid August. This allows time for the queen to be reared and begin laying, and to unite the brood nests before late fall.

Queenright Colony

Variations of this system are probably used by more queen breeders and beekeepers than any other method. It allows for continuous queen rearing while maintaining a more or less normal colony. The colony is arranged as seen in Fig. 2. Modifications occur in that some beekeepers place an empty hive body above the queen excluder to force more separation of the two brood areas. I have found that most colonies will raise queens with the two brood areas separated only by the queen excluder, if the queen cells are begun in a swarm box or starter box. (See description of the starter box below.) This is the usual pattern with this queen rearing method, that is, after grafting the cells are put into a queenless starter box for about 24 hours. After that time the cells are transferred to the queenright rearing colony.

The upper brood area of the rearing colony is maintained with four or five frames of young, unsealed brood. This brings most of the nurse bees close to the queen cells that are placed between these frames of brood. These colonies are able to raise 60-80 cells/week. The rearing colony will be maintained in good condition if the frames of brood are exchanged once a week. Frames of young brood being raised above the excluder and the sealed cells returned to the lower brood nest to emerge and have more eggs laid in them by the queen.

The starter box is made up of honey AND pollen frames and stocked with plenty of young bees. Some queen breeders use a starter box continuously by adding young bees occasionally, and then periodically starting fresh. Others return the bees from the starter box to the hive they were obtained from after the 24 hours. This means that a box would be made up each time cells are grafted. Most of the year I can use a screen divider with a hive body over the top of the colony where I get the young bees for my starter box. It is relatively cool here in the north. After the 24 hours the screen is removed and the bees return to the colony below. When it is very hot I use a separate box, that has a screened bottom for ventilation, that can be kept in the shade the entire 24 hours.

This queen rearing method uses two types of colonies. First, the starter box is queenless and as such will start queen cells easily. The cells are not continued within this colony simply because of the cost (in bees) for only a few queen cells per unit. The queenright colony will raise or continue to raise the started cells because the queen pheromone is not being distributed completely throughout the hive because of the queen excluder and the separation of the brood into two areas. It is also possible that the "foot print" pheromone is absent from this area because of the queen excluder.

I have been able to raise queens in some colonies of this type without using a starter box to begin the cells. In those cases it was probably that the queen in the colony was old and producing insufficient pheromone, and thus the colony was in supersedure mode.

Queenless-Queenright Colony

Beekeepers using this type of queen rearing system again have many variations. Basically the colony is divided into two halves with a queenright portion and a queenless portion, one part directly behind the other. The difficulty is to maintain the queenless portion with young bees in order to raise good queens. There are many variations among the queen breeders as to how the queenless portion is maintained. Some exchange brood much like the queenright system above, while others move the queen and/or rotate the position of the two units of the colony so that field bees will be exchanged and thus you have two "normal" colonies. Since there is only one queen the population is divided between the units and thus there are never two very strong colonies. This system will also raise 60-80 queens per week, and it is quite saving on bees since there is no starter box that tends to be hard on bees since it shortens their life.

Sealed Brood Colony

This queen rearing method was conceived by the late C.L. Farrar of the USDA and the University of Wisconsin. I did research on the system during my doctoral studies at the University of Wisconsin under Dr. Farrar. The fundamental idea of the system is that the only unsealed brood, or larvae, to be fed by the queen rearing unit would be queen larvae. In order to accomplish this the newly laid eggs of the queen rearing colony, that will become the workers of the colony, are transferred to a reservoir or brood rearing colony until they are sealed, they are then

returned to the queen rearing colony to emerge. Theoretically then the queen larvae that are placed into the queen rearing colony should be so well fed that there would never be small or underfed queens. The diagram of these colonies is given in Fig. 3. The combs, with the eggs the queen has laid in during their stay in the cage, are rotated out of the cage into the brood feeding colony twice a week (3.5 days). A complete rotation would be three weeks (21 days) and the bees should be just emerging from the combs as they are returned to the queen laying cage. The frames of brood are numbered 1-6 for the six exchanges of frames in the 21 day cycle. Both types of colonies are maintained as relatively normal colonies except that the reservoir colony is never a very productive (honey) colony. This is because it is used to feed all the young, unsealed larvae of the queen rearing colonies as well as their own larvae. The trick to making this system work is that the queen excluder cage area (dotted line in the diagram), where the queen is confined to do her egg laying, must be absolutely queen tight.

The original system was developed on 12 frame, $6^{5}/_{8}$" bodies, which makes rotation very easy. It can be used with 10 frame hive bodies but is somewhat more complicated because there isn't the room within the one hive body to keep all the frames and queen cells too. There are 12 frames/colony within the rotation cycle. Four frames (unsealed larvae and eggs) are in the reservoir colony from each queen rearing colony at any one time (marked with an A or B in the diagram). If each brood rearing (reservoir) colony is to feed and care for the unsealed brood of two queen cell colonies, it takes more than one hive body to hold the brood if you are using 10 frame equipment. These queen rearing colonies can also raise 60-80 cells per week.

This method works because the pheromone(s) are not allowed to circulate normally, and possibly because the nurse bees do not have brood to feed and are thus replacing a "defective" queen. An added advantage of this system is that larvae of known young age are always present at the

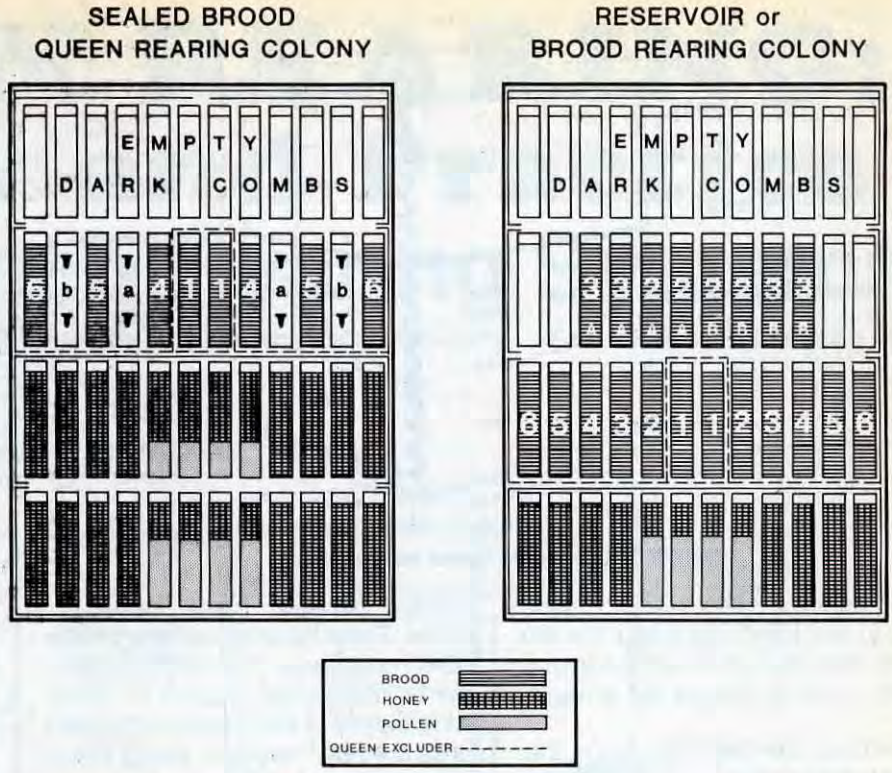

FIGURE 3 — Sealed-brood queen rearing colony. A duplicate of the queen rearing colony (A) is not shown, except for the frames of brood (labeled B) found in the reservoir colony.

time the frames are removed from the laying cage every 3+ days and if this is your breeder queen you would have larvae of known age to graft.

These queen rearing systems that I have described are just some of the possible types in use by beekeepers and queen breeders. However, they do represent the major modifications of a colony that are used to make some of the nurse bees have reduced pheromone levels and thus raise queens. It should be possible for you to now compare other systems with these that I have described, and determine why or how they produce queens.

Next month I will present a timetable to use in rearing queens.□

Salt Peter Rags For Smoker

Cotton rags or old newspaper waded up and soaked in a solution of salt peter and rung out and dried make an excellent smoker fuel which does not burn fast and will not go out when you need it the most.

Some keep a crock or other container filled with the liquid and keep replenishing it with water and salt peter. A quarter or half pound of salt peter dissolved in a gallon of water will soak quite a few rags or wads of paper. When dry they light readily and fuse like a firecracker.

These dried rags should be kept in a closed container and away from heat or flame.□

NEWS and EVENTS

NOTICE: News & Events has always been an important part of our magazine, keeping our readers up-to-date on upcoming events, and the latest information around the world. However, sometimes things are sent to us too late, and by the time they reach us, the magazine has gone to press. Therefore, we ask that you PLEASE get your news information or meeting schedules to us by the 1st of the preceeding month of issue, i.e., April 1st for the May issue. YOUR COOPERATION IS GREATLY APPRECIATED.

Apimondia International Symposium May 12-14, 1986 Toulouse, France

The use of instrumental insemination of queen bees is becoming more important to the bee industry, to develop, maintain, and propagate selected stock. On an international level, continuing research in this area has produced very interesting and exciting results. We have by no means utilized the potential this technique is able to offer. Questions still remain concerning the technique, queen performance and breeding systems.

The Symposium is being held to honor the pioneers who developed the technique of instrumental insemination (I.I.) and to share new developments of the various techniques currently being used. All interested beekeepers are urged to attend this meeting. Those experienced in the art of I.I. will be asked to share their knowledge and compare methods. Those unfamiliar with I.I. will be given a chance to learn and compare technqiues.

Insemination equipment from all over the world will be displayed and demonstrated. Participants wishing to present papers, posters, technical displays or demonstrations should send an English abstract of no more than one page to be received by April 1, 1986. Virgin queens, drones and a CO_2 source will be available for those to demonstrate their equipment and techniques.

The suggested topics will be various, covering many aspects of I.I., these include:

Review of Reproductive Biology

Sperm Utilization:
Preparation, Rearing, and Conservation of Drones
Methods of Mixing Sperm
Sperm Dilutents
Long Term Sperm Storage
Quantity of Semen Given For I.I.
Pure verses Dilute Semen and Effects of Various Dilutents
Multiple I.I. Of Virgins With Semen From One Drone

Genetic Improvement:
Practical Bee Breeding Programs
Potential Control Methods of Africanized Bees
Woyke's New Inbreeding Method

Performance of I.I. Queens
Methods of Queen Introduction
Pre- and Post- Care of I.I. Queens
Queen Storage

I.I. Laboratory Design:
Time and Motion Studies For Efficiency
Computer Treatment of Data

Techniques:
CO_2 Dilution With Air
How To Avoid Contamination By Bacteria
Syringe Tip Comparison

For more information and details write to:

Institut De L'Abeille
Museum D'Histoire Naturelle
De Toulouse
35 Allees Jules Guesde
31999 Toulouse, France

E.A.S. Short Course August 5 & 6, 1986 University of Delaware

The annual Eastern Apicultural Society Short Course is scheduled for Tuesday August 5 and Wednesday August 6, immediately preceeding the main EAS Conference, set for August 6-9, 1986.

The Short Course and Conference will be held at the University of Delaware campus in Newark Delaware, and will include field work with the University's bee colonies.

The course will run two full days. The program will be targeted for intermediate-level beekeepers, but beginners and commercial beekeepers will find ample material for their own benefit. The program is specifically addressed to hobby and sideline beekeepers.

The program will be divided into two themes. On Tuesday, the theme will be INTERMEDIATE BEEKEEPING. Topics will include discussion on general management philosophy, the honeybee as part of the enivronment, management of one or more apiary locations, colony equalization, disease management — including chemotherapy, management for specific honey flows, pollination management, bee biology and other subjects.

An entensive field session is planned as part of the Tuesday program. Groups of 5 to 10 beekeepers will be allowed to work with one of the instructors on subjects set to include: making a full colony increase, using the double screen in bee management, queen storage methods, rearing a few queens, and the shook-swarm system of comb honey production.

On Wednesday, the day will be spent entirely on aspects of honey, in a program called THE WORLD OF HONEY. Topics to be included are: the biology of nectar secretion, liquid honey production, removing bees

from supers, honey extracting and processing, properties of honey, comb honey production, honey labels, honey marketing, making mead, and creamed honey production.

Serving as instructors in 1986 are: Dr. Dewey M. Caron, President of EAS and Entomologist, The University of Delaware; Dr. Clarence H. Collison, Entomologist, Penn State University; Dr. James Tew, ATI Beekeeping Coordinator and Extension Entomologist, The Ohio State University; Dr. Robert Berthold, Delaware Valley College, Doylestown, Pennsylvania; Mr. Karl Showler, Administrative Officer, The National Bee Research Association, London; and Dr. Larry Connor, Director, Beekeeping Education Service, Cheshire, Connecticut.

The registration fee for one day for the Short Course is $30, or a reduced rate of $55 for both days. The registration fee covers the cost of the course only; meals and lodging are additional charges.

Readers interested in obtaining full EAS Short Course information are invited to contact the Short Course Coordinator: Dr. Larry Connor, Beekeeping Education Service, P.O. Box 817, Cheshire, CT 06410 USA. Please submit a postcard, and you will receive information as it is made available. Registration will be handled by the Eastern Apicultural Society.

Quick Pesticide Detector Should Prove Valuable To Beekeepers

A new pesticide detector that provides simple and reliable on-the-spot test, within minutes, for less than $5 may prove a boon to beekeepers.

Beekeepers are often faced with contamination of their product or bee kills by pesticide applications to their forage areas.

EnzyTec. Inc., a subsidary of Midwest Research Institute in Kansas City, is marketing a detector that uses the enzyme, cholinesterase, to detect the presence of organophosphates and carbamates, which account for some 85 percent of the insecticides sold.

The detector is sold in a simple ticket form and has a sensitivity in a range of 0.1 to 10 parts per million. Because the detector employs the same enzyme that is inhibited by pesticides in insects and mammals, the sensitivity of the detector to the various insecticides has a high correlation with their toxicity.

"Fail-safe" in use, the detector operates on a color-change principle. If none of the suspect pesticides is present, the uninhibited enzyme reacts to produce a blue color. The color can develop only if all components are functioning. Should any part of the ticket be damaged or inoperative, there will be no color change, alerting the operator to check further.

Dr. Ivan Smith, President of EnzyTec, explains that a beekeeper has several opportunities to run the quick check to determine whether there is a problem and to identify its source if so.

"First," says Dr. Smith, "you can test the honey from the comb, diluting it with water before performing the test. Or you could wash the dead bees and test the water. If you find that pesticide is present in either of these cases, then you look for the origins in flowers or leaves where the bees may have been foraging."

Dr. Smith stresses that the enzyme detector is highly reliable, that it is quick, and that it is relatively inexpensive. Without such a test, most people would rely on guesswork, because they would expect to pay more than $150 for a laboratory analysis and results would generally not be received quickly enough to allow for any corrective action.

The detector is one in a series of pesticide-monitoring devices developed by MRI. Several have been honored by *Industrial Research* magazine as among the top 100 significant new products of the year.

American Honey Producers Association Jan. 13-17, 1987 Corpus Christi, Texas

The 1987 convention of the American Honey Producers Association will be held in Corpus Christi, Texas, January 13-17. This selection followed contact with convention officials in a number of cities in the Central South. Criteria for the selection was the same as in past years — economics, convenience of the attendees, physical convenience of the hotel arrangements and weather. The

headquarters hotel, Sheraton-Marina, is located on the bay front. Room rates will be: $39.00 for 1 or 4. Convention plans will be reported as they develop.

Fanshawe College
April 7, 1986
London, Ontario

Harold Killins, B.S.A., during the past eight years has taught his very practical course in beekeeping to 346 people who have registered.

This year there will be one course starting at Fanshawe College on April 7th, 1986. There will be four evening sessions taught at weekly intervals in the classroom. These will be followed by six sessions at monthly intervals on sunny Saturday afternoons in the apiary. All basic subjects will be taught including wintering, spring management, disease control, swarm prevention, sources of pollen and nectar, pollination and the harvesting and packaging of honey.

Practical experience will be gained by those who wish to handle bees in the apiary.

The course is designed for both the novice and the beekeeper who wants to improve his or her methods. Limited registration.

Apply early to Mr. Dan Link, Fanshawe College, Continuing Education, 520—1st St., London, Ont., Bay 20. Phone: 519-452-4425.

New Hampshire Beekeeper's Association — April 12, 1986 Webster, New Hampshire

The spring meeting of the New Hampshire Beekeeper's Association will be held in Daniel Webster Grange Hall, Webster, New Hampshire, April 12th fom 10:00 a.m. to 5:00 p.m. Lunch will be prepared by the ladies of the Grange — all beekeepers are welcome.

Federal Agencies Argue Over Jurisdiction

We, in the beekeeping industry, sometimes point out the health benefits of eating honey, so it is natural for us to follow with interest a recent controversy.

The Kellogg Company, which has launched a marketing campaign promoting its bran cereal with packaging claims of anti-cancer properties, has touched off a jurisdictional battle between the Food and Drug Administration and the Federal Trade Commission. The F.D.A. regulates package labeling and has tried to block Kellogg's campaign ever since it began last year. Its drafted guidelines would require a concensus of scientific opinion to support any health claim made for food. The F.T.C., on the other hand, which set the rules fo advertising, argues that research results substantiating the claimed benefit ought to be enough. The interagency dispute will probably be settled by the Office of Management and Budgets which usually arbitrates such jurisdictional disputes.

Other food companies have prepared health related campaigns for their own brand name products awaiting the outcome. If Kellogg gets the green light. as a result of the F.T.C. prevailing, there will, no doubt, be an avalanche of such campaigns hitting the market. Insiders are betting on the F.D.A. to win, but time will tell. □

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1. **False** Honey that is stored in old, dark combs will be darker in color than honey stored in light combs. The cocoons, propolis and other materials that accumulate in brood combs, not the beeswax, cause honey to darken.

2. **True** Honey production in the world has increased each year during the past six years. 1985 — 965 metric tons; 1984 — 940 metric tons; 1983 — 934.1 metric tons; and 1980 — 837 metric tons.

3. **True** Honey is a super-saturated solution, which means that it contains more dissolved material than can normally remain in solution. Such solutions are more or less unstable and in time will return to the stable saturated condition with the excess material coming out of solution. As a result, nearly all kinds of liquid honey will crystallize in time.

4. **False** The faster honey granulates, the smaller the crystals will be. Slow granulation produces large, coarse crystals.

5. **False** Fermentation usually occurs after honey granulates. During granulation, dextrose (glucose) separates from the liquid phase as crystals, while the other sugars remain in solution. As crystallization proceeds, the moisture content of the liquid phase increases, producing a favorable medium for fermentation.

6. **E)** 10% finely crystallized honey.

7. **C)** 8 ounces of honey.

8. **A)** 140°F.

9. Card honey is also known as comb honey or section comb honey.

10. 4¼ x 4¼ inches or 4 x 5 inches.

11. The word "Honey" must appear in bold type. (1 point).

    Name and address including zip code of producer or packer. (2 points).

    Net weight in both pounds and ounces. (2 points).

12. Freezing section comb honey or placing it in an atmosphere of carbon dioxide.

13. Sections are painted with melted paraffin or covered with masking tape to prevent the bees from staining them.

There was a possible 20 points on the test today. Check the table below to determine how well you did. If you scored less than 12 points, do not be discouraged. Keep reading and studying — you will do better in the future.

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14-12	**Fair**

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THE SCOTTISH BEEKEEPER — Magazine of The Scottish Beekeepers' Association, International in appeal. Scottish in character. Membership terms from A. J. Davidson, 19 Drumblair Crescent, Inverness, Scotland. Sample copy sent, price 20 pence or equivalent. TF

What do you know about the INTERNATIONAL BEE RESEARCH ASSOCIATION? The many books and other publications available from IBRA will deepen your understanding of bees and beekeeping: and IBRA membership subscription — inclusive of *Bee World,* a truly international magazine published quarterly in the English language — will broaden your beekeeping horizons. Details from IBRA voluntary representative H. Kolb, P.O. Box 183, 737 West Main, Edmond, OK 73034 (phone 405-341-0984); or from IBRA, Hill House, Gerrards Cross, Bucks SL9 ONR, UK. TF

DAIRY GOATS—for milk, pleasure and profit. Excellent for children, women and family! Monthly magazine $11.00 per year ($13.50 outside U.S.A.). DAIRY GOAT JOURNAL, Box 1808 T-3, Scottsdale, Arizona 85252. TF

BEEKEEPING. A West Country Journal—written by beekeepers—for beekeepers. 1.50p inland or 1.80p ($4.00 Overseas). 10 issues yearly. Editor, R. H. Brown, 20 Parkhurst Rd., Torquay, Devon, U.K. Advertising Secretary, C. J. T. Willoughby, Henderbarrow House, Halwill, Beaworthy, Devon, U.K. TF

SCOTTISH BEE JOURNAL. Packed with practical beekeeping. Sample copy from Robert NH Skilling, FRSA, 34 Rennie St., Kilmarnock, Scotland. Published Monthly, $4.00 per annum. TF

BEE CRAFT — Official (monthly) magazine of the British Beekeepers Association. Contains interesting and informative articles. Annual Subscription $5.10 (Surface mail) and $7.10 (Airmail). The Secretary, 15 West Way, Copthorne Bank, Crawley, Sussex, RH10 3DS TF

INDIAN BEE JOURNAL Official organ of the All India Beekeepers' Association, 817, Sadashiv Peth, Poona 411030. The only bee journal of India Published in English, issued quarterly. Furnishes information on Indian bees and articles of interest to beekeepers and bee scientists.

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WANTED

WANTED—All varieties bee gathered pollen. Must be clean and dry. Pollen traps available. Hubbard Apiaries, Onsted, Mich. 49265. Phone: 517-467-2151. TF

Wanted Bees or shares on my No. Dakota Location. Call 701-235-5964 after 7:00 p.m. 6/86

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HELP WANTED

Beekeepers & Helpers wanted for migratory Texas operation. Resume to: 17307 Windypoint Dr., Spring, TX 77379 TF.

Help Wanted: Commercial Outfit needs hired help for the 1986 season. Please write, don't call, to Golden Valley Apiaries, Rt. 1, Box 48, Fairmont, Nebraska 68354 5/86

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FOR SALE: Bee Operation on 15 acres. 14' x 60; wood frame building on cement. Also 20' x 30' storage shed. Excellent line of equipment plus 500 hives. 25 yard sites available mostly on Sweet Clover. Call 873-5900, Renaud Realty, Box 416, Tisdale, Sask. SOE ITO TF

Complete 700 hive operation in south western Manitoba including buildings, house, trucks and all related equipment. Write to:

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For Sale — All or part of package bee and queen rearing operaton in South Georgia. Consisting of 8 and 10 frame hives. Queen nucs, buildings, and other necessary equipment. Stover Apiaries, Mayhew, MS. Phone: 601-327-7223. TF

170 Strong colonies, never any disease 3—6⅝ with 3 frame feeder each, 6.00, 6⅝ supers A-1 equipment with extracting equipment. 804-556-4127 Virginia 5/86

Bee Equipment For Sale — 100 6⅝ supers exl. condition $9.50 ea. or quantity discount. Covers $1.00-4.00 ea. 50 frame Woodman extractor $550.00 1971 International Loadstar Bee Truck, 18 ft. flat bed $2000.00 top shape. Baldwin, WI 54002. PH: 715-684-2095 or 246-5534. 4/86

For Sale: Up to 250 two-story hives of bees right out of the almonds. You make the divisions. All new woodenware. $65 per hive. Call 509-448-0329. Joe Stephens, S. 4808 Helena, Spokane, Wa. 99223. 4/86

Two-hundred shallows with combs $9.00 each. Three-hundred deep supers $3.00 each. One-hundred inner covers $1.00 each. All disease free. Ph. 518-642-2488 4/86

FOR SALE: 90 colonies of bees in Seneca County, N.Y. Mike Covert, Box 324, Ovid, N.Y. 14521. Ph. (607) 869-9579. 4/86

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Absolute auction of all Bees, Bee Equipment, Bottling Equipment, (double-jacketed, electric heated, Stainless Steel Honey Tanks with mixing paddles), Honey pump, S.S. 6/12 Radial Extractor, S.S. Capping Melter, Bee Blower, New Supplies, Honey and miscellaneous equipment for bee handling and stove operation. 4/86

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