

March 1986

GLEANINGS  IN

BEE CULTURE



PUBLISHED BY THE A.I. ROOT CO., MEDINA, OHIO — SINCE 1873

BUILD YOUR BEEKEEPING ON A SOLID FOUNDATION

P.O. Box 1735
1318 11th St.
Sioux City, Ia. 51102
Phone 712-255-3232

P.O. Box 331
1 Mile E. of Watertown
off U.S. Hwy. 16
Watertown, Wis. 53094
Phone 414-261-5363

P.O. Box 385
550 E. Main
Pottersville, Mich. 48876
(517) 645-7629

RD #2 Rt. 17C
P.O. Box 267
Waverly, N.Y. 14892
Phone 607-565-2860

2357 Durham Dayton Highway
P.O. Box 178
Durham, Calif. 95938-0178
Phone 916-893-0921

P.O. Box 397
161 Tillman St.
Hahira, Ga. 31632
Phone 912-794-2785

2425 Carroll Ave.
P.O. Box 2411
Lynchburg, Va. 24501
Phone 804-846-0666

P.O. Box 7996
2534 Airways Dr.
Fresno, Calif. 93747
Phone 209-292-4666

P.O. Box 146
1169 Bonham St.
Paris, Tex. 75460
Phone 214-784-6145

Dadant & Sons, Inc.
Hamilton, IL 62341
Phone 217-847-3324

P.O. Box 270
190 Mary St.
Umatilla, Fla. 32784
Phone 904-669-2622

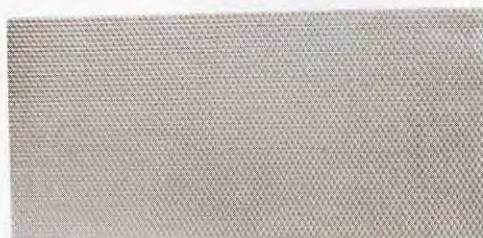
Write for our
beautiful new
full color catalog
It's free!

CRIMP-WIRED



Introduced in 1921, Crimp-wired Foundation was the first reinforced foundation to ever be offered to beekeepers. The steel wire is crimped to make shoulders that radiate strength in all directions throughout the foundation. Sturdy steel hooks at the top of each crimp wired anchor foundation securely into the wedge top bar frame.

DURACOMB



Duracomb Foundation introduced a new concept in the art of foundation making. An inner core of tough plastic is coated with pure beeswax on both sides and then milled with perfect cells of worker size. Duracomb completely eliminates the need for cross-wiring and embedding.

DURAGILT



Duragilt is the third addition to the Dadant line of reinforced foundations. It has the same tough inner core of plastic as Duracomb, but is further reinforced with metal edges that extend up into the top bar of the frame as well as down into the slot of the bottom bar. Communication holes are provided along the lower edge of the foundation.

PLASTICELL



Plasticell is the newest member of the Dadant Quality foundations. It's an all plastic foundation made with extended sidewalls to give your bees a headstart on the season. We think it's the best all-plastic foundation on the market today! Please try some. We know you will agree. (available with or without beeswax coating.)



John Root



Renee Harrison

John Root, Editor

THE A.I. ROOT CO., PUBLISHERS
P.O. BOX 706
MEDINA, OHIO 44258-0706

John Root, Associate Editor
Dr. Roger A. Morse, Research Editor
Dr. Richard Taylor, Contributing Editor
Renee Harrison, Advertising Mgr.
Rebecca Dull, Sub. Mgr.

Subscription Rates: United States subscribers, one year, \$11.20; two years, \$21.70. Single copy \$1.50. Other countries including Canada, Pan American countries and Spain (U.S. Currency only). \$5.75 per year additional for postage. Published monthly. Discontinuance: Subscription stopped on expiration. Change of Address: Give your old as well as the new and print the name to which the journal has heretofore been addressed. Remittance should be sent by post office money order, bank draft, express money order or check.

Articles are solicited. Stamps should be enclosed to insure return of manuscript to author if not printed.

Opinions expressed by the writers in these columns are not necessarily the opinions of the editors.

Microfilm copies available at University Microfilms, Inc., 300 North Zeeb Road, Ann Arbor, Michigan 48103.

Advertising rates and conditions will be sent on request.

Advertisers' Reliability: While the publishers do not guarantee advertisements in this journal, over the years very few complaints have been received.

Second Class Postage Paid at Medina, Ohio and additional offices.

POSTMASTER: Send Form 3579 to
623 West Liberty Street
P.O. Box 706
Medina, Ohio 44258-0706
Phone: (216) 725-6677

GLEANINGS IN BEE CULTURE

Since 1873

March 1986

(ISSN 0017-114X)

Vol. 114, No. 3

Created To Help Beekeepers Succeed

113 Years Continuous Publication by the Same Organization

THE WORLD'S MOST POPULAR ENGLISH LANGUAGE BEE JOURNAL

CONTENTS

Adventures in Bee Inspection, Part I	John N. Bruce	137
Allergic To Bee Stings. Relief Is Here	James O. Logan	123
Bee Talk	Richard Taylor	109
Bee Specialist	Elbert R. Jaycox	104
Beekeeping Reflections	Dr. James Tew	126
Cabbages and Queens	Jerry McGahan	119
Gleanings Mailbox		98
Monthly Honey Report		102
Musings On High Altitude Beekeeping	Bryan Kyle	125
My Duplex Two-Queen Colony	Loren Davis	131
News & Events		144
Obituaries		130
Observation Super	Lt. Col. John A. Guyton	115
Queen Rearing: Theory and Practice		
Part I	Roger Hoopingarner	129
Questions & Answers		106
Research Review	Dr. Roger A. Morse	111
Siftings	Charles Mraz	128
Squash Pollen		121
Testing Your Beekeeping Knowledge		
Clarence H. Collison		107
Washington Scene	Glen Gibson	113

COVER STORY

This beautiful motif quilt was presented as a wedding present to John Gallo by his sister Barbara Gallo Farrell. As you can tell a lot of loving work went into it.

**HANDBOOK ON
SWARM PREVENTION**
18 Pages of Text and Illustrations
\$4.00 Postpaid
H.E. WERNER
5 Hilton Road,
Wilmington, DE 19810

KEEP US IN MIND FOR YOUR BEES

TPW SUPPLIES PARTS
THE PLASTIC WAY
P. O. BOX 65
MOORESTOWN, NJ 08057
HIVES

**CASH IN ON HEALTH AND TASTE!
QUAIL EGGS**



Grow your own, additive free, for personal use or sale. 25¢ for complete catalog with "How-To" information.

G.O.F. Mfg. Co.
P.O. Box 1552-B, Savannah, GA. 31498

**INFORMATION ON BEEKEEPING
From Beginning to Commercial**

Comprehensive, 2- to 4-page informational leaflets on mites, diseases, management, queen rearing, equipment, and more.

Use them for: personal reference.
: beekeeping classes.
: gifts and sales.

Write for free price list.

Elbert R. Jaycox, The Bee Specialist
5775 Jornada Road North, Dept. G
Las Cruces, New Mexico 88001

**Gleanings In
Bee Culture
wants you. . . .**

to consider writing an article about your unique or unusual beekeeping experience. If you are a photographer send us your beekeeping related pictures.

Send to:

Gleanings In Bee Culture
P.O. Box 706
Medina, OH 44258

Mail Order Anywhere — FAST

10 YEARS OF PROVIDING

QUALITY -SERVICE -LOW PRICES

Containers (By the Case or by the Trailerload)
Foundation — Woodenware — Processing Equipment
Starline and Italian Queens — Nucs (In Season)

The Best — Wax impregnated nuc box available. Sample \$6.00 ppd. U.S.A.

Why spend more for less?
Call or Write Today and Save!

We will not be Undersold
Pollinations — Glass Max-ant Equipment, Ross Rounds

B & B Honey Farm

Rt. 2, Box 245 Houston, MN 55943
Ph. 507-896-3955 FREE CATALOG

OUR LABELS ARE FAMOUS

Englands most popular labels, attractive cottage & floral designs, in four colours & pressure sensitive.

Besides 1lb. any weight at all is available for this design

Design L1

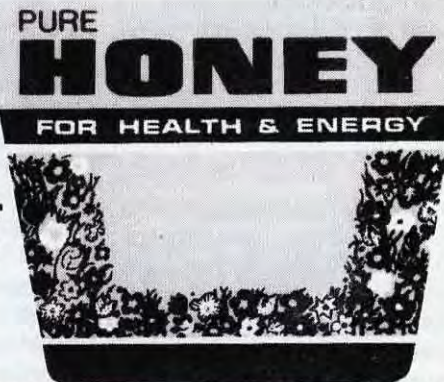


ACTUAL SIZE

Design L2

Per 1000 Labels only \$14.95 incl. postage! for either design, BARGAINS!

& it will only cost you \$7.25 extra for your own county & address to be overprinted!



WE PRODUCE MORE THAN LABELS BY THE WAY, COMPREHENSIVE 60 PAGE CATALOGUE ON REQUEST

E.H. THORNE (Beehives) LTD
WRAGBY, LINCOLN, ENGLAND.

Paul W. Pierce's Original Plastic Bee Frame

Stronger than wood — molded in one piece and beeswax coated.

For best price order direct
from manufacturer.

Toll Free in California:
1-800-BEE-MOLD

Toll Free Outside California:
1-800-BEE-COMB

PIERCO, Inc.

17425 Railroad St.

P.O. Box 3607

City of Industry, CA 91744-9990



HONEYWOOD BEE SUPPLIES

Box 2076
Nipawin, Sask.
S0E 1E0

HONEYWOOD FEEDING SYSTEM

for spring and winter colonies

1. **HIVETORQUE:** Weighing device for precise syrup feeding & determining the desired final colony weights **\$165.00**
2. **LARGE FEED PAIL:** 3.1 gal. for fall feeding. 3" stainless steel feeding screen. 2.25" screw cap fill hole.
3. **SMALL FEED PAIL:** 1.25 gal. for spring feeding or small populations. 2" stainless steel feeding screen, 1.5" filling hole.

**ALL FEEDERS
ARE RESISTANT
TO UV LIGHT**

4. **CAP PLUGS:** 1.5" & 2" for hive covers.
 - * Good bee space under pail
 - * Easily fits inside empty super for protected feeding
 - * Colonies empty pail in as little as 2-3 days



- **1 lg. pail US \$ 4.50 \$ 3.50 post & handling
- **5 lg. pail US \$22.50 \$ 7.90 post & handling
- **1 sm. pail US \$ 2.45 \$ 3.50 post & handling
- **5 sm. pail US \$12.45 \$ 5.70 post & handling

Buy American From American Bee Supply!

Tired of hearing about imports? Compare prices on these 100% MADE IN AMERICA Products!!!

FOUNDATION

8½" Long Hook Wire c/50	\$25.00
8½" Duragilt® c/50	29.00
4¾" Thin Surplus 5 lb.	20.00

WOOD

Hive Bodies Budget	\$3.50
6¾" Supers Budget	2.35
5¼" Supers Budget	2.20

SMOKERS

Stainless Steel 4 x 7 w/shield	\$15.90
Stainless Steel 4 x 10 w/shield	16.90

VEILS

Tulle	\$6.50
Alexander	7.50
Folding	6.50

Prices F.O.B. Lebanon, TN

New 1986 Catalogs now available. Spring is just around the corner. See us now for your bee supply needs.



AMERICAN BEE SUPPLY, INC.

P.O. Box 555, Rt. 7 Sparta Pike
LEBANON, TN 37088-0555



Phone (615) 444-7903
EASTERN STATES
1-800-BEE-STUF



Open M-F 8 a.m. — 5 p.m.

THE MONTHLY HONEY REPORT

Feb. 10, 1986

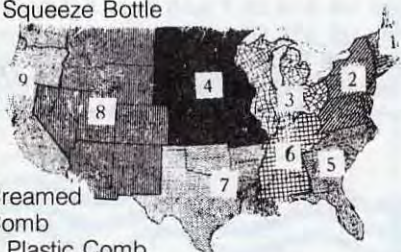
The following figures represent the current prices reported by beekeepers and packers over the country. They are based on reports from many states averaged out for each region. Where insufficient information is received no price is shown. The retail prices represent the price of each size jar.

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	45.00	34.50	40.00	47.55	37.80	37.20	36.00	37.75	42.50
60 lbs. (per can) Amber	40.00	29.50	38.00	42.50	33.00	32.40	30.00	35.87	38.50
55 gal. drum (per lb.) White	.52	.52	.41	.46	.64	.55	.55	.56	.58
55 gal. drum (per lb.) Amber		.50	.38	.59	.54	.52	.54	.51	.54
Case lots — Wholesale									
1 lb. jar (case of 24)	30.50	24.90	24.90	23.50	32.40	23.40	25.00	25.25	25.20
2 lb. jar (case of 12)	31.00	23.30	22.75	23.63	30.00	22.25	24.00	24.27	29.64
5 lb. jar (case of 6)	32.00	27.80	23.87	22.52	28.50	26.25	25.00	25.55	25.50
Retail Honey Prices									
1/2 lb.	1.00	.84	.65	.81	.90	.90	.90	.89	.89
12 oz. Squeeze Bottle	1.50	1.26	1.20	1.15	1.50	1.30	1.22	1.37	1.47
1 lb.	1.62	1.59	1.35	1.34	1.67	1.44	1.44	1.69	1.64
2 lb.	2.70	2.80	2.65	2.40	3.88	2.44	3.00	2.52	3.31
2 1/2 lb.	3.55	3.97		3.02	4.60	3.25	3.50	3.34	3.99
3 lb.	4.00	4.25	3.15	3.59	4.98	3.85	4.00	3.97	3.87
4 lb.	5.00	5.42		4.99	4.98	4.90	5.00	4.96	
5 lb.	6.50	6.50	4.95	5.95	5.75	5.37	5.75	5.79	5.47
1 lb. Creamed		1.75	1.45	1.56		1.39	1.50	1.70	1.54
1 lb. Comb	2.25	1.95	2.25	1.75	1.95	1.85	2.00	1.79	2.25
Round Plastic Comb	1.75	2.00	1.85	1.65	2.00		1.75	1.65	2.30
Beeswax (Light)	1.25	1.00	.95	1.05	1.10	.95	1.07	1.12	1.40
Beeswax (Dark)	1.15	.90	.90	.90	1.11	.90	1.02	1.05	1.20
Pollination Fee (Ave. Per Colony)	26.00	20.00	27.50	15.00	30.00	21.00	27.00	18.00	25.00



REGION 1

Honey moving very slow in Connecticut. Bee equipment not moving at all. Most bees were in good shape last fall but inspections show a need for March or early April feeding. Good flights on Jan. 18-91-20 and 21st. Mid-November was the last good flight days for about two months. Many local people will be trying their hand at queen production. Much interest in nucs and package bee production. For the most part, pollination prices will stay about the same. True winter losses will not be known until about the last week of April. If pollination of crops is to continue much longer higher fees will be charged to offset high costs.

Honey sales steady at a low level in Virginia. Snow cover most of the

winter. Good flight weeks of January 15, 1986. Moisture conditions good.

REGION 2

Bees had a very good cleansing flight in mid January. Should winter O.K. Honey sales off 40% from 1983 but probably good under conditions in Pennsylvania.

No change in retail prices, however, the outlets with imports cut prices. Also we have the feeling some of this is mislabeled as domestic honey. We have no proof at this time. Bees wintering O.K. in West Virginia. A few flight days — no signs of starvation (that comes later) or dysentery.

REGION 3

Moderating temperature in January gave bees cleansing flight in Illinois, and beekeepers have been able to check their bees early in regards to winter stores. Brood rearing has started in colonies in southern Illinois.

Sale of honey is slow in Wisconsin. Most hives had flight January 17-18. Too soon to report on winter losses.

Sales holding up well in Indiana. Beeswax prices going down again. Feeding on the increase. Colonies have consumed more stores than expected. Almost no winter loss to date but the hardest times are ahead of us. The mite controversy continues with states choosing sides depending on

whether or not the mite has been found there. I suspect that with intensive testing, mites exist in places not yet confirmed. I believe the time has come for us all to admit we have them and start learning methods to control them.

REGION 4

Honey sales are slow as usual for January, but Missouri beekeepers are remaining optimistic what with the renewed honey loan program and the coming promotion act. Activity on the national level is starting to sift down to the state level where leaders are giving new direction to the State Association and looking for ways to promote honey locally. Perhaps the best way to fight imports is at the local level.

Most of January was fairly mild and bees wintering comfortably in southeastern Minnesota. Honey sales remain slow. Some beekeepers felt such a renewal of optimism because of the new Farm Bill, that they are ordering additional nucs. I still think our biggest concern is diminishing bee pasture and the uncertainty of having a honey flow! Minnesota beekeepers are proud of our state. Honey producers' president Steve Klein and his part in changing Senator Boschwitz from a critic to a supporter of the beekeepers and their industry.

REGION 5

The current price from all packers in this area of Florida is 35-38¢ per pound. Winter has been good, so far. Cool, but not cold. Orange flows are shaping up to be real good. Moisture is good for gallberry too. We have had more rain this January, about six inches, than the first six months of 1985. Florida needs a good year in the worst way. Many beekeepers selling out. Our club has gone from 35 members down to 15 members.

Local honey all sold out in North Carolina. Very short or not at all made this past year. Local stores have honey for \$1.29 per pound. Some jar labels have an extra label (sourwood) and it doesn't look or taste like any sourwood made in this area or Patrick County. Weather conditions below normal. Also very dry, no rainfall this month.

REGION 6

Very dry January in Tennessee. We need moisture for early blooming plants. Bees have wintered well but will need feeding for early buildup. Honey sales slow with little change in prices.

January temperatures have been mild in Kentucky, allowing feeding and other routine winter checks. Colonies are in excellent condition with no losses thus far. Winter had been very dry with growing fire hazards until scattered showers during third week. Market conditions are steady enough that all honey will be out of beekeepers' hands before new crop is available.

REGION 7

Texas has received very little rain during the last 50 days. Temperatures have been extremely mild and approximately 20° above normal for most of December and January. Bees have been working several pollen sources during January. Dandelions, Moch Rech, Peach, Henbit, Clover and several other plants are blooming. Many colonies retained a drone population throughout the winter and now have two or three frames of brood. Honey sales have consistently run 30-40% below last years sales. Most commercial beekeepers are optimistic about the new support program.

Bees in fair shape in southwest Louisiana. Some feeding necessary. Bees beginning to gather pollen from maple.

REGION 8

Warm weather from Christmas through middle of January produced many days of cleansing flights and flying bees hunting for sweet items in Montana. Feeding reported as well as brooding which will be detrimental if colder weather sets in. Some snow arrived middle of January but it melted off with 60° plus temperatures. Winter solstice has passed and the January thaw continues. Violas are blooming in protected places and this warm winter may affect the fruit bloom and tree flowers, pussy willow, maple, box elder, willow and others, which are the first nectar and pollen sources. Beekeepers are waiting for the Vernal

Equinox and return of dandelion bloom, which signals the return of another busy season. Hopefully rain comes too and the draught is ended.

Colorado has had very mild weather for this time of year and snows have been limited to the high mountain elevations only. This has given the bees excellent weather for cleansing flights and moving honey within the hive. Next month spot checks will be made in some areas to determine hive conditions. This month, most beekeepers have been attending the annual meetings or looking forward to preparing equipment for Spring use.

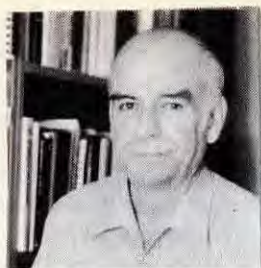
A break in the weather in the first ten days of January allowed wintering colonies in the Dakotas a flight. Winter has returned. In Calif., continued mite finds are creating uncertainty and concern amongst both migratory and package bee operations. Resolutions to stop killing and quarantining bees passed by the North Dakotas Beekeepers Association were also passed by the Federation in convention in Phoenix. So little is known, yet the killing goes on, putting people out of business. Almond pollination prices remain stable, however, the continuing finds and quarantines being imposed by the California Department of Food and Agriculture are frustrating the industry.

Moisture in California has been somewhat below normal, but many areas have had an excellent rainfall. January has been warm in the Sierras prompting some early manzanita bloom, though not general. Bees are in good shape, strong, with plenty of strength for the almonds. Fog in the Central Valley is keeping trees dormant, and the season seems pretty much on schedule at this early date. Numbers of hives that have been killed (depopulated) is approaching 5000 colonies; starting to have an impact. Many out of staters are nervous about being quarantined on site in the orchards. And the beat goes on.

REGION 9

Beekeepers preparing for almond pollination. Prices quoted in the \$21-26 range for San Joaquin Valley, eight frames or better. Almond contracts accepted by smaller beekeepers for

Continued on page 110



Elbert R. Jaycox, PhD.

The Bee Specialist



5775 Jornada Road North Las Cruces, NM 88001

Spring Things

When spring opens up, and you get the chance to really work with your bees, you always have the problem of uneven colony strengths and what to do about it. If you do nothing, the stronger colonies will hit the trees; you will also have to nurse the duds, or "dinks," in hopes they will gain strength enough to support themselves and make a little something for you.

The best way to handle the problem is by moving frames of brood and bees from strong to weaker colonies to "equalize" their strengths and make it easier to manage them as the season progresses. Having done this for years, I am always disappointed to read advice that says such manipulations are dangerous and should be done only for new colonies or colonies on a new location. Others advise only to give brood, not bees. Obviously, there is a chance that you might transfer a queen, and it is safer to shake the bees off to prevent such an accident. But think of what you are trying to accomplish. You want to reduce the size of the larger colony by removing both sealed brood and the young house bees that are on it. You want to boost the size of the smaller colony without making it difficult or impossible for it to keep the additional brood warm. At the least, the weak colony needs the bees present on the brood; more young bees shaken into the colony or in front of the entrance can also be of great help. If you are afraid to add bees directly into the weak colony, you can shake frames with emerging bees onto or close to the entrance of the hive. The old bees will return home, the young bees will march in without opposition.

I have been equalizing colonies for a long time without ever seeing any losses of bees or queens of any consequence. The end result is better colonies, larger crops, and much less concern about swarming.

Speaking of swarming, are you still convinced that cutting out queen cells is a good control method that must be done regularly every spring? If so, consider the results of I.W. Forster who studied swarm control with several hundred colonies in New Zealand. He found that colonies that started queen cells during the buildup period produced 25 pounds less honey than those that made no attempt to raise cells. Forster also found that first-year queens always outproduced second-year queens by about 30 pounds of honey. These two figures are related, since well-managed colonies with new queens rarely make swarm preparations during that season. Forster's results show that swarm control measures, such as cutting cells, may save bees, but lose production. Swarm prevention, done earlier, saves bees AND honey production.

Marking queens in relation to their age or source is a worthwhile effort. If you use the international marking system of five colors, you will know the age of any marked queen. For 1986, the color is white, followed by yellow, red, green, and blue in coming years. When I started with bees we marked queens with fingernail polish and model airplane "dope." We gave up on the fingernail polish when we learned that banana oil, isopentyl acetate, was associated with it and with the alarm odor of honeybees. We also had trouble keeping paint marks on queens and worker bees because the paint formed a scale that could be lifted or chewed off readily by the bees. We began to use a household enamel and found that if we put some of it in the groove on the rear of the bee's thorax, that bee could be identified for the rest of her life. Some of the paint always persisted in the groove.

More recently, Dr. Harry Laidlaw and others suggested that typewriter correction fluid, such as Liquid Paper, was convenient for marking queens and came in pastel versions of the international marking colors. It is easy to

use because the bottle contains an applicator brush. However, last season it seemed as if too many queens lost such markings, so I have gone back to using household enamel. It is called Illinois Bronze Hobby Household Enamel and is made by the Illinois Bronze Paint Company, Lake Zurich, Illinois. It is available in a variety of colors at craft and hobby stores. It is easily applied with the head of a pin stuck into the cork of a vial filled with paint. Be sure to rub it into the hairs on the bee's thorax, and put a little into the thoracic groove if long-term identification is important.

Better African Than Africanized?

All of us are having difficulty these days deciding which of the different stories is correct and which route to take in minimizing future problems with new mites, African bees, and other exotic pests. An important point of disagreement concerns the reason for the rash of stinging incidents when African bees enter a new area, and the subsequent reduction of such problems after a period of several years.

On one side, there is the idea that the advent of the defensive bees creates problems because of their behavior and the large number of wild colonies in contact with the residents of the area who have had no previous experience with such bees and such numbers of bees. As people gain experience with defensive bees, so goes the story, and they requeen with the more gentle European stock, the incidents are reduced and a more normal situation prevails. According to this belief, we can live with an invasion of African bees if we keep our colonies requeened with certified, marked, European stock. It is also suggested that we will probably need regulations and enforcement to see that every beekeeper follows this procedure, even though the regulators would not be able to tell which queen was the African if they saw her.

The other side of the story relates the stinging incidents to the initial production of hybrid bees that are more defensive, and then to the eventual conversion of all stock to full African blood. When all bees are African, rather than mixtures of European and African stock, there are fewer problems although the bees are still more difficult to handle than European races we now use. If this is the correct story, the sooner everything becomes Africanized, the better.

There are many suggestions for ways to keep the bees of an area from becoming totally Africanized: trapping drones, collecting all wild colonies, poisoning wild colonies with baits when managed bees are absent, etc. But all such ideas require funds and manpower that may not be available. The idea of selecting a race of European bees that will mate more readily with African queens is appealing until you consider the number of years needed to produce a single strain that may lack the other qualities needed among bees used for pollination and honey production.

Our best strategy may be the old one of fighting fire with fire. We need to develop selected strains of the African bee, a process already begun in South Africa, that are relatively gentle, productive, and with reduced tendencies for swarming and absconding. These can be selected and tested on islands or in countries with the African bee already in place. African bees are basically very productive; careful management can overcome much of the tendency to swarm, which relates to their greater brood production than European bees. The absconding may require the most emphasis.

We should be able to develop such bees by the time we are faced with the need for them. At that time, we can distribute the new stock in "threatened" areas, making sure that plenty of drones are produced. If we can use this system, or something similar, without quarantines, hysteria, and wholesale slaughter of beekeepers' bees, we can save the beekeeping industry in those areas as well as millions of dollars of public funds.

Alternative Crops For Bees

Farmers in many states are looking for crops to grow in place of grains, cotton, almonds, and grapes. The piles of firewood along California highways, where grapes and almonds use to stand, are evidence of the trend.

To take advantage of the change, you should be on the lookout for acreages of "new" crops that can help your bees. In Arizona, growers may plant as many as 30,000 acres of sesame, an oilseed crop. In his book, S.E. McGregor said that sesame is a source of nectar and some honey, and is an excellent source of pollen. In Colorado, researchers are looking at more than 15 exotic crops including sesame, rapeseed, pearl millet, quinoa, and amaranth. Scientists in New Mexico are looking at nontraditional crops with potential for commercial production on the High Plains. Included are soybeans, sunflowers, onions for seed, crambe, rapeseed, Jerusalem artichokes, chickpeas, pearl millet, and buffalo gourds. Many of these are sources of nectar and pollen for bees and could be productive, especially in areas of mixed farming. For details about possibilities in your area, check with local farm advisers and seed suppliers.

Newsletter Available

The Newsletter on Beekeeping, a four-page, quarterly publication which I write for New Mexico State University, is now available at a reasonable price. I will be glad to send you a subscription form on request. □

The New Zealand Beekeeper

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

Subscriptions:	Airmail	Surface Mail
Australia and South Pacific	US\$12	US \$10
North America & Asia excluding Middle East	US\$14	US \$10
South America & Europe and Middle East	US\$15	US \$10

Magazine produced March, June, September & December
Subscribers should indicate whether they wish airmail or surface mail.

"N Z BEEKEEPER"
P.O. Box 4048
Wellington, New Zealand

A Researcher Looks At Infant Botulism

Dr. C.N. Huhtanen of the Eastern Utilization Laboratory in his recent address at the American Beekeeping Federation convention pointed out that "It's impossible to build a case associating infant botulism exclusively with honey". At least 80% of infant botulism cases have never had any contact with honey. In a Food and Drug Administration study of foods associated with infant feeding, eight samples of corn syrup out of a total of 40 were found to contain botulism spores. In the same test of 200 honey samples only two were found to contain spores.

In a study by Dr. Long of Pennsylvania, breast feeding was found to be associated with **all** infant botulism cases. Dr. Huhtanen said, "It should be pointed out to pediatricians that breast feeding is a much greater risk factor in infant botulism than honey."

He gave little hope for destroying spores in honey without destroying the honey. As possibilities he mentioned the use of heat, radiation and chemicals. In these cases the higher sugar content of honey and the resistance of the spore makes it impractical.

He recommended more research on why breast fed babies are more susceptible and how honey becomes contaminated. On the latter point it has been shown that spores can be introduced in the field but honey tested from areas of high spore content soil, had no spores. He suspects contamination comes from airborne dust.

IRISH BEEKEEPING

Read An Beachaire (The Irish Beekeeper). Published monthly. Subscription \$9.00 per annum, post free.

JAMES J. DORAN

St. Jude's Mooncoin Waterford, Ireland

QUESTIONS & ANSWERS

Q. Since I cannot wire the foundation in frames used for cut comb honey, how can I make the foundation hang straight in those frames?

Brian Hardie
Kokomo, IN

A. That question was in the December issue. I suggested using strips of foundation or support pins. Now readers have sent in additional good suggestions. George T. Cole, Jr., in Arizona, suggests using two unembedded wires at the lowest frame hole, with the foundation between them, and pulling the wires out when the comb is partially built. Vyrone Detamore, veteran beekeeper from Marion, Indiana, inserts bobby pins in the frame holes. These pins, used by ladies to keep their hair straight, can be bought in most any drug store.

—Richard Taylor

Q. I just started with bees and have learned that they have foul brood. I am told that this can be cured with terramycin and sulfathiazole. Can you explain how to do this?

Beginner
Lewisville, IN

A. Sulfa drugs are not approved by the E.P.A. for use with bees because of possible contamination of honey. Terramycin is approved, but it is not recommended that you try to cure a colony known to be diseased. It is also probably illegal in your state. It should be used only as a preventative measure, in early spring and late fall so your crop is not affected. You should summon the bee inspector to show you how to burn the frames and combs without destroying the hive itself.

—Richard Taylor

Q. What is the proper procedure for mixing and applying Terramycin TM-50 to prevent American foul brood?

Richard J. Dieter
Willoughby, Ohio

A. Mix in the ratio of about 1/2 (one half) teaspoon TM-50 with 3 (three) tablespoons of powdered or confectioner sugar. Throw about a tablespoon of this over the top bars of the brood nest at two or three week intervals in early spring, **before** you have added any supers to the hive, and then again in the fall, **after** all supers have been removed. This easy precaution, using the minute quantities indicated, is quite effective in preventing both AFB and EFB.

—Richard Taylor

Q. When you buy Terramycin, how can you tell whether you're getting TM-10, TM-25 or TM-50? The package itself doesn't tell you.

Don C. Jensen
Clawson, UT

A. This confuses lots of beekeepers. The standard 6.4 oz. package with 10 grams of terra is TM-25, notwithstanding appearances. The rule is that TM-10 contains 10 grams of terra **per pound**, TM-25 contains 25 grams **per pound**, and so on. The remaining contents of the package is filler.

—Richard Taylor

Q. Is it okay to feed honey to the bees in the spring by putting it outside in a pan?

Marvin L. Floyd
Artemus, KY

A. No. The bees get mired in the

honey, perish by the hundreds, and you have a mess. Neither honey nor syrup should be fed in the open. In addition to the commotion and drowning, you end up with the strongest colonies, which need feeding least, getting most of it.

If you have more than one colony this practice could cause robbing.

—Richard Taylor

Q. I am reluctant to take a colony apart in the effort to find the queen. So can I requeen the colony by introducing a new queen by the newspaper method, leaving the bees to drive out the old queen? If not, can I, without removing the old queen, introduce a new queen with a three-frame nuc?

Marshall T. Slotterbach
Sellersville, PA

A. No. The bees are very unlikely to accept a new queen, no matter how she is introduced, so long as the reigning queen is still there. Some have tried placing ripe queen cells up in the supers, with the idea that the virgin queen emerging from one of these might displace the old queen, especially if she is given an upper entrance from which to get mated and start laying before encountering her older rival down below, but this, I understand, does not work very well either. It is not difficult to find the queen in a colony, especially in spring. After a bit of practice you learn to spot her, usually, within a few minutes. But if the colony already has a decent queen mother, why would you want to replace her?

—Richard Taylor

Testing Your Beekeeping Knowledge

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

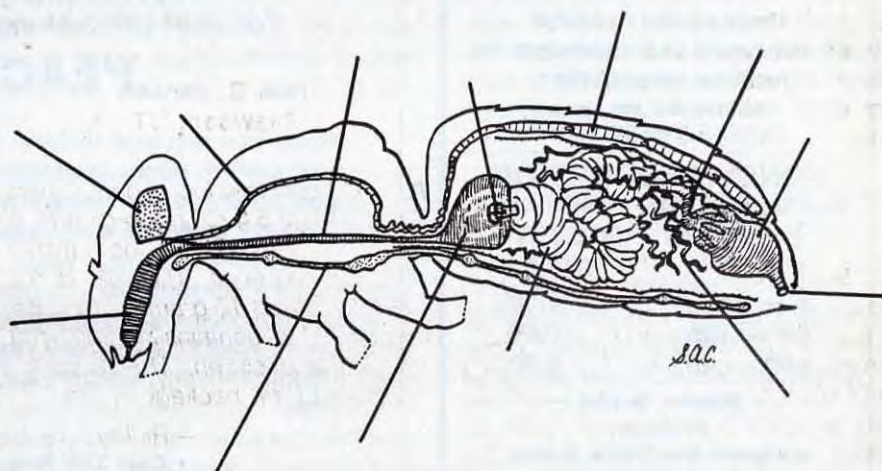
Even though individual honeybees cannot survive by themselves due to a high degree of specialization found within a colony, each bee must have all the basic life supporting processes found within living organisms. Understanding basic bee physiology will not only help you better understand the factors that affect colony development but also the devastating effects of the various bee diseases, parasites and pesticides that are often encountered in beekeeping. These maladies directly effect the internal systems of the honeybee.

Please take a few minutes and answer the following questions to find out how well you understand bee physiology. The first seven 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 spaces within the body of the honeybee are not occupied by organs or other tissues but are filled with blood.
2. ____ The functions of the blood or haemolymph of the honeybee include the distribution of nutrients, oxygen and water.
3. ____ The honeybee has a dorsal nerve cord and a ventral blood vessel (heart).
4. ____ Defecation normally occurs during flights outside of the hive.
5. ____ Digestive enzymes are produced by the lining of the small intestine.
6. ____ The blood of the honeybee is bright red in color.
7. ____ Rectal pads (6) found on the exterior wall of the rectum are believed to be involved in the recycling of water: extract water from the contents of the rectum and return it to the blood.

8. ____ Listed below are several internal organs found within the worker honeybee. Please label the diagram shown below with correct organs. (Question is worth 13 points).

- | | |
|--------------------------------|------------------------------------|
| A) Ventriculus or true stomach | B) Nerve cord |
| C) Malpighian tubules | D) Rectum |
| E) Small intestine | F) Oesophagus |
| G) Heart | H) Proventriculus or honey stopper |
| I) Brain | J) Aorta |
| K) Honey stomach or crop | L) Cibarium or sucking pump |
| M) Anus | |



ANSWERS ON PAGE 151

Sell Your Beeswax For \$10 /lb.!

We will professionally handcraft your wax into beautiful, pure, beeswax candles for as little as 40 ¢ each. These candles retail for at least \$10/lb! They sell themselves, provide repeat business, and can even boost honey sales. Just send us your wax and we will return it to you as candles—wrapped, labelled, and ready to sell. Twenty lb. min. order. **Satisfaction Guaranteed.** To find out more about taking advantage of this offer or to order a sample pair (\$3.50 ppd) write:

HAMM'S BEE FARM

South 3857 Milky Way Rd. Waukesha, WI 53186
Phone: 414-549-1965

IMPORTANT REPRINTS

Pollen Loads Of The Honeybee, Dorothy Hodges (1974) price including postage US \$36.50/ Foreign \$26.50

Feminine Monarchie, Rev. Charles Butler (1623) price including postage US \$44.60/ Foreign \$29.00

Postgiro/CCP Account Number 29 179 4408

1985 lists now available from—

International Bee Research Association
Hill House, Gerrards Cross,
Bucks SL9 0NR, England

INSEMINATION INSTRUMENTS

by Otto Mackensen, Box 1557, Buena Vista, CO 81211. Phone: (303) 395-6732.
Write for information and prices.

DRESS FOR THE JOB!

537 Countryman Deluxe



\$45⁰⁰

Inc. Shipping
Specify chest size

Beekeepers Full Length Smock with hood and veil attached.

Undo zip and throw back hood when not wanted.

Hood completely removable for washing.

Smock is machine washable.

Send for
FREE brochure

B.J. Sherriff
Dept. GBC
P.O. Box 416
Nacoochee, GA
30571

TABER APIARIES

Three stocks available
all developed and maintained by
Artificial Insemination.

All stocks are now
DISEASE RESISTANT

HONEY PRODUCTION ULTRA YELLOW — CARNIOLAN SPRING PRICES

1 — 5	\$10.00
6 — 35	9.50
36 — 100	7.00
100 — up	6.50

— Breeder Queens —

— Packages —

Mackensen Insemination Devices

Write for Brochure

3639 Oak Canyon Lane
Vacaville, CA 95688
(707) 448-7130

BEEKEEPERS

Put your skills to work in overseas jobs in the

PEACE CORPS

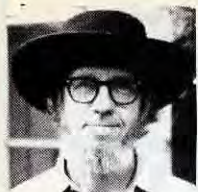
Apiculture requests include: establishment of hives; disease and pest control; honey extraction, bottling and marketing techniques; and training for farmers and schools. An AS degree in Apiculture or 2 years experience could qualify you. Hobbyist may qualify.

- Medical care
- Paid vacation
- Living expenses provided
- AND \$4,200 after 2 years

US citizens only. Couples accepted. No dependents. No upper age limit.

Call: Toll Free: (800) 424-8580 Ext 93

or Write: **PEACE CORPS**
Room P-301, Box 871
Washington, DC 20526



Bee Talk

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

Thirty-five years ago, when I began a career of college teaching, I knew I would someday retire from it, but there was never any doubt about what that would mean for me: I would then have that much more time for my bees, which have always been my first love. The years went by fast, and I seem to myself no older than when I began, notwithstanding how I must appear to others, having a passionate interest in bees is a good way of insuring that most people will regard you as something of a nut, and I surely had that reputation with most of the deans and college presidents I served over the years. I usually got the same greeting from them, which was, "How are the bees?" And their faces would then light up with mirth at something so hilariously funny. The philosophical ideas I wheeled before my students all those years did little to dispel the impression of lunacy, I am afraid, and I was from time to time charged by them with being deranged. One student I particularly remember declared that my course had changed his whole life, but that I was completely insane, and that someday the men in their white coats were going to come and take me away. I somehow took that as praise. It is not always easy to make much of an impression on the young, and I had at least managed to get his attention. Of late some of my students have told me how their fathers remembered me as their professor, and that is a sharp reminder of how the years have added up. Counting visiting appointments, I taught in twelve colleges and universities over the years, and there was lots of excitement in all that. But I was never far from the bees. Once, in the heart of New York City, I had a hive of bees on my apartment balcony, seven stories up. Nor have I left that life entirely behind. I'll go on teaching one afternoon a week, spring and fall, until they finally cart me away. I love it, it helps keep me young at heart and I still have plenty of time for the bees. But I am, nonetheless, officially retired and into

the ranks of the senior citizens. It all seems somewhat strange.

Someone, probably it was Thoreau, wrote that the only genuine success is to be doing exactly what you want to be doing. If so, then I must be a huge success, whatever may be the visible evidence to the contrary. It isn't very often that a beekeeper has to be doing anything he doesn't want to be doing unless he is trying to make a living at it. On the warm spring days I can go tend my bees, at times of my own choosing, and there is no doubt that I am doing exactly what I want to be doing. I make my tour of the apiaries whenever I feel like it, whether there is any work to be done there or not. I can usually find something to do. In any case, just being there with the bees, seeing how the supers are filling up, how all is prospering, is happiness enough. In summer the supers are sometimes piled high in the honey house, needing to be emptied out and dealt with, making many, many hours of work. But in fact, there is no work to it at all. I can stop any time, and resume at my pleasure. Sometimes I rise before dawn and go down to the honey house, turn on my radio and unpack the supers of honey. It's a nice time for being alone, thinking, putting up honey, and sort of planning the day.

One thing I think I'm going to do, in my headlong drive for success (as defined above), is try to make myself a better beekeeper. I picked up six gallons of white paint at a yard sale for about the price of one, so maybe I'll get around to painting my hives. They could certainly use it. In fact I have thought that maybe I would sell off my oldest hives and replace them with brand new equipment. There are a lot of combs in those hives that should have been replaced long ago. Maybe a fresh start would be the answer for those hives, on the other hand, I've grown pretty fond of some of those old hives. I remember something of their

history and the fine crops they have given me over the years. Selling them would be something like parting with old friends. So I'm not sure what I'll do, but I'm sure I'll do just what I want to do.

I'm also going to start keeping better apiary records. I used to do this, long ago. I have a dandy little pocket size looseleaf notebook, left behind in some classroom by a student maybe thirty years ago. In it I used to keep track of every colony, the age of its queen, when it was supered, everything. I'm not sure it is worth the time to fuss around that way, in terms of increased honey crop, but it added lots of interest to things, and now I have plenty of time to resume the practice. The little notebook is still there on the shelf in my honey house, ready to be put back to use.

I'll also begin a systematic program of requeening. I have never done this, but I am convinced it is a good idea, even though it is going to mean murdering a beautiful queen bee from time to time. I don't like that idea one bit, but I do like the idea of improving my stock and increasing my yields and, in general, making of myself a better beekeeper. C.C. Miller used to say that he didn't care how much honey he got per colony, except to boast about it. His concern was with his total crop. That has always been my interest, too, and sometimes you can get bigger crops just by having more bees and not spending so much time fussing around with individual colonies. But now I am going to fuss more with individual colonies, and requeen them every other year. I'll even mark the queens, to keep close track of them.

I don't think anyone, facing retirement and the inexorable passage of time, can be as lucky as a truly dedicated beekeeper. Some of my professor friends in the same position seem rather at loose ends. They are no longer sought out as lecturers and their books and writings are not getting much attention any more. Some even continue going to their offices every day, to no purpose. Not me. My bees will always be there, awaiting my attention and care, and the seasons will come and go, each one as challenging as the last, and I shall never have a dull or pointless day as

long as I have a single hive of bees within my reach, and in that, with all the other countless joys of life, I'll be fulfilled. □

[Comments and questions are welcomed. Please use Trumansburg address and enclose stamped addressed envelope.]

Monthly Honey Report

Continued from page 103

\$21.00. Prices in Paso Robles areas reported \$16-18. Some beekeepers report a shortage of contracts and excessive number of hives due to cutbacks in almond budgets. Like all farmers almond growers are facing hard economic times. Eucalyptus flowering heavily on coast. Beekeepers report they have never seen such heavy flowering. Christmas honey gift pack sales were down slightly. Almond flowering two weeks early, occurring February 1st. Most beekeepers in San Joaquin Valley in almonds by first of February.

January weather has warmed up above average temperatures for most of the month in Washington. Several days nice enough for the bees to take cleansing flights. Lots of bees hurt from cold weather in November. Quite a bit of feeding being started where bees are low on stores. Honey sales have slowed down a little after the holiday season. Not as much honey going to the government this year because of the poor crop.

Rains began with the new year in Oregon. However, we've still had many sunny warm (high 50 to 60's) days. Bees fly frequently and on coast are often bringing pollen. The willows are dressed in "fur" these days. So pretty!



WHEAST™

NOW AVAILABLE! IMPROVED!

Specifically designed for satisfying the nutritional requirements of **HONEY BEES**

Published research studies have shown that **WHEAST** supplies the proteins, vitamins, and other minerals essential for sustaining bee populations better than any other pollen substitute. **WHEAST** may be used at any time of the year to maintain colony vigor and encourage brood rearing.

RECOMMENDATIONS: Use **WHEAST** products in powder form when bees have access to water or make it into a spreadable paste.

WHEAST:

Order WHEAST and add the sugar desired to formulate your own ration.

\$75.00/50 lb./ Bag

FOB Southern Minnesota from

For technical information call
(203) 268-6616

QUALCEPTS nutrients, Inc.
4940 Viking Drive
Minneapolis, MN 55435
Tel: (612) 893-9976

NEW -- HONEY MANAGEMENT VIDEO.

At last, you can watch critical aspects of honey production and handling without leaving the comfort of your chair.

SHOOK-SWARM COMB HONEY shows Dr. Richard Taylor, the popular author for *Gleanings in Bee Culture*, as he prepares a strong colony for the production of round section comb honey. Later in the season, watch Dr. Connor remove the completed sections.

THE HONEY HOUSE takes you to Northeastern Pennsylvania to visit beekeeper Jerry Ely. You will follow honey from the apiary through his custom designed three-level honey house.

TAPE 4 -- Honey Management. Contains the two programs described. Each program is 28.5 minutes long. The tape is available in VHS or BETA formats

PRICE: \$59.95 + \$2.40 p & h.

Beekeeping Education Service
Post Office Box 817
Cheshire, Connecticut 06410
Phone 203-271-0155

Larry Connor, Ph.D., Director

FREE 16 PAGE CATALOGUE MAILED UPON REQUEST!

Research Review

By DR. ROGER A. MORSE
Department of Entomology
Comstock Hall
Cornell University
Ithaca, NY 14853



Producing Package Bees In British Columbia

It is estimated that 75,520 packages of bees could be produced in the Okanagan and Fraser Valleys and on Vancouver Island in British Columbia each spring. There were a few over 18,000 colonies of bees in these areas in the year these tests were undertaken. It is estimated that two to four packages can be shaken from each colony. "A remarkable aspect of these results is that colonies from which 1/2 to 2/3 of the worker population had been removed could recover to the point that, in most characteristics, they were indistinguishable from control colonies."

In the tests that were conducted 20 to 25 colonies were overwintered in two supers in each of five locations. The management of these colonies was intense and involved requeening in August in the year prior to the time the packages were shaken. The bees were fed sugar syrup containing tetracycline and Fumidil B in October and again in the spring. Patties of brewer's yeast-based pollen supplement were fed in the spring. We are aware that beekeepers in California that have been producing package bees for Canada for a great number of years need not use such an intense management scheme and thus there are bound to be some cost differences.

This study was undertaken because the Canadians are concerned about three things: tracheal mites, varroa mites and Africanized bees. The underlying theme of this study is that should these threats become real that Canada could, at least in part, become

self-sufficient insofar as package bee production is concerned.

Winston, M.L., R.S. Mitchell and E.N. Punnett

Feasibility of package bee (Hymenoptera: Apida) production in southwestern British Columbia, Canada. *Journal of Economic Entomology* 78: 1037-41. 1985.

The Role Of The Earth's Magnetic Field In Honeybee Orientation

During the past ten years several papers have appeared that show that honeybees detect and respond to the earth's natural magnetic field. A recent study has shown that individual foraging bees can learn to associate magnetic fields with food rewards. This technique has promise for detailed study of honeybees' response to magnetism. This study is also of special interest because it shows, for the first time, that bees pay attention to magnetic fields while foraging. How this affects, or perhaps aids, foraging is not clear.

In the paper below a feeding station was established within an artificial field that could be turned on and off. Bees were offered a 50% sugar solution in one field and a 20% solution in the other. After this training, given a choice, they selected the field that had originally contained the richer of the two solutions. Other cues such as location, color, etc. were either held constant or varied randomly, so the bees were choosing strictly on the basis of the magnetic information.

How do honeybees detect the earth's magnetic field? No one has an answer to that question but I am aware

that several people are pursuing it. Honeybees are not the only animals being examined; even some bacteria are sensitive to magnetism. In addition, many people believe that magnetism is the mechanism used for orientation by birds that migrate north and south each year. I expect we will be seeing many more papers on the subject in the future and that honeybees will continue to be favorite animals for these studies.

Walker, M.M. and M.E. Bitterman
Conditioned responding to magnetic fields by honeybees. *Journal of Comparative Physiology A* 157:67-71. 1985.

Apple Pollination

This is the time of year when articles appear in the fruit journals about pollination. Red Delicious apples, which have peculiar problems, are of special concern to growers, they are one of the most popular varieties grown. There is nothing new that I can find this year as regards apple pollination. However, the trend toward using crab apples as pollinizers continues to gain favor. Crab apples are popular because they allow growers to have solid blocks of fruit; the crab apples are never picked and are planted for their flowers only. Planting solid blocks makes management of the orchard easier since pruning, fertilizing, pest control, picking, etc. are the same throughout the block. Whenever one has two varieties of normal apples in a block there are always some small problems.

No apple variety in the United States is self fruitful; all must receive pollen from another variety to set fruit. One of the very important considerations is to select a flowering crab that flowers at the same time as the apple variety to be pollinated. Observations we have made indicate that having flowering crab flowers the same color as the variety to be pollinated is also helpful.

It is really not the beekeeper's job to understand what varieties are the best pollinizers but if apple growers complain about fruit set it is well to have some background. The article cited below concludes with, "The vital role of pollination cannot be ignored if we are to succeed in fruit production."

Pheasant, J.
Plan for pollination. *American Fruit Grower* 105:41-3. 1985.



**FOUNDATION
WITH
HORIZONTAL
&
VERTICAL WIRES**

1984 Improved Precise Wire Embedding!

- *100% PURE BEESWAX
- *No Wiring
- No Embedding
- *No Cell Distortion
- No Sagging
- *Not to break during extracting
- *Wires welded together at each crossing joint
- 8 1/2" x 16 3/4" hooked
- 5 3/4" x 16 3/4" hooked

Ask for brochure and dealers rate

SIMON APIARY

118-23 83rd Ave. Kew Gardens, NY 11415
U.S. Pat. 4261068 Canadian Patent #152384 Mexican Patent No. 185971

THE

**happy
hive®**



MANUFACTURER OF **Cobana**

4476 TULANE

DEARBORN HTS., MICH. 48125

PH 313-562-3707



Better Way Wax Melter

Pat. No. 4,481,887

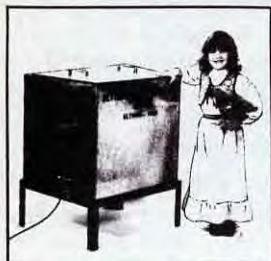
Model 10F is designed from the floor up to meet the needs of the Apiarist with 5 to 75 hives. With fan and duct for even heat and thermostatically controlled and dry heat throughout plus other features that provide these benefits:

- Separates honey from cappings
- Cappings melter
- Processes dark brood comb and retrieves all the wax
- Cleans and sterilizes frames and supers (at 300°)
- Liquidifies honey in two 60 lb. cans (at 120°)
- Cleans up queen excluders and inner covers

The Better Way Wax Melters offer you five machines in one and can maximize your yield while minimizing investments and space. Upon receiving your order, we will promptly ship the model of your choice along with all necessary information to assure you of a quality performance we are proud of maintaining at Better Way Wax Melters.

Model 10F is now available for \$490.00. Other sizes available. Write or Call:

BETTER WAY WAX MELTER
116-11th St. SE, Altoona, Iowa 50009
Phone (515) 967-4952



Thanks to my Better Way Wax Melter, my bees are so much bigger and nicer.

THE 1985 PATENTED CCPC

SUPER BOTTOM TRAP

*Converts to Free-Flight in Seconds
With Finger-Tip Ease!*

Another Unique Innovation from C C Pollen Co.
#1 IN BEE POLLEN - #1 IN POLLEN TRAPS

ORDERS: CALL TOLL-FREE 1-800-348-8888

Still Undecided? Write for Free Literature:

THE C C POLLEN COMPANY

6900 E. Camelback Rd., #530 GL / Scottsdale, AZ 85251

**The Two Colony Hive
(patent pending)**

- *Increased Production
- *Excellent Spring Buildup
- *Great for Producing Nucs
- *A Good Complement to Standard Equipment



**\$35 Lid, Bottom, and
Four Hive Bodies**

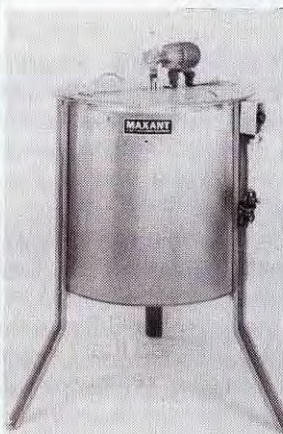
**\$25 Lid, Bottom, and
Two Hive Bodies
(for use with standard
equipment as supers)**

**shipping cost COD
plus 6% tax in CA**

**Johnston's
Wood Products**
29354 Westmore Rd.
Shingletown, CA 96088

BRAND NEW 1986 EXTRACTOR!

*For Those That Want The
Best and Latest Equipment*



10/20 Capacity

**10 Deeps
20 Shallow**

**Now with self-cleaning
Bottom Center Drain**

On Legs! Off the Floor! Sanitary!
Geared Motor with Speed Control!
All Welded — Heavy Gauge Tank!
See thru Covers!

Notched — Rust Proof — Reel
All This for only \$895.00 F.O.B. Ayer, Mass.

MAXANT INDUSTRIES

P.O. Box 223 Ayer, Mass. 01432

The Washington Scene

By **GLENN GIBSON**
Minco, Oklahoma 73059



Minco—January 24. We feel that our year commences with the convention when members convene in a sunny city in the South. After reviewing the past year's activities, resolutions are adopted and plans are made to implement them. Our seventeenth convention in El Paso followed this general outline. 'Twas a good convention even though attendance was down.

The convention resolutions have outlined another year of heavy lobbying in Washington. We will continue to urge everyone to advise their Senators and Representatives about our problems. Also, we will continue to submit articles to the journals so that one and all will be informed. In the halls of Congress we will "play it by ear" and salvage the best deal for the beekeeper. Compromise? No sir, unless our friends in Congress tell us we need to. But, first, we will review the list of willing workers among our members and compare this with the number of friendly Senators and Representatives and then plan accordingly. Neither list will ever be complete, but this doesn't mean that they cannot be expanded.

OUR MAIN CONCERN

The Quayle-Conte faction is still sniping at us in the press. The likes of Rather and Chancellor will make snide remarks about us on Television. Likely, some farm editors will take up the chant. We may be subjected to some more misinformation from the bureaucracy. All of this is cause for concern since uninformed members of Congress may agree without checking. In the face of all this,

how were we able to salvage a fair program in the Farm Bill? The answer here is that we were dealing with a few members from the agriculture committees, who understood our problems.

In ordinary times it would have been safe to assume that the blessing of the Agricultural Committees would mean success, but these are not ordinary times. Today, Gramm-Rudman, the Budget and a number of other cost saving measures enter in the picture making it hard for agricultural oriented members to defend the position of small groups like ours. Also, in the congressional lineup of committees, our hash may be settled in non-ag committees such as: Budget, Finance, Ways and Means, Appropriations and general legislation from the floor.

MESSAGE RECEIVED???

A number of the congressional offices told us that they had received no mail from beekeepers back home. Upon checking we found that this may or may not be the case. The unbelievably heavy volume of mail coming to each congressional office poses problems. Assistants are assigned certain duties and special attention is given to constituent's mail. However, this doesn't mean that the boss will have time to look over your letter or even listen to the aide explain the problem as you have outlined it in your letter. So your mail may have been filed for later reference or the aide prepared a noncommittal reply which the boss will readily sign. This means that the congressman knows nothing about our line or the conditions in his

district that relate to beekeeping. All of this means that your message was not received. During the course of our visits we may learn about this failure but who knows how many offices fail to seriously respond.

In some cases a sincere aide is unable to visit with the boss about our line simply because he is too busy. In other instances of failure to communicate the aide does not have enough information to relay a coherent story.

When we learn about the failure to communicate, we immediately advise the constituent beekeeper that his contact was ineffective. Then, providing the constituent beekeeper is willing, we start a campaign to educate the congressman. Generally this follows a pattern as follows:

***Urging other beekeepers to write. (At least 10)**

***Ask a friendly aide to call the uninformed congressman.**

***We make routine calls and offer to answer questions the congressman might have.**

***Advise beekeepers to disagree when needed, but not be disagreeable when contacting the congressman.**

***Meet with the congressman when he is in your home district.**

(This routine has never failed to get a courteous reaction and in most cases the congressman became a supporter.)

OUR LINE OF DEFENSE

Mr. Beekeeper, you are the main part of our plan for a fair program in Washington. Your letters, telephone calls and personal contacts with the congressman makes our job in the halls of Congress much easier. Please contact your congressman and then advise us that you did it. We will take it from there. □

York's... Quality Bred

1986

STARLINE

MIDNITES

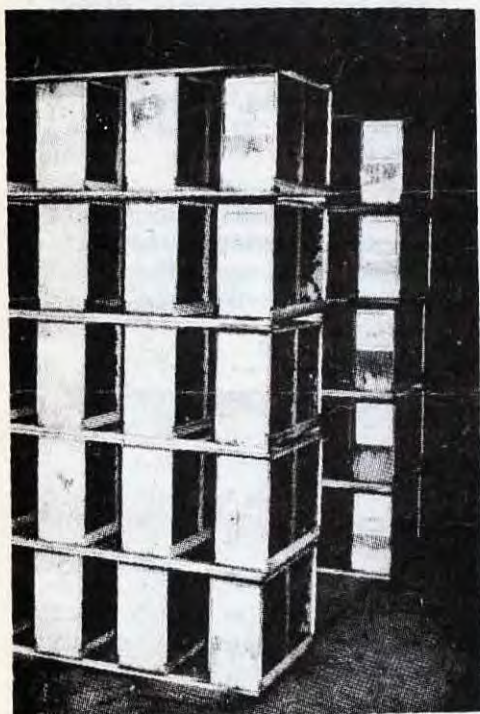
ITALIANS

The Strains Preferred by Leading Honey Producers
For Tested Queens add \$1.00 each — Clipped and Marked add 50¢ each queen

Help Us To Help You

ORDER TODAY!

Have you tried York's bees and service? Make 1986 your season to purchase your bees from a firm featuring both types of hybrid stock. New Starlines and Midnites continue to be the only privately developed strains of hybrids that consistently return more honey per colony. Be modern and use hybrid queens that produce vigorous workers which will extend your season and add to your total crop. Shipment made by parcel post or truck or station wagon. Information leaflets available on Starlines and Midnites; write us for your copy by return mail. Now book for choice dates.



Bees & Queens

For Hobbyist — Honey Producer — Pollinator

ITALIAN & CAUCASIAN

	1-3	4-24	25-99	100 up
2 lb. pkg. w/q	\$20.75	\$20.00	\$19.25	\$18.75
3 lb. pkg. w/q	\$26.25	\$25.25	\$24.50	\$24.00
5 lb. pkg. w/q	\$39.50	\$38.50	\$37.50	\$36.50
Queens	\$ 6.75	\$ 6.40	\$ 6.20	\$ 6.00

STARLINE, MIDNITE OR DOUBLE HYBRID

	1-3	4-24	25-99	100 up
2 lb. pkg. w/q	\$21.35	\$20.60	\$19.85	\$19.35
3 lb. pkg. w/q	\$26.85	\$25.85	\$25.10	\$24.60
5 lb. pkg. w/q	\$40.10	\$39.10	\$38.10	\$37.10
Queens	\$ 7.35	\$ 7.00	\$ 6.80	\$ 6.60

Prices F.O.B. Jesup

Queenless pkgs.—deduct \$3.00 per pkg. Tested Queens—add \$1.50 per pkg. or queen
Clipped and Marked 50¢ each

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

WRITE FOR FREE COPY OF SHIPPING RATES & INFORMATION

Shipments start first of April depending upon spring weather conditions.

PLAN NOW on your shipping dates for the coming spring. Present indications are that shipments will have to be planned now for more difficult delivery schedules by parcel post. Now booking orders.

Particularly plan to use hybrids for the coming season. Our rate of production of hybrids continues to rise as modern, commercial beekeepers learn of increased benefits to them. BEE WISE — HYBRIDIZE!

YORK BEE COMPANY

POST OFFICE BOX 307
(The Universal Apiaries)

So. Macon St. Ext. Ph. 912-427-7311
JESUP, GEORGIA 31545

Observation Super

by Lt. Col. John A. Guyton 465 Cardinal Drive Satellite Beach, FL 32937

I have read with interest the article in your January 1986 issue, "A Novel Inexpensive Hive For Teaching" by Michael Roling. During the summer months I give talks to various groups on the subject of bees, and products of the bees. For my purpose I have found the observation hives to be the most useful and interesting to all ages and levels of interest. The groups I give talks to include boy scouts, girl scouts, cub scouts and brownies, nature study groups, head-start children and adult church groups.

These people are always curious about what goes on inside a bee hive — the observation hive serves this purpose. I have found observation hives relatively easy and inexpensive to build and maintain, especially if one uses 1/8" plexiglass instead of glass. With proper care and cleaning plexiglass will remain clear for many years. Burr comb and propolis that may accumulate on the inside of the plexiglass can be easily removed by "TOLUENE" and perhaps other solvents. (TOLUENE, TO-B is produced by United Solvents of America, Inc., Sanford, FL 32771).

Since my "students" and visitors were so interested in what goes on inside a full sized standard bee hive, I built a full size top observation super for educational purposes. I used 1/4" plexiglass for construction of the super, using dimensions for the standard Illinois 9-10 frame super. Since I wanted to keep the bees in darkness and to prevent the steamy Florida sun from harming the comb, I made a close fitting cover of 3/8" plywood that can be seen in one of the photos.



Observation super with 1/4" thick plastic windows.

By approaching the hive from the side or rear, one can remove the cover and clearly observe the bees and their activities. I drilled several 1/8" holes in the plexiglass top thinking the bees would appreciate the ventilation, but they quickly plugged up these holes with propolis. So, I'm not putting vent holes in the top of my next observation super.

Aside from the usefulness for educational purposes, I find the observation super a convenient means of checking the progress of the honey in the hive. One can see the beautifully capped honey comb when it is ready for removal, without having to disturb the bees or remove a frame.

I have never purchased bees for my observation hives, nor for any of my standard hives. When necessary, I replenish my hives, or strengthen them from swarms around my area. "After swarms" are usually just about right for single width or double width observation hives. I have found that one can obtain almost unlimited quantities of good bees, if you can contact your local Agriculture Extension Agent or Police Department and volunteer to collect "nuisance" swarms that are reported. People from all over your area will phone them when a swarm of bees settle on their property. This is an excellent public service which is appreciated by the Agencies and those from whom you collect the swarm. I have been doing this for

years and am offered more swarms than I can use or give away, and the service is very satisfying to oneself.

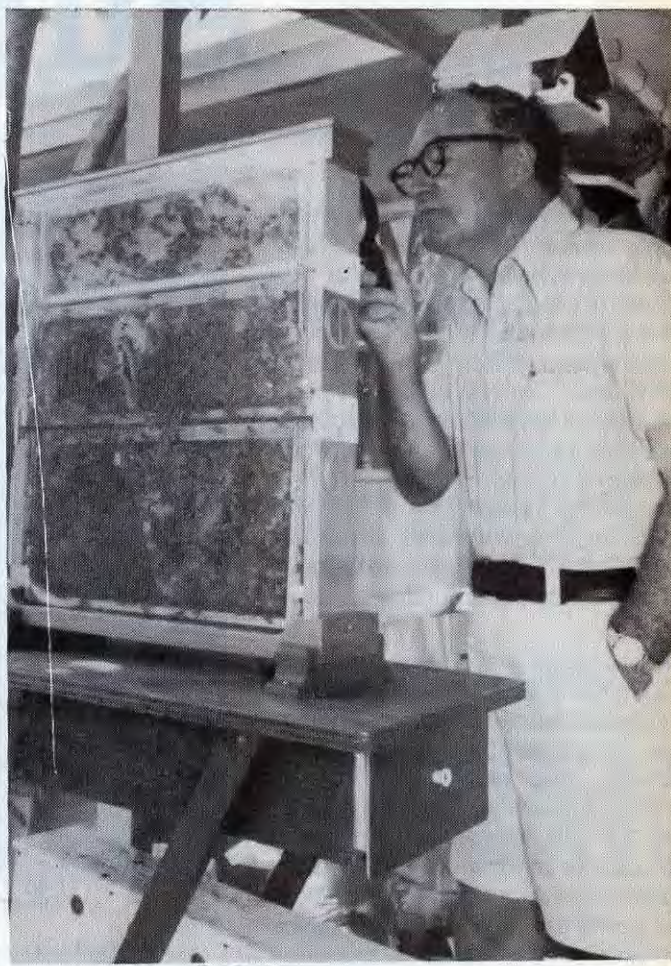
If properly maintained a single frame or double frame observation hive can produce more honey than an average family can use. Once well established an observation hive can be maintained for two to three years in southern climates without replacement of the bees or their queen.

I am an avid reader of *Gleanings*, always on the lookout for material for my lectures.

After talking to any group of children for about 30-60 minutes, and telling them about the life cycle of the bees and about the production of honey, wax, propolis, bee venom, pollination, etc., I end by asking them this very different question, "What is the most important product of the bee hive?" The answer of course is bees! □



Observation hive with covers. Note feeder on top cover. They contained green and red sugar water (food coloring) to produce green and red honey. Just a novelty!



2-Frame wide observation hive on my patio. Entry project through screen to allow bees to work in their natural environment. That's me examining the hive.

Continued from page 99

the importance of sugar as in input cost of honey production. The annual cost for individual commercial honey producers runs to tens of thousands of dollars. Sugar import duties and/or restrictions would have a devastating effect on honey production costs. The Canadian Honey Council will try to make Federal and Provincial governments aware of this.

The Canadian Generic Honey Promotion Committee met during the

Council meetings. At present their financial position is limiting the amount of promotion that is taking place. At present the Federal Government under the CAMDF program has been helping to finance much needed national promotion program in Canada. Ms. Julie Mercantine-Church was in attendance at the Canadian Honey Council meetings and attended a meeting of the Promotion Committee. This year the CAMDF program is being discontinued, but a new program CAMDI is being implemented.

The new slate of officers for the 1985-86 term are as follows: Dr. Jerry Awram, President; John Uhrin, Vice President; Bob Knox, Executive Member; Lina Gane was appointed the Secretary-Treasurer.

Also this year the fee structure was changed. The basic membership will be \$30, a sustaining membership will be \$150 and the 300 Club dues are set at \$300 plus \$30 basic membership. □

Booking Orders for 1986 — Prices start April 1st.

ITALIAN PACKAGE BEES & QUEENS

My Italian queens are large yellow gold queens that produce large colonies fast and produce large amounts of honey.

Queens	2 lb. w/q.	3 lb. w/q.
1-19 \$5.50	\$19.50	\$24.50
19-49 5.25	19.00	24.00
50-up 5.00	18.50	23.75

Prices include postage, insurance and special handling.

Call for prices on packages picked up at my apiary. Any number. You can't beat my price any where so why pay those high prices. Just stop and think what a few dollars per package will save you.

Terms on Parcel post orders — \$2.00 per pkg. deposit, balance (2 weeks) prior to shipping date. We do not guarantee live delivery — file claim with your post office and we will replace. No insurance to Canada. Fumidil-B fed to all colonies and Queen rearing nuclei. Book early for best dates and prompt service.

Gregg & Sons Honey Bee Farm

Producers of

*Italian Package Bees
And Queens*

P.O. Box 92
Millry, Alabama 36558
Phone: 205-846-2366



POLLEN SUBSTITUTE

Feed your bees pollen substitute early in the spring to stimulate brood rearing so as to divide them later on. Much cheaper than buying package bees, — however, be sure that they have plenty of honey or they may starve before a honey flow comes on. Especially valuable for early package bees received before natural pollen is available. This one item replaces the previous mixture containing EXPELLAR PROCESS SOY FLOUR which is no longer available. This is a HI-NUTRIENT, HEAT TREATED, SOY FLOUR, HIGH PROTEIN, LOW IN FAT, MOISTURE AND FIBER WITH AMPLE ASH, CARBOHYDRATES AND NITROGEN SOLUBILITY.

This is a fluffy flour and can be easily blown by a light wind so it is far better to mix it with sugar syrup into a patty form which should be placed on treated paper, or thin sheets of plastic, directly over the cluster on the top bars. This POLLEN SUBSTITUTE will greatly stimulate brood rearing but care should be taken that the colonies do not run out of stores and starve before the honey flow.

Cat. No. 72

5 Lbs. Pollen Substitute, Ship Wt. 7 lbs. . . \$2.50

Cat. No. 73

25 Lbs. Pollen Substitute, Ship Wt. 27 lbs. . \$8.50

Cat. No. 74

50 Lbs. Pollen Substitute, Ship Wt. 52 lbs. \$12.00

THE WALTER T. KELLEY CO.
CLARKSON, KENTUCKY 42726

ITALIANS

THE STOVER APIARIES, INC.

STARLINES

MAYHEW, MS 39753-0040

Ph. 1-601-327-7223

1986 PRICE LIST

PACKAGE BEES AND QUEENS

IN LOTS OF	QUEENS	2-POUND & QUEEN	3-POUND & QUEEN	4-POUND & QUEEN	5-POUND & QUEEN
1-9	6.60	20.00	25.50	31.00	34.50
10-99	6.40	18.75	24.50	29.25	33.50
100-up	6.00	18.00	23.50	27.50	32.50

Starline Queens 75¢ Extra.

PARCEL POST SHIPPING CHARGES:

	1 PKG.	2 PKG.	3 PKG.
2 Lbs. w/queen	4.50	6.50	8.00
3 Lbs. w/queen	5.00	7.00	8.75
4 Lbs. w/queen	5.75	8.50	
5 Lbs. w/queen	6.25	9.25	

SHIPPING CHARGES INCLUDE POSTAGE, SPECIAL HANDLING AND INSURANCE.

PLEASE ADD THESE CHARGES TO YOUR PARCEL POST ORDERS.

QUEEN ARE SHIPPED POST PAID.

PACKAGES CAN ONLY BE SHIPPED PARCEL POST.

TO BOOK PARCEL POST ORDER, CHECK OR MONEY ORDER MUST ACCOMPANY ORDER.

PRICES ARE SUBJECT TO CHANGE.

LIVE DELIVERY ON PACKAGE BEES CAN ONLY BE GUARANTEED UNTIL MAY 20.

MARKING AND/OR CLIPPING OF QUEENS IS 50¢ EXTRA PER QUEEN.

ELLIOTT E. CURTIS & SONS ITALIAN QUEENS

Fourth Generation, A Div. of Geo. Curtis & Sons
GUARANTEED GOOD QUALITY, GOOD SERVICE

1-24	\$7.25
25-99	\$6.50
100-up	\$6.00

Clip & Mark 50¢ each. Deposit of \$1.00 per Queen to book order.

Payment due in full two weeks prior to shipping date.

P.O. Box 893, LaBelle, FLA. 33935
Tel. 813-675-1566 or 813-675-2691

BEES — A Honey of a Hobby
Root Bee Supplies in stock.

BEE SUPPLY COMPANY
60 Breakneck Hill Road.
Southboro, Mass. 01772

5 minutes from Mass. Pike Exit 12 or Rt. 495
OPEN TUESDAY — SATURDAY 10:00-5:00 p.m.

Honey As A Medicine

Charles Stewart Hess

Enthusiastic beekeepers are in the habit of extolling the value of honey as a "health food", but they fail to substantiate their claims by anything other than subjective evidence. As the bee breaks down complex sugars into the simpler monosaccharides, it is obvious that for humans this renders the sugars easier to assimilate. In fact, precisely the same processes that are undergone by sugars, in the bee's honey sac, take place in our own digestive tracts before absorption can take place. One can envisage that in grossly enfeebled States honey might be helpful by reducing the strain the alimentary glands. Such a result is normally achieved by supplying glucose by mouth or intravenous drip.

The value of the vitamins, enzymes, organic and amino acids, minerals and proteins, which are contained in honey in minute amounts, would seem negligible, medically or nutritionally. It must appear heretical to those staunch believers for anyone to claim that honey is merely a pleasant way of taking sugar. I have held this view since learning something about honeybees and their main product.

Continued on page 127

Three Banded Italians

Package Bees & Queens

This price includes postage and insurance. Prices starting April 1st 1986

Queens	2-lb. W/Q.	3-lb. W/Q.
1----19-- \$5.50	\$19.50	\$24.50
20----49-- 5.25	19.00	24.00
50----up-- 5.00	18.50	23.50

Package Bees picked up at our Apiary 2-lb. W/Q. \$14.00; 3-lb. W/Q. \$18.00
Fumidil-B fed to all Pkg. colonies and Queen Nuclei. Mite free and Health certificate furnished with all shipments.

Millry Bee Co.

Rt. 2, Box 84 Millry, AL 36558 Ph. 205-846-2662



HARDY CANADIAN STOCK

THE NOW FAMOUS "ALBERTA BEE"

DOCILE AND MITE FREE

QUEENS AVAILABLE FROM
MAY TO AUGUST, 1986

— TAKING ORDERS NOW —

U.S. customers deduct 28% exchange

5 - 25	25 - 49	49 & Up
\$10.00	\$8.00	\$7.50

BARRY OR VICTOR WIEDEMANN

(403) 529-5016

(403) 527-2607



THREE BANDED ITALIANS SERVING THOSE WHO DEMAND THE BEST IN PACKAGE BEES AND QUEENS PRICES

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

Queens clipped — 25 ° each Queens marked — 25 ° each

Queens are Postpaid and Shipped Air Mail

Packages are F.O.B. Shipping Point

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

THE WILBANKS APIARIES, INC.

Box 12, Claxton, Georgia 30417 Phone: Area Code (912) 739-4820
CREDIT CARDS WELCOMED!

Cabbages and Queens

"The Child Knows To Stick A Wet Finger In A Light Socket Only Once"

by **Jerry McGahan** **Box 71** **Arlee, Montana 59821**

It was cold and windy when I hived my first colony. I suspended the queen's cage into the dead vacuity of a newly built hive. She was not moving. I untied the cage to examine her. Her attendants seemed dead too. When I put the cage under my shirt and warmed it for a minute, a leg moved. I put her back and shook in the bees. It was like pouring confetti in the wind. Many of them flew off straightaway. A few dollops of bees stuck to the bottom momentarily then melted, spread jerkily, and dissipated to nothing. It was sickening.

I hate being a beginner. I hate beginning. It's never been just a matter of having to start somewhere; the ugliness and spectacle seem enough to prove the mess is personal and unique.

Trying to persuade mail-order bees to a dwelling no homier than an empty moving van was only part of it. The package itself was confounding. A three-pound cluster of bees clumped like mincemeat around the tiny cage imprisoning the queen, a few attendant worker bees, and a candy plug the bees are supposed to excavate to free a would-be matriarch they would rather kill than free. Hindered by the candy and thus delayed, they are supposed to free, honor, and serve this mother superior, grand materfamilias, instead of disassembling her.

The cold April wind notwithstanding, a few bees alighted on the queen cage and clung fast. Gradually others landed atop or crawled out of the empty spaces between the sheets of framed foundation. All of us, chilled bees and would-be beekeepers, were bewildered. One small cluster formed two frames down the way, another in the corner. I tried pushing them

toward the center with my new hive tool but it was like pushing sticky oatmeal. Eventually I gave up. I fit in the rest of the frames, set up their pail of sugar syrup, and closed the hive. I got in the car and studied it balefully. A few bees still fought the wind. Several fell into the snowy thatch of last summer's grass and disappeared. Then I realized that I had forgotten to pull the cork shielding the candy plug. When I got out to open the hive again, it started to rain.

But she survived, and as well her retinue. Moreover, they thrived and swarmed before I built a second story to their hive.

That bounty swiftly exceeded the space I allowed her. Having packed the hive with young, she quit that maternal profile, slimmed, and recaptured her youth. Then she absconded with half my bees, better said, forfeited half her bees to me, after first endowing them with another queen. This daughter was new and youthful, a princess with a girl's likeness. No matter how itinerant the form, a queen is always remarkably female.

When I happen to mail-order queens I leave the house at the postmaster's call with suspicions churning. It's partly superstition, all right, partly, too, what the child knows to stick a wet finger in the light socket only once. My first order came without any candy plugs. Twenty queens, their attendants, in twenty candyless cages. I remembered the candy plug the year before, the one I retrieved in the rain when I broke the tiny cluster one more time to extract the forgotten cork, but I didn't remember much, to say nothing of how to make it, or put it in the cage with the bees already present. I could have left a corked cage in

each hive for two or three days and then released the queen by hand but I didn't know that then. I had to sweat out a rescue made of ignorance, a rescue inspired by the threat of loss, one being a hundred dollars we didn't have. Twenty insects that cost a hundred dollars.

Tootsie Roll. Chewed-to-soft-brown-paste Tootsie Roll saved me. I pushed it through the end hole, packed in what I could, winced 20 times at the color and consistency of it all and then in resignation abandoned them to their 20 colonies. The bees set out at once to clean up the Tootsie Roll; without exception each colony took in their adopted queen.

The other dilemmas ended less happily. Disasters queued up, one per spring. For a major expansion, one that was to free me from the Man, from all employers, my partner and I bought 100 colonies in Texas and made plans to transport them straightaway. I borrowed and sent off the money. But the beekeeper in Texas was more than a beekeeper, a crook, too. I called just before we left to confirm the time and place for picking them up. He said the hives weren't worth moving; they'd fall apart and never hold the bees. He'd send 100 two-pound packages and refund the difference. Three weeks later a hundred packages arrived—none with a queen. I called. He said the queens were late but on their way. We stacked the bees in a shed and painted sugar syrup onto the screen sides and drove back and forth to the Post Office to keep watch for the queens that did not come. Without the social glue a queen mother represents, hived bees would only drift away. I called again. They're in the mail, he said. Eventually 20 queens did arrive. I hived them at once with

20 packages and called again. The phone had been disconnected. We had no choice but to consolidate the remaining, aging bees with the 20 queened colonies in our newest yard, the result being 20 brand-new hives comprising one queen, no drawn comb, and 10 pounds of long-imprisoned bees. You could have called it one helluva yard. We did. Bees and queens worth \$2500 hived in new frames, foundation, and hive bodies but it was all wiped out the day after when a bear laid it to waste, annihilated the yard to 20 soyflour patties worth less than the 12-pack of beer needed to soften the panorama of it all.

Next spring I ordered a hundred queens. Looking back now, I can see the meteorologist at the airport tower reporting the record low temperature the morning they arrived (-2°F), see he might have glanced down in the predawn light at the jet being unloaded, at the wagon with the luggage, other air freight, and my block of bees. They looked good when I got home, hardly a dead attendant, 100 fine looking queens straight from Florida to Montana. The day warmed. It was a sunny 40°F afternoon when I hived them in our queen bank. Three weeks later I had them all hived. Five weeks on I inspected my first pretty Starline queen and found she was a drone layer. The brood frames looked cancerous. It was the same in the second hive, the third, and so on. It was mid- to late May, the spring buildup fast closing on me and I had just launched 100 hives on an even 100 drone-laying queens. The season was lost.

I called the queen breeder. They were all mated queens, he said. He stood fast, a hundred good queens. Maybe they got chilled, he offered. They were all alive, I told him, and healthy. He was perplexed, but did not relent. The State Apiarist suggested I consult the expert; he gave me the name of F.E. Moeller in Madison, Wisconsin. It was Sunday evening and I phoned Dr. Moeller at home. His wife went to call him from the garden. Sometimes a catastrophe frees one's mind to a peculiar distance; mine marveled then at the receiver in my hand, the sorcery of it, the presumption that I retrieve the master from his garden 1200 miles beyond. I can't remember the construction of our con-

versation, the words anyway, only that he sounded like a man from his garden, who was willing to talk about his garden or bees as if they were the same, and who was handling it as if I were a neighbor leaning on the fence. He told me to dissect the last segment of the abdomen and extract the spermatheca, the little suitcase that contains the sperm delivered by the drone. If the spermatheca is clear she never got mated, otherwise, it's milky and she got chilled just enough to kill the sperm cells but not enough to affect her, at least so you could see it. I left Dr. Moeller to his garden and went to my hives and collected a half dozen of the bad queens. Dissecting them, I found every spermatheca was milky in color; all had been mated. All had been sabotaged by the short dose of one anomalous spring morning.

I kneel to search for the queen. I start with the brood frames and survey the cloak of bees for that one point of separateness. Once she's found, I lean the frame against the back of the adjoining hive, do with her colony what I have in mind, and then replace her. At the next hive, in search of the matriarch there, I find myself regretting that I hadn't doted longer on the one before. This time I'll do it, I decide again. I'll appreciate her; I'll linger, gaze at her anyway, cherish a little that manner of quintessential femaleness. And so, I go through the yard in search of one queen while attending instead to a recollection of the one before.

I never have really watched a queen to satisfaction, but maybe a queen, human royalty too, is never what you see straight on. Knowing what they can do to you must be part of that mystique. □

Honey Marketing Tip

Arnold and Connie Krochmal have reported that the 1986 Bi-Lo Food and Nutrition Expo, held in January in Greenville, South Carolina, draws a lot of people. The promotion for this event encourages big crowds by offering the opportunity to taste hundreds of delicious foods. Gourmet food tasting

has become a favorite pastime of Americans these days and honey is a natural to be sold on its flavor bouquet. It's an approach that can convince the public that local honeys have more appeal than the supermarket imports or mild flavored honeys. So watch for food tasting in your area and get involved or start it yourself. □

**FOR ROOT SUPPLIES
IN MICHIGAN**

**MAKE
A
BEELINE
TO**




PRAIRIE VIEW HONEY CO.
12303 Twelfth St., Detroit, Mich. 48206

Beekeepers Protest Official Inaction

The Oregon State Beekeepers Association has issued a news release "protesting the Oregon Department of Agriculture's failure to take effective actions to control the known infestations of honeybee tracheal mites (*Acarapis woodi*) in Jackson County". They cite Oregon state law as prohibiting the entry of bees from infected states, however, bees from North Dakota were allegedly allowed to enter Oregon in two large shipments. Both are claimed to have been sampled and determined to be infested with tracheal mites. The most recent shipment was in November, 1985.

The state did force the removal of bees shipped in from Florida in May of 1984, but to the date of this release, had not taken action on the later shipments.

The association urges the state to step up their detection control measures and to change their method of detection to a more accurate and cost effective type. They fear further delays will necessitate the quarantining of all Oregon bees which would work a hardship on the state's beekeepers, as well as the fruit, seed and vegetable growers who depend on bees pollination. □

SQUASH POLLEN



These scanning electron microscope pictures, provided by Associate Professor, Joseph R. Thomasson of Fort Hays State University in Kansas, show a bee with the spiny spheres of squash pollen grains. The bee is magnified about 25 times, the pollen grains approximately 150 times. It is interesting to see how the pollen grains look as if they are balloons attached to the thin strands of hair. We know bees carry a strong static electric charge; that along with the oily nature of bee-collected pollen, also causes it to adhere to their hairs.

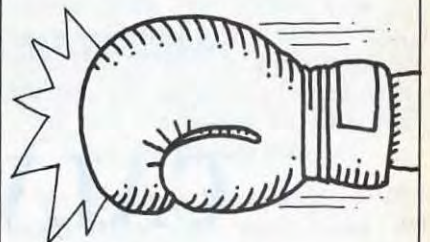
Prof. Thomasson, A Botanist in the Department of Biological Sciences, is working under a grant from the National Science Foundation.

Scanning electron photographs are unique compared to the optical microscopic pictures because of the clear detail, depth of focus and high magnification. The main drawback to its use, however, is that it can't be used to study living cells and micro-organisms because it bombards it's subject with a stream of electrons which cooks anything living and distorts soft tissue.

To the rescue come two Cornell University Scientists, Aaron Lewis and Michael Isaacson, who have developed a new type of optical microscope nearly as powerful as the electron units but safe for live objects. Instead of a lens it uses a pin hole reminiscent of very early cameras. An extremely thin beam of light, less than a light wave in diameter, is shown on the specimen. The light is transformed by photodetectors into electrical signals which are interpreted by a computer into a video image. □

JOHNSON
DOVETAILING EQUIPMENT
FOR THE BEEKEEPER'S SHOP
Write for details.
CARL E. JOHNSON CO.
1557 Gregory Avenue
LINCOLN PARK, MICH. 48146

HELP KNOCK OUT BIRTH DEFECTS



Join the
March of Dimes
BIRTH DEFECTS FOUNDATION

P.O. Box 159

JACKSON APIARIES

Phone 912/941-5522
Night 912/941-5215

PACKAGE BEES—QUEENS—HONEY

FUNSTON, GEORGIA 31753

PRICE LIST ITALIAN PACKAGE BEES AND QUEEN NO DRONES

We ship pure worker bees by your truck, car, trailer or by Parcel Post.
Prices are F.O.B. Funston, Georgia

With Queens	2 Lbs.	3 Lbs.	4 Lbs.	5 Lbs.	Queens
1-5	\$19.80	\$24.85	\$30.20	\$35.85	\$6.75
6-24	\$19.10	\$24.20	\$29.55	\$35.15	\$6.50
25-99	\$18.55	\$23.65	\$29.00	\$34.60	\$6.25
100-UP	\$18.20	\$23.25	\$28.60	\$34.25	\$6.00

Write for prices on truckloads of package bees.

Clipping Queens .50 each — Marking .50 each.

For queenless packages deduct \$3.00 from the above prices.

Please add for parcel post shipping and handling charges below to above prices of package bees in quantity.

	2 lb.	3 lb.	4 lb.	5 lb.	
1	\$5.11	\$5.93	\$6.85	\$7.18	pkg.
2	\$8.05	\$8.91	\$9.53	\$9.83	pkg.
3	\$9.97	\$10.35			pkg.

Shipping and handling charges include postage, special handling, and insurance. Queen bees are shipped post paid, insurance coverage is for replacement of bees only, insurance does not cover shipping charges.

A \$5.00 deposit per package is required to book your order balance is due 15 days prior to shipping date. For most desirable shipping dates, book your order early. Prices subject to change without notice. Thank you. Shipping dates April 1st thru May 20th.

PACKAGE BEES AND QUEENS

Three Banded Italians or Starlines

CERTIFIED MITE FREE

1986 — Prices — March 25—May 5

	QUEENS	2 Lb. W/Q	3 Lb. W/Q
1----2	\$6.00	\$22.00	\$27.00
3----24	\$5.75	\$20.55	\$25.55
25--49	\$5.50	\$19.55	\$24.50
50--up	\$5.25	\$19.00	\$24.00

STARLINES ADD 75¢ TO PKG. OR QUEEN

Package price includes Postage Insurance and all handling fees. If packages arrive damaged file claim at once for your loss, with your Post Office. No insurance to Canada.

WRITE FOR PRICES ON PACKAGES PICKED UP AT OUR APIARY

McCARY APIARIES

P.O. Box 87 — Buckatunna, Miss. 39322

PACKAGES

CALVERT APIARIES

BETTER BRED STOCK

QUEENS

QUEENS

QUEENS

1 thru 24	\$6.25
25 thru 99	5.75
100 or more	5.50

1 thru 3
4 or more
Trucks

PACKAGES POSTPAID

2 lb. w/q	3 lb. w/q
\$22.50	\$27.50
21.00	25.50
17.00	22.00

AMERICAN BEE BREEDERS ASSOCIATION

CERTIFIED MITE FREE

24 HOUR PHONE SERVICE (205) 829-6183

CALVERT APIARIES

P.O. Box 4

CALVERT, ALABAMA 36513

PH: (205) 829-6183

Allergic To Bee Stings? Relief Is Here!

by JAMES O. LOGAN Rte. 2, Box 173 Mt. Jackson, VA 22842

The trouble with spring — and summer and fall — is the stinging insects. Namely bees and hornets. Although no one is entirely immune to the discomfort caused by the stings from these organized workers, many of us can't tolerate the venom injected when the sting occurs.

Just for the record — and without getting into the science of entomology — suppose we determine the difference between bees and hornets.

Honeybees produce honey. Lots of it. Through their most unbelievable energy, a surplus is usually manufactured by them and the beekeeper can remove that surplus to satisfy his family's sweet tooth. Or he can sell it. The two most popular types of honey-gathering bees in this country are the Italian and the Caucasian. Caucasians, unlike the Italians, are almost always mildly mannered. It takes a frontal attack to get them mad enough to send out enough members to do you serious harm.

Italian bees are somewhat unpredictable. During a dry summer, when the nectar flow is all but nonexistent, these bees become downright ornery. They even go out of their way sometimes to fight other Italian bees. It is much like having a militia ready for battle, and having no enemy to combat, fight among themselves.

The difference between the two types of honeybees is difficult to spot. Suffice to say the Italians have orange and black stripes; Caucasians have stripes which are black and grey. Both are capable of stinging. Those who know say that either one of them hurt about the same.

If you are not allergic to the sting of the bee, you are among the majority. It is estimated that in the United States alone some ten million persons ARE allergic, and just the

mere presence of several bees is enough to make the frightened unfortunate dash indoors.

And, no wonder.

As little as one sting from the honey gatherer is enough to make the individual with a natural aversion sweat profusely, develop headaches and stomach cramps, and have a very difficult time breathing. Sometimes the joints become unbearably sore, the pulse quickens, and parts of the body take on a grotesque appearance as swelling progresses.

For you, it is probably not a serious matter. A sting on the hand, leg, or back will probably be forgotten the very next day. The vast majority of victims stung above the neck, however, can expect some swelling and skin discoloration. If you are a natural blonde or redhead, the bruising can be severe and may last more than a week. Have you a fair complexion? Try to avoid being stung near the eye. Otherwise you can be almost certain the eye closest to the sting will close for a day or two as the swelling increases.

Why is this still a problem with so many?

An explanation might be that "everyone is different." They aren't, of course. Some of us react violently to stings while not ever being bothered by mosquitos or gnats. Some of us produce certain body chemicals which repel these insects, while some others cannot produce them in sufficient quantities.

These are the mysteries constantly being probed by today's scientists. For the past ten years members of the Clinical Immunology Division at the Johns Hopkins School of Medicine have been busily involved in such intensive research. They have worked with almost heroic perseverance in an effort to find

some advance protection for the unfortunates with serious reactions to stinging insects.

Ideally, an immunity pill would be developed. Doctor Anne Kagey-Sobotka, Assistant Professor of Medicine at Hopkins, has told us there is no such help available, even though it may be developed in the not-too-distant future.

What IS available is something called "venom immunotherapy." Here is something rightfully called the forerunner to the immunity pill of the future. Not only is it good, it is 98% effective. The ten years of hard work has produced something worthy of a big celebration.

The development of this inoculation would remind you of the determination of Madame Curie and Jonas Salk. When the study began in earnest the researchers were almost convinced that a fluid made from the whole bodies of stinging insects would one day yield some protection. But the liquid from the insect bodies produced nothing better than a placebo. The patient, realizing he was participating in medical progress, wanted to report some immunity so badly that he felt he actually witnessed some.

For many years, now, an anti-snake venom has been available. Part of the process of producing this serum is to first acquire the pure venom from the snake. You may have seen such a process on television. It is at least a two handed procedure. The fangs are flexed over a glass and the venom is then "milked" from the poison sac.

It goes without saying that duplicating this with bees and hornets was pretty much out of the question. Or was it?

A method was developed to acquire the venom sacs from the stinging insects and, from them, producing an anti-venom. The end result is

an inoculation. A serum, if you wish to call it that, which has proved successful.

At last report from Johns Hopkins Hospital, there were still some barriers to cross. As yet there is no way to determine just how long is the effective period of this injection. Its effectiveness can be related to many elements. The age of the person is one of them. But the degree of activity of the person is something else, as is the weight, sex, complexion, and other possibilities.

This injection is not just for honeybees, nor is it for the Italian bees or the Caucasians, mentioned earlier. It is for stinging insects, as such. Honeybees, yellow jackets, mud wasps, paper wasps, bumblebees, and hornets.

It is really too bad about the bee venom being harmful to so many because it has been found to be beneficial to some. We know of a beekeeper who has only a few colonies of bees. Every winter his hands stiffen with rheumatism. Every spring, when he can go out in the yard and "work" his bees again, the stiffness disappears completely. His hands and fingers are stung frequently. He will tell you he has been stung so often he hardly notices it. He is thoroughly convinced the bee venom continuously keeps his rheumatism under control until winter comes again. And there are many like him.

Meanwhile, research goes on. Johns Hopkins may have spearheaded the first real relief from warm weather stinging insects, but others will follow in an effort to develop the immunity pill.

Help is not just on the way. It is here, today. The production of the effective liquid is still a slow process. Once that is overcome ten million of us will be able to lead happier lives.

One more human discomfort is on its way out.

*** The End ***

My Bees Who Clean My Driveway

Arie Jansen RR3 Ingersoll Ontario, Canada N5C 3J6

It has been said about fishermen that it isn't sure if liars automatically become fishermen or that fishermen automatically become liars, but by not being a fisherman myself, I fear that I just don't have the required background to take part in that dispute. I do, however, happen to know some beekeepers who can manage to make some of the most persistent lying fishermen look like the most trustworthy people on earth.

My neighbor Bill, who says that he can make money on his bees, is a good example of a lying beekeeper. He keeps telling me that he never has any winter losses, that he always gets twice as much honey per hive as I get, and a quarter more per pound as well.

I am a lousy sort of a beekeeper, and lose most of my colonies in the wintertime, have my hives always at the wrong time at the right place or at the right time on the wrong place and was a big failure at beekeeping, until I found out how to make my bees clean the snow out of my driveway.

We live here in snow country and sometimes have a whole meter, (that's more than three feet, for you Americans), of snow dumped upon us, which makes life very difficult for those who haven't trained their bees right.

Last week we had what we call a heavy snowfall, but when I woke up I noticed that my mile long lane had been cleaned before I had my first cup of coffee.

I went outside, started my car and after a little nod of appreciation in the direction of my beehives, drove the old thunderbus to see my neighbor Bill,

who was busy struggling with all that snow in his lane. When I asked him, gloatingly, why he didn't let his bees do it for him, he asked me to repeat that question. I did, and after pointing to his head declared that he thought that I was full of bee-droppings.

I can understand that there are a few questions coming up in the minds of my readers which I will try to answer as well as I can.

For those of you who believe that I should be a fisherman instead of a beekeeper, I think you are probably right. To those of you who had visions of my bees going out in the sub-zero weather to clean out my driveway flake by flake, how many bees do you think I have, and how dumb do you think they are. To those of you, however, who don't know what to make of it so far, the trick is really quite simple, and you may even make it work as well. This is the way it works for me.

I have an agreement with an orchardman here on the road, who has a big snowblower, to blow out my drive after every big snowfall in exchange for some hives of bees to pollinate his orchard, which means that my bees clean my snow.

The question may be raised: "Now what will happen when you found out this spring that all your bees had died?". It would be obvious that the orchardman would be out of luck, that I would have time to go fishing, and would have the material for another true story. What would you think about the following title? "How ten hives of dead bees kept my laneway free of snow all winter?"

Musings On High Altitude Beekeeping

by BRYAN KYLE Star Rte. #1, Box 3 Weston, CO 81091

Living at this high altitude (7000') with our sometimes severely cold winter snaps, I had never really considered raising honeybees. Once upon a summer construction job further up a mountain valley, a friend and foreman was diligently tracking a wild hive during his lunch breaks. I was intrigued by this seemingly simple chase and was soon involved with helping Vic, set up a hive on a scaffold to induce some bees into his queen baited home. What a project! Vic was successful and so was the hive.

I still own this clutch of bees (descendants undoubtedly). To think I've never been stung by them for the past few years. Their former fortress was more bearproof than a mere box.

About 25 feet up a steep gravel and oak covered cliff in the cleavage of a massive face of limestone, two tenacious yellow pine has a huge root wedged into this crack. Here the bees have a home. Approachable by every angle only at risk to life and limb this wild hive is still thriving. It may help my hive prosper to have such hardy ancestry.

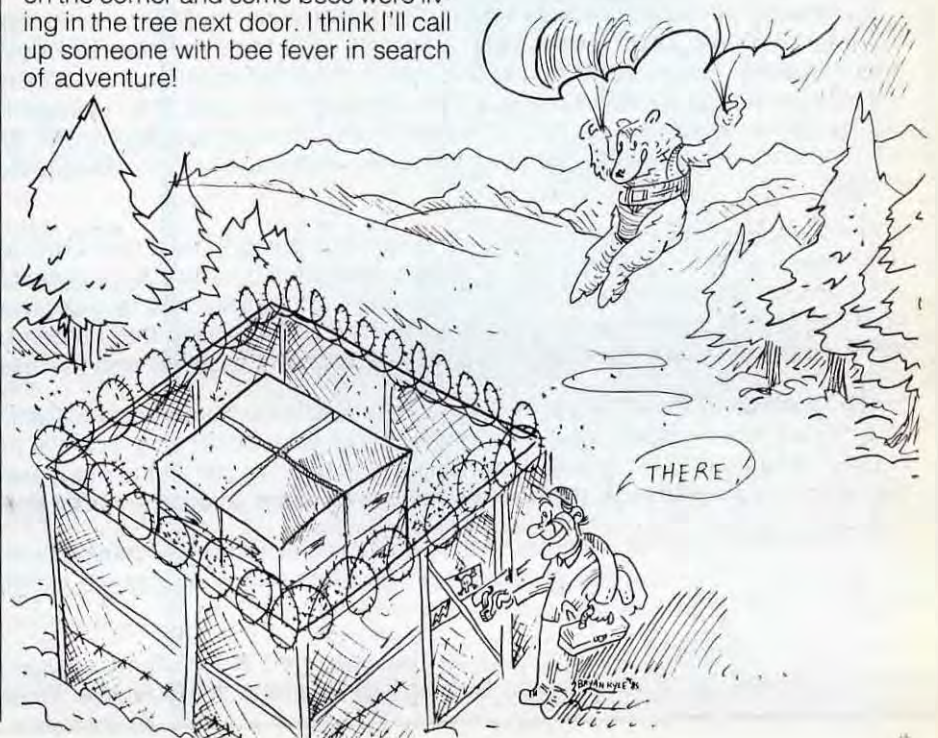
These last few nights have been down to 10° below zero and I worry about my bees. At other times of the year I worry about bears. Upon contemplating beekeeping, many people offer me advice on this perennial problem. Everything from perching the hives upon a platform on a pole, to guard dogs with electric fences was suggested. I have been unprotected and lucky thus far. I inherited not only my first and only hive, but most of my other equipment too. Some other fellow lost his hive to a bear and gave me his remaining supers, brood chambers, frames, gloves, veil, smoker, brush and extractor.

Late one summer night he and a friend were awakened by the bells and pie tins strung around the bee hive. Sure enough a bear was trashing their treasure. A warning shot was fired from a rifle. Unfortunately, the bear woke up dead with a neat hole in his forehead. Unfortunately, too, my friends had never butchered more than a grocery store chicken, but that's another story. This same unlucky beekeeper had previously asked for

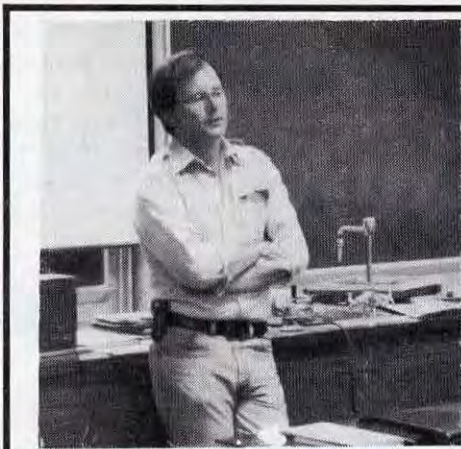
my help with a bee tree. Dumb that I am, I gladly accepted the offer of adventure.

Upon arriving at the scene of the crime only to find the hive hole had not been screened off the previous night, like we asked. So drawing a fair sized crowd of youngsters, we set to work straddling the gentle buzzing of bees. Dismantling a 75' live elm tree on a tiny triangle of land between a road corner and wooden fence, another large tree and the house was no mean feat. With much work, a chainsaw, some judiciously used ropes and lots of luck, no one was stung or hurt and no one's roof, fence, truck or kid was squashed by the falling tree parts. Wouldn't you know the hive had to be in the massive lower trunk and only about 7 ft. off the ground. Well we got a lot of wood and a live hive. At the end of an exhausting day, upon having to load the prized section into my buddy's van, we are faced with a heaving 300 lb. tree trunk crawling with confused bees up those final few feet.

Well we did and Kyle drove home up a bumpy dirt road for another hour with only one hostile passenger. Unfortunately the hive died that next winter. We checked back at that house on the corner and some bees were living in the tree next door. I think I'll call up someone with bee fever in search of adventure!



BEEKEEPING REFLECTIONS



By DR. JAMES TEW
The Agricultural
Technical Institute
Wooster, Ohio 44691

Each month (usually only minutes before "Gleanings" press deadline), I have the honor of being allowed to write a few pages about some aspect of beekeeping or some recent apicultural occurrence. I know that there are many contributors who have written hundreds of articles over the years without missing a month. I'm having more respect for those authors as each month goes by. It's hard to do — and yet at the same time, I enjoy trying to say something worthwhile.

It's a rare topic that doesn't require some background research, a few phone calls or some other assistance in finding the "finer" points of a subject.

Even now, I have before me a set of the International Bee Research Association's "*Apicultural Abstracts*". I'd be lost without these and other abstracting systems. As I peruse the abstracts, I'm always impressed with the quality and volume of work that's been done in apiculture. As I randomly pass from page to page, I see topics such as, "The Receptor-Potential of Single Mechanoreceptor Cells of Honeybees", "Biological Observations on Drone Rearing", "Temperature Distribution in the Surroundings of Honeybees", or "Vitamins in Royal Jelly" just to name a few of the many thousands of listings offered. In some instances, I understand what research has been done. In other cases, I don't have any idea what the authors were trying to show, but I always appreciate the fact that someone was trying to understand more about honeybees.

My research projects stimulate me. I enjoy working on several research topics that I have selected as time and the season allows, but I would like to comment on a topic not often discussed — those special days that come so infrequently when one can go to the bees just for the enjoyment of it. These aspects of beekeeping don't lend themselves well to statistical analysis. For instance, how does one replicate those spring days, when the keeper sits beside an active hive that is a pleasant hum of productive activity. As one watches the bees come and go, and one sees dandelions all over, that just a few weeks ago were covered under snow, how does one put numbers on that.

I love woodworking. The smell of new pine that's going to be a hive body after assembly always has a different odor from a pine board that's going to be a bookshelf or whatever. I think it's the combination of the new wood with the smell of beeswax foundation that's usually someplace nearby. I don't know how to measure the satisfaction I get as I look at a new comb which is on a sheet of foundation that I assembled only a few weeks ago. I almost feel a partnership with the bees — I put the equipment together and the bees finish the project.

The sweet smell of burning pine straw when used as smoker fuel is difficult to measure. I know it burns too hot and too fast, but on those (rare) days when I'm not pressed for time, I can let the smell of the smoker take me back to other yards and other years. Even though I'm making conscious managerial decisions on that particular hive, my mind is roving through memories when things were different — not better or worse — just different.

When it's time to go, for whatever reason, it's like coming down or coming back. I return home relaxed and recharged. It reminds me of the elusive "runner's high" that one is supposed to experience after all the runner's systems begin to function as a whole.

Yet this enjoyment of beekeeping won't be described in apicultural abstracts or other journals. I really couldn't even do it here, but it's the reason that most of us are in this business. We enjoy it. □

Honey As A Medicine Continued from page 118

Consequently, it was almost a relief to read a report in the British Medical Journal (22/6/85) which gave honey a role in the treatment of illness. The report described a clinical study in which honey was used for treating infants and children with gastro-enteritis (diarrhoea and vomiting) at the Department of Pediatrics and Child Health, Faculty of Medicine, University of Natal, Durban, South Africa. One hundred and sixty-nine infants and children aged eight days to eleven years were entered into the trial. They were divided into two or more or less equal groups and each were treated on exactly similar lines, except that one group received glucose in its refined form, and the other honey in an equivalent dose based on its glucose content. Without going into details I will quote from an abstract of the doctors' conclusions.

"The results showed that honey shortens the duration of bacterial diarrhoea, it does not prolong the duration of non-bacterial diarrhoea, and may

safely be used as a substitute for glucose in an oral rehydration solution containing electrolytes. The correct dilution of honey, as well as the presence of electrolytes in the oral rehydration solution, however, must be maintained." These details are of course, supplied. The electrolytes used were probably the salts of sodium and potassium.

The antibacterial effect on those children treated with honey could only, as I see it, be due to gluconic acid and hydrogen peroxide which are known to be liberated from the glucose in honey by the action of glucose oxidase, the enzyme secreted by the hypopharyngeal gland of the bee. Whether the regular eating of honey provides any protection against the development of bacterial diarrhoea is another matter. The healthy, long lived honey promoters among our ranks might draw such an additional conclusion from the study quoted above! Certainly no clinical trial that I have known of has ever been carried out to investigate such a possible protective action of honey. □

Beekeeping Magazine

FIRST FLIGHTS Candlewax Melter

Maxant Industries has developed a new wax melter primarily for use in melting beeswax to be poured into candle molds.

It consists of two tanks. The inner tank holding eight quarts of melted wax. The outer water-jacketed tank can be placed on a burner or used with a temperature controlled immersion electric heater. The entire unit is stainless steel.

The Maxant Company feels this is the first time such a safe melting unit has been available to candle makers. It's safe because as long as there is



water in the outer tank, the wax cannot get hotter than boiling temperature, far below the flash point and if the water boils off from inattention, the heating unit does not come in direct contact with the wax tank allowing the possibility of the wax being heated above the flash point. □

WE at

R. M. FARMS

Manufacturers of Pressure Sensitive Labels
Are proud of the **AMERICAN BEEKEEPERS**
and we would like to offer the following
label special:

For the unbelievable price of just **\$16.95**
you can receive all of the following: (Via U.P.S.)

4 colorful vinyl bumperstickers -

- Buy American Honey
- I Brake for Honeybees
- Support your local Beekeeper
- I ♥ American Honey

250 Combo labels - Granulation labels

*100 Bear labels *100 Round Comb labels

250 Caution labels

A sample of the New Clear Honey Bear Container

250 Product of the U.S.A. label - red, white, & blue

*250 3 x 3 1/4 large Honey labels

*250 2 x 2 1/2 small Honey labels

A packet of samples of all of our labels.

For the above special just send **\$16.95** to:



R. M. FARMS

28760 Van Born Road
Westland, Mich. 48185
Ph. (313) 722-7727

*Labels have ample space for a rubber stamp. All the above labels are **High Quality Pressure Sensitive** - just peel and stick. **NO GLUES! NO MESS!**
Prices & conditions are subject to change without notice.

For just a packet of samples send **\$1.50**

We are **CLOSED** December 15 through January 15.

This ad is to appear every other month.



Siftings

Charles Mraz
Box 127
Middlebury, VT
05753-0127

Most medical research that has been carried on with bee products for Therapeutic uses has been in socialistic countries such as USSR, Poland, Romania, etc. The one bee product that has had the most attention over the past 15 years or so at International Apitherapy Meetings has been propolis. At the Apimondia Meeting held in Moscow I attended in 1971, most papers were on propolis. Unlike in the U.S., this research is carried out by doctors and Government Health Agencies. In spite of this great interest in Propolis for so many years in these countries, almost nothing has been done in the U.S.

While I have been impressed with the reports that these doctors have made in their research with propolis, I never did go into it very much as most of my time was with bee venom therapy. However, I gradually have been using propolis on a personal basis lately and there certainly seems to be a lot of merit to the anti-bacteria and anti-virus activity of propolis. There is a perfectly sound, scientific basis for this, as it is common knowledge that the sap and resin of plants covers any wounds to prevent infections by these pathogens. Its virtue is that propolis as a rule is perfectly harmless to animal life.

Propolis is used in several ways; as is by chewing the resin, an alcohol tincture, or dissolved in various wax, fats and oils. Dissolved in grain alcohol (95%), it does seem to be

most effective on cold sores in the mouth. In the winter, I have an awful problem with cracked skin on my fingers that is very painful. I just found out by dipping my fingers in propolis tincture of alcohol, really healed up those painful cracks. It is the only thing that ever really helped.

Melted propolis appears to be good for corns. A few drops of the tincture in water makes a milky emulsion that is an excellent mouth rinse. From Poland I was told it is effective for Crohn's Disease, an incurable infection of the intestines. If it is or not, remains to be proven, at least in the U.S. hobby beekeepers especially could learn a lot by trying out these various applications of propolis to see just what merit they have. One thing you can be sure of, it is harmless, in most cases.

It appears that a lot of controversy is building up on the so called "eradication" of acarine disease. Any attempt at this time for any State to attempt to eradicate this mite is futile. Every colony of bees in the whole North American Continent would have to be destroyed. Even then it is doubtful if the mite could be eradicated.

It is impossible to prevent migration of bees in the U.S. Bees and beekeepers must have free access to move all over the country for honey production, build up and pollination. Acarine Disease has been in Europe for many years and in no country has

it caused any serious losses. Years ago, John Eckert of the University of California at Davis, went to Germany to study the mite. He found it there everywhere even where beekeepers and Government Research Centers said it did not exist in their bees. At first when he looked for it and found it, he made the mistake of telling them he found it in their bees. This caused a real problem, since they said they did not have the mite John had no business to find it. After that when he found it, he just kept it to himself. John was convinced that the mite does exist in the U.S. for many years. The only reason, he said, we never found it is because we never looked for it. It would not surprise me if this were indeed true. Prior to about 1920, many bees and queens were imported into the U.S. from European countries with no inspection or control. This goes back to when the eastern U.S. and South America were first settled over 300 years ago when bees were first imported to the new world. Bailey maintains that the heavy loss of the Native British "Brown" bee in the early 1900's was due to paralysis and not the mite. Such loss of adult bees can be controlled by the selection of bees resistant to either the mite or the paralysis, and avoid in-breeding which reduces resistance to disease of all kinds.

Beekeeping has always been faced with catastrophe of one kind or another since I first started keeping bees in 1919, 66 years ago. Somehow or other, with the help of Mother Nature and the good Lord, the bees seem to survive in spite of all the damage modern man can do to them by destroying the environment. When it is all done, man will have destroyed himself, not the bees. □

Magazine for Homesteaders!
Covering: Gardening, Small Stock
Health, Bees and much, much more...
Free Information!
One Year \$12; 2 Yrs. \$22; 3 Yrs. \$30
Money Back Guarantee!

Farming Uncle®

P.O. Box 91-B4 Liberty, New York 12754

QUEEN REARING: Theory and Practice Part I. Theory

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

Introduction

Most beekeepers recognize that queens are produced, in normal colonies, under three circumstances: 1) queenlessness, 2) swarming, and 3) supersedure. What they may not recognize is that for those nurse bees that feed the young queen larvae, the biological basis for producing queen cells is essentially the same, regardless of the stimulus (1, 2, or 3 above). What I want to do in this article is to give the background for that statement, and then in the second part to show how various queen rearing systems take advantage of this common biological basis for producing queens, and in the last part present a time table to be used in a queen rearing system.

Queen Substance

For many years scientists and beekeepers recognized that a colony reacted differently soon after a queen was removed from the hive. In various tests with screen cages, extracts from queens and chemical isolation experiments the "queen substance" was finally identified in 1959 by Colin Butler and co-workers in England. This was the first chemical isolation of the type of compounds that were to become known as "pheromones". A pheromone is a chemical that is used to "communicate" with other members of the same species. Most of the pheromones that have been studied are sex attractants that are used to communicate the presence of the female to the potential mates.

The queen substance, or pheromone, (chemically known as (E) 9-oxo-2-decenoic acid) is produced mainly by the queen's mandibular

gland. The substance is then secreted through the body wall and is picked up by the workers as they groom and clean the queen. The material is then passed to others within the hive as the bees feed and communicate with each other. Since a honeybee colony has a "corporate" stomach, the queen pheromone is very quickly passed among the workers. If you want to test this phenomenon, find the queen in a colony and put her in a mailing cage and keep her in your pocket for an hour or two. Then open up the cover of the hive and look and listen to the bees fanning and exposing their Nasanov (scent) gland on the tip of the abdomen. If your nose is good enough you probably can even smell this pheromone. Thus, communication that the queen is present (or absent) is rapid and clear.

Pheromone Level

Since we now know the chemical nature of the queen pheromone and have been able to produce it in the laboratory, it should be easy to add it to a queenless colony and determine the amount needed to fool the colony that a queen was present. This experiment has been done and it has been determined how much each bee must have in order to be "satisfied" that there is a queen in the hive. While the amount is very small per bee it is a measurable amount. When the queen pheromone drops below a threshold level (per bee) the colony reacts by various behavioral changes, one of which is the production of new queen cells.

Queen Production

Now let us go back to the three states of queen cell production and

see how it relates to pheromone levels within a colony.

The first condition queenlessness, is fairly obvious and that is when the queen is killed or dies, the pheromone is gone, and the colony soon responds with queen cells (as long as there are eggs or young larvae).

In the case of supersedure it is one of reduced production of the pheromone by the aging queen. As the queen gets older her ability to produce the chemical is reduced, and at some point the threshold level will not be reached for the size of the colony. This relationship of pheromone production of a queen and colony size can be shown by removing a queen that is being superseded and put her into a nuc with only two or three frames of bees. Under these circumstances the queen may live for a year or more longer before she is replaced within the nuc. This fact is often used by queen breeders as they take good queens from colonies and put them into small colonies, or nucs, so they will live longer, and thus they can graft larvae from them over a longer period of time.

With swarming the phenomenon is similar to supersedure. That is, it is a reduction of the pheromone level below the threshold level because of the number of bees within the colony. When the colony reaches a certain number of bees the queen's ability to produce enough queen substance reaches its limit. When the pheromone level drops below the critical level per bee the colony begins to produce queen cells.

Again there are some studies that

help prove this hypothesis. If you add synthetic pheromone to a colony the amount of swarming is reduced. Also it is known that if you have young queens the amount of swarming is reduced. A fact similar to supersedure in that a young queen is able to produce more pheromone and thus able to keep a larger colony satisfied. When a beekeeper uses a two queen system the amount of swarming is reduced, and that is because a two queen colony rarely becomes twice as large as a single queen colony yet has twice as much pheromone.

There is some evidence that there is a second queen pheromone that also is responsible for the repression of queen cells. This pheromone has been called the "foot print" pheromone because the fact that queen movement over the comb may suppress cell production. When the colony gets too large she has trouble covering all the combs effectively, and thus can not suppress queen cell production.

It may now be easier to understand why I made the statement above that the production of queen cells is the result of the same biological phenomenon — the reduction of queen pheromone (or maybe pheromones) below a threshold level within the individual bees. All queen rearing systems rely on this fact, even if the beekeeper or queen breeder doesn't know the reason the colony produces queens. In some queen rearing systems it may not always be obvious how the queen pheromone is being reduced or its distribution between workers is being subverted. In Part II, I will show how some common queen rearing systems use the lack, or reduction, in pheromone(s) to produce queens. □

ELI APIARIES

Italian Queens
Postage Paid Air Mail

1-10\$5.00
11-up\$4.00

RES. RT. 1, BOX 11-D
MONTE GUT, LA. 70377

Phone: 504 594 2415

Obituary

HARRY J. AEBI

Harry J. Aebi died in his home the evening of December 24, 1985. He was 94.

A native of Amity, Oregon, Mr. Aebi moved to Santa Cruz, California from Davis in 1950. He was best known for his work as a beekeeper, in which he was involved for more than 50 years. In 1974, he and his son earned a place in the Guinness Book of World Records when they were able to harvest 404 pounds of wildflower honey from a single hive in a single location in one season — a feat doubly noteworthy because he kept bees in a densely settled Live Oak neighborhood.

Mr. Aebi also co-authored two books, *The Art and Adventure of Beekeeping* and *Mastering the Art of Beekeeping* with his son, Ormond.

In Santa Cruz, he was a member of the Church of God. He is survived by his son, Ormond Aebi of Santa Cruz and two grand-daughters. Ormond welcomes visitors and can be reached at 710 17th Avenue, Santa Cruz, CA 95062, ph. (408) 475-2065.

PAUL H. ENGELHARDT

Found of Engelhardt's Honey, Inc.

Paul H. Engelhardt died at the age of 81.

Paul bought his first hives of bees in 1927 to start his honey company. In the thirties, he and his brother, Ernest, moved to the Hudson River Valley area with 150 colonies. In 1942 he purchased property in Antwerp, New York. After his brother Ernest passed away, in 1948, he brought his son, Alfred, and daughter, Gloria, into the business as partners. Paul's wife, Clare, and son Alfred, were killed in an automobile accident in 1960.

Gloria will continue to run Englehardt's Honey.

Herbs to attract bees. Shipped as starter plants. *Monarda*, *Thymus*, *Oregano*, *Hyssop*, *Mints*, to mention a few. Send SASE for list to:

Hilltop Greenhouse

6412 N. 42nd. Street
Omaha, NE 68111

The Australian Bee Journal

Published Monthly

\$A15.00 per annum

Australian Currency

BANK DRAFT PREFERRED.

Write to — Editor

Victorian Apirarists' Association

P.O. Box 426, Benalia 3672

Victoria, Australia

Sample Copies on Request.

ITALIAN QUEENS — CELLS



EAST TEXAS BEE CO.

RT. 3 · BOX 104-B
BUNA, TX. 77612

409-994-2612

FUMIDIL-B TREATED

Norman's Italian Bees & Queens

Now is the time to book your order for spring delivery.

2 lb. W/Q.

1-24 — \$17.25 25 up — \$17.00

3 lb. Pkg. W/Q.

1-24 — \$20.50 25 up — \$20.00

Young Laying Queens

1-10\$5.75 11-24\$5.50 25 up\$5.25

Certified mite free and disease free

Packages F.O.B. Ramer, Alabama

Norman Bee Co.

P.O. Box 26

Ramer, Ala. 36069

Ph. 205-562-3542

Write or call on truck loads



BRITISH BEE JOURNAL

Monthly

Single copies 29p plus postage

INLAND\$5.00

OVERSEAS & EIRE\$7.00 sterling

Or U.S. \$11.25

Annual subscription, post paid.

Keep up-to-date by taking out a subscription now either direct from us or through our agent.

Gleanings In Bee Culture

Medina, Ohio 44258 U.S.A.

My "Duplex" Two-Queen Colony

by LOREN DAVIS

Rt. 2, Box 83

Decatur, AR 72722

In December, 1983, I found a bee tree in a remote hillside location on my farm in northwest Arkansas. While waiting impatiently for spring to come so that I could transfer them to a hive, I had a brainstorm. I would turn it into a "duplex" two-queen colony and reap an abundant honey harvest. My plan was as follows: I would cut the tree, removing the section of trunk the bees were in, then move it to a convenient spot near my house. I would alter the entrance so that I could easily put in a bee escape to shut out the field bees. I would place a hive with some brood and a queen close by, thus shutting the field bees into the hive. Once they accepted the hive as home, I would remove the escape, allowing the bees in the log to come and go freely until they had a good field force again; then I would replace the escape and move them into the hive. Realizing that I would need to feed the log colony some to keep the queen laying, I knew that I would need to provide a way to do it easily. I would repeat this cycle until around June first, when the main honey flows started. Then I would split the log, remove the bees to a hive body, and combine them with the first to form a double-hive-body. Thus I would have a very large population which would produce honey abundantly. This was my plan. I kept a detailed record of my operation.

APRIL 5th: Today I cut the tree. Using boards, I discovered the ends of the section of the log containing the bees. I left the original entrance. I set the log on end near my house.

Next I constructed my "control box" my making a 6" by 6" box 3" deep. Using a 12" x 12" piece of masonite with a 3" hole in the center, I nailed the box over the hole in the masonite, bored a 1" hole in the side of the box and a hole in the top the size to fit a mason jar lid. This was for feeding. I inserted a short 3/4" pipe into the 1" hole, wrapped screen wire around it extending about 6" beyond the end of the pipe. This was my bee escape. I provided a cover over the feeder hole.

APRIL 6th: The queen that I had ordered arrived, so I established a nuc in a hive body, leaving it over another hive for warmth.

APRIL 21st: I checked the nuc and found the queen O.K. I cut off the top of the log below the entrance and nailed my "control box" over the top end of the log. Now the bees had to exit and enter through the box. I placed the nuc on a bottom board and moved it to the log on a platform level with the entrance to the log, placing the bee escape in the box. I checked them just before dark that evening. A large cluster was on the log around the box. None were going into the hive. Even smoking didn't move them in. I adjusted the hive so that it touched the log. Now the bees began to crawl across and go into the hive, though they wouldn't fly across. The weather was threatening so I removed the escape. Some went into the log and some into the hive.



My "Duplex" Two-Queen Colony

APRIL 22nd: Cold and cloudy. No bees flew today.

APRIL 23rd: Nice day. I replaced the escape and gave a quart of sugar to each half of my "two-queen colony". Both jars were emptied before

evening. All of the bees that were shut out of the log entered the hive.

APRIL 24th: Lovely day. I gave another quart of syrup to each. It was all taken by ten a.m. Then I gave each a half-gallon more of syrup and both jars were empty by evening.

MAY 1st: I checked the hive. I found about six frames of brood, much pollen, but not much honey. The past few days have been cool and windy. I removed the escape to give the log bees freedom to build up their field force again.

MAY 6th: Cool and cloudy. I gave each colony of bees one-half gallon syrup.

MAY 12th: Summer-like weather today. I replaced the escape. All the bees entered the hive nicely this evening.

MAY 17th: I removed the escape, and gave each a quart of syrup. The wild blackberries did not bloom this spring, probably due to our extremely cold winter. This is one of our main early nectar flows.

JUNE 2nd: I checked the hive. No brood! And I saw no queen.

JUNE 5th: When I checked the hive today I found very young larvae. So I do have a laying queen. Must be a case of supersedure. I replaced the escape.

JUNE 14th: I split the log and moved the bees into a hive body, using string to tie sections of the comb containing brood into frames. There were about five frames of brood. I did not see the queen. I combined this with the other hive, making a two-body hive. I moved it down onto a hive stand. The bees adjusted nicely to the new location. A added one super at this time.

AUGUST 1st: Today I robbed the bees as the honey flow in this area is over about mid-July. I took off about 35 pounds, which is about average for our area since our source of nectar is almost entirely from wild flowers.

SEPTEMBER 1st: When I checked the hive I found that it was very light. I will have to feed the bees to get them through the winter. So much for my hopes for a bumper honey crop! Who was it that said, "The best laid plans of mice and men often times go astray"? □

CANADIAN BEEKEEPING

The news media of the Canadian Honey Industry. Send \$10.00 for one year subscription to:

CANADIAN BEEKEEPING
Box 128, Orono, Ontario, Canada L0B 1M0

South African Bee Journal

Bi-monthly publication of the SA Federation of Beekeeper's Associations. Primarily devoted to articles on *A. mellifera adansonii*, and *A. m. capensis*. Annual subscription R20.00. Free sample copy from The Federation Secretary, P.O. Box 4488, Pretoria 0001, South Africa.

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

Check our Prices and Service and Compare.
These Prices include Postage, Insurance, Special Handling.

	2 lb. W/Q.	3 lb. W/Q.	Queens
1-24	\$19.50	\$25.00	\$5.50
25-up	\$18.50	\$24.00	\$5.00
Packages picked up at Our Apiary— 2 lb. W/Q \$14.00 3 lb. W/Q \$18.00			

PRICES AFTER MAY 1st

	Queens	2 lb. W/Q.	3 lb. W/Q
1-4	\$4.00	\$15.00	\$18.25
5-24	3.25	14.50	18.00
25-99	3.00	14.25	15.25
100-up	2.75	14.00	17.00
Packages picked up at Our Apiary— 2 lb. W/Q \$10.00 3 lb. W/Q \$13.00			
FUMIDIL-B FED TO ALL COLONIES. HEALTH CERTIFICATE WITH ALL SHIPMENTS.			

W.L. Tate and Son Bee Co.

Rt. 2, Box 91 Millry, Alabama 36558 Ph. 205-846-2661

Buy the best.. visi-chek

ROSS ROUNDS
ROUND COMB SECTION EQUIPMENT

P.O. Box 485
Massillon, Ohio 44646
Telephone: 216-837-9778

FAMOUS WEAVER QUEENS

QUALITY • INTEGRITY • SERVICE

This is our 61st year of producing Queens at Navasota, Texas. Try our gentle, highly productive bees bred for both hobbyist and commercial honey producers.

QUANTITY	QUEENS		PACKAGE BEES			
	ALL-AMERICAN (ITALIAN)	BUCKFAST	WITH ALL-AMERICAN QUEENS (ITALIAN)	WITH BUCKFAST QUEENS		
			2 LB.	3 LB.	2 LB.	3 LB.
1 - 4	\$7.60	\$8.30	\$23.40	\$29.40	\$24.10	\$30.10
5 - 31	7.00	7.70	22.40	28.40	23.10	29.10
32 - 99	6.40	7.10	20.00	26.00	20.70	26.70
100 - 999	6.00	6.70	19.50	25.50	20.20	26.20
1000 & up	5.90	6.60				

Call or Write for Truckload Prices

A HEALTH CERTIFICATE IS INCLUDED WITH EACH SHIPMENT. THE HONEY BEE TRACHEAL MITE (ACARINE DISEASE) HAS NOT BEEN FOUND IN OUR AREA.

PACKAGE BEES in quantities of less than 32 are priced and sold only with Clipped & Marked Queens. For larger quantities of Packages and for Queens, specify how you want them and add 50¢ for Clipping, 50¢ for Marking, or \$1.00 for both.

QUEENS are postpaid, and PACKAGE BEES are F.O.B. Navasota, Texas. PACKAGE BEES are shipped from the last week in March until mid-May by insured, special handling, parcel post. We will figure the shipping charge and include it on our invoice. If package bees are dead on arrival you must send us a statement from your Post Office and we will make one re-shipment at no cost to you.



WEAVER APIARIES, INC.

Rt. 1, Box 256 Navasota, Texas 77868 Phone: 409/825-2312
Established 1888



PIERCE ELECTRIC UNCAPPING KNIFE

Patented adjustable thermostat, blade now wound hotter at point end, guaranteed for one year.

DEALER INQUIRIES INVITED

(115 volt) 3-wire cord (230 volt) "NOW ALL STAINLESS STEEL"

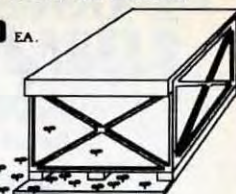
PIERCE MFG., INC. 2536-A E. Fender Ave. Fullerton, CA. 62631

ALL PLASTIC HIVES

READY TO USE ON ARRIVAL

\$51.00 EA.

Includes:
frames,
foundation,
all plastic
hive &
migratory
top



THE PLASTIC WAY, DEPT. 6

P.O. BOX 65

MOORESTOWN, NJ 08057

PHONE (609) 235-6454

\$7.50 SHIPPING & HANDLING

(\$12.00 WEST OF THE MISSISSIPPI)

Three Banded Italian

These Prices Include Postage & Insurance

Prices Start May 1st

	Queens	2-lb. w/queen	3 lb. w/queen
1 — 4	4.00	15.00	18.25
5 — 24	3.50	14.50	18.00
25 — 99	3.00	14.25	17.25
100 — Up	2.75	14.00	17.00

PACKAGES PICKED UP AT OUR APIARY AFTER MAY 1st

2-lb w/q \$10.00

3-lb w/q \$13.00

Millry Bee Company

Rt. 2, Box 84 Millry, Alabama 36558 Ph: 205-846-2662

PACKAGE BEES & QUEENS

Write for Prices & Information
Parcel Post and Truckload Shipments



P.O. Box 905
Dept. GBC
Moultrie, GA 31768
Ph: (912) 985-7200



A SUPER PACKAGE

6 Full Pounds of Bees

1 Young Mating & Laying 1986 Queen

Now you can get a Full crop of honey the first yera. My Super package of young bees requires less attention and will produce Surplus honey while smaller packages are still building up Available in the races as outlined in our full page ad in this magazine. Live Delivery Guaranteed. Shipment April 15th — April 30th only.

Net Prices — No Discount
Delivered post paid to you.

1-2 Pkgs.	\$45.00 ea.
3-9 Pkgs.	\$43.00 ea.
10 or more Pkgs.	\$41.00 ea.

HUCK BABCOCK

Post Office Box 2685

Cayce-West Columbia, South Carolina 29171

Office Phone — (803) 796-8988

After 9 p.m. only (803) 256-2046

Plantation Bee Company



P.O. Box 777, Baxley, GA 31513

Phone: 912-367-2984

ITALIAN	1 . . .	\$4.90
	2-9 . .	\$4.75
QUEENS	10-99 .	\$4.50
	100-up.	\$4.25

PACKAGE BEES - Any Number
Shipped F.O.B. Baxley, Ga.

2 lbs. w/queen	\$16.75
3 lbs. w/queen	\$20.75



TERMS: ORDERS \$100 OR MORE, 10% DEPOSIT AND BALANCE DUE 2 WEEKS BEFORE SHIPMENT — OTHERS, CASH WITH ORDER

Postscript To The International Congress Held In Japan

by LEWIS MEDINA

P.O. Box 388

Lares, P.R. 00669

Lares, Puerto Rico — The 30th International Apicultural Congress was held in Nagoya City, Japan, during October 10-16, 1985.

The organizing bodies were: The Organizing Committee for the 30th International Apicultural Congress and The Japan Apiculture and Honey Association. There were 3,400 participants (2,200 from Japan and 1,200 from 61 nations including the United States of America).



30TH INTERNATIONAL APICULTURAL CONGRESS 30ÈME CONGRÈS INTERNATIONAL DE L'APICULTURE

Stamp showing a honeybee in a strawberry blossom.

Post Office Honored Congress

Japan's Central Post Office honored the Congress with a 60-yen — all color stamp, showing a honeybee in a strawberry blossom.

The official statement about the issue was as follows:

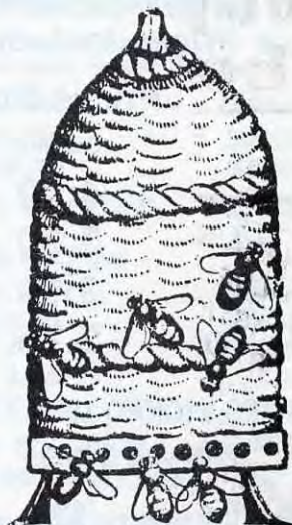
"Apiculture serves to promote the people's health by producing honey and royal jelly which are an important source of highly nutrient mineral supply. It also contributes to increased production of various agricultural products including, for example, fruit trees and grass, because the pollinating function of honeybees is indispensable for the propagation of many plants."

The Japanese Postal Authorities' statement about the Congress was:

"The International Apicultural Congress is held to ensure a stabilized growth of apiculture by providing an arena for international exchange of information. Beekeepers and apicultural scientists from all over the world gather at this meeting to exchange their views and knowledge of the ever advancing apicultural technology."

To obtain the stamp, order "Apicultural Stamp 664-1985", enclose check for \$0.50 and write to:

Tokyo Central Post Office
Philatelic Section
CPO Box 888
Tokyo 100-91-Japan



A YEAR IN THE BEEYARD

*An Expert's
Month by Month Instructions
for Successful Beekeeping*



ROGER A. MORSE

NEW

**\$14.95
postpaid
anywhere**

**Ready for
Delivery**

Also available for \$9.95 each postpaid anywhere: *Rearing Queen Honey Bees* (128 pages); *Honey Bee Brood Diseases* (32 pages with 26 color plates); *Making Mead* (127 pages); *Comb Honey Production* (128 pages).

WICWAS PRESS

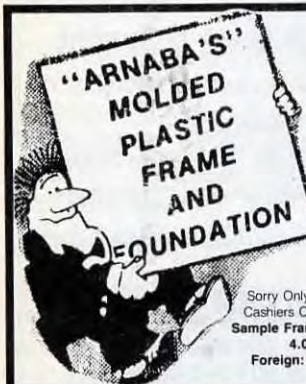
425 Hanshaw Rd.

Ithaca, New York 14850

We have available Extracting equipment for the Commercial Honey Producer.

For information write to:

Cook & Beals, Inc.
Loup City, NE 68853
Phone: 308-745-0154



NOW! MOLDED PLASTIC FRAME

Available for the ARNABA Foundation
 Stronger, more durable than wood. Works with all uncapping machinery.
 Reuseable — snaps together, snaps apart.

COMPLETE — FRAME AND FOUNDATION

1. 9-1/8" \$1.50 7-1/4" 1.40 6-1/4" 1.30
2. Minimum Order: \$20. Add \$4.20 for each lot of 20 in the United States.
 Canada: Add \$6.20 additional postage for each lot of 20 units.

The tried and proven ARNABA Molded Plastic Foundation is still available separately.

Write for Prices Discounts on large orders.

ARNABA, LTD.

P.O. Box 1351, KANE OHE, HAWAII 96744

Sorry Only Money Orders
 Cashiers Checks Accepted
 Sample Frame & Foundation
 4.00 U.S.A.
 Foreign: 5.50 postpaid

HONEY BEAR LABELS

**Order Now -
 - And Save!!**

500 - \$24.50
 1,000 - \$44.00

Add \$2.00 per
 500 for postage
 and handling.

**FREE
 Imprinting
 But Space
 Is Limited.**

Prices Subject
 To Change

**We Have Other
 Attractive
 2 & 3-Color
 Press-On Labels**



CUSTOM LABELS

Box 264, Ixonia, WI 53036

Ph. 414-567-3334

This ad to appear
 every other month.

NEW

The Illustrated Encyclopedia of Beekeeping
 by

Roger A. Morse and Ted Hooper, Editors

This profusely illustrated 432 page book, with 16 pages of colored photographs, gives a thorough discussion of beekeeping. Alphabetically arranged, the topics discussed range from abnormal bees to yeasts. Biographies of famous beekeepers and bee scientists such as Dyce, Miller, the Dadants and the Roots are also included. Forty-six specialists in various aspects of beekeeping, in addition to editors, have contributed their expertise to this volume.

\$35 postpaid

Also available: *Rearing Queen Honey Bees* (127 pages including how to grow your own queens — **\$9.95**); *Making Mead* (128 pages with directions on making mead at home — **\$9.95**); *Honey Bee Brood Diseases* (36 pages with colored plates of the principle diseases — **\$9.95**); *A Year in the Beeyard* (166 pages discussing management throughout the year — **\$14.95**); *Beeswax, Production, Harvesting, Processing and Products* (192 pages — **\$9.95** softcover and **\$14.95** hardcover).

Wicwas Press
425 Hanshaw Road
Ithaca, N.Y. 14850



GLORYBEE BEE BOX, INC.

1015 ARROWSMITH ST. • EUGENE, OREGON 97402

WRITE FOR FREE CATALOG

CALL US TOLL FREE FOR PRICES & FREIGHT QUOTES
 (38% LTL Freight)

WE HAVE THE BEST PRICES ANYWHERE

503-485-1649 OREGON

CALL TOLL FREE
1-800-325-1046 NATIONWIDE

FUMIDAL B - 9 1/2 Gr - 1-11 \$49.50, 12+ - Quote
 BUDGET FRAMES: All sizes-Lots of 500-15 1/2 c each
 except 9 1/8 17 1/2 c

BUDGET BOXES: 50 or more:

9 5/8 \$2.65 6 5/8 \$1.69 5 11/16 \$1.69

Add 15c to above prices for 10 or more.

BUDGET TOPS/BOTTOMS: 50 or more \$1.35 ea.

GLORYBEE PACKAGE BEES-F.O.B. Eugene

2 lb.-\$20.50 / 3 lb. \$23.50

9 5/8 COMMERCIAL BOXES: 50+-\$3.15/500+-\$3.05

COMMERCIAL FRAMES: 500-.23/1000-.22 1/2

5000-Quote. Add .01 on 7 1/4 & 9 1/8.

QUEEN CAGES-California Style-1000 \$.135 ea.

Regular Style-1000 \$.09 ea.

SPECIAL!! Ross Round Super Kits complete w/ring civers,
 frames, foundation, Super, etc. (except labels) 12 lbs. \$29.95

FOUNDATION SPECIAL - All Sizes

Unwired-\$68.75 cs, Wired-\$73.95 cs, Duragilt-\$79.95 cs

**Experience Trapping
this season . . .**

\$19.95

or 2 for \$37.90 Shipping cost COD

FREE INFORMATION — Ask
about our Introductory
Offer SPECIAL

HONEYBEE PRODUCTS

R1 Amery, WI 54001 • 715-263-2510

The HP POLLEN TRAP

—another dimension in beekeeping.



Featuring the quality of TABER and HASTINGS breeding stock.
ITALIAN and CARNIOLAN QUEENS
All of our queens are TOP QUALITY, FERTILE and
GUARANTEED to arrive ALIVE and HEALTHY

1 to 24 queens.....\$7.50 ea.	25 to 99.....\$6.75
100 - 299.....\$6.00	300 and Up.....\$5.50

Marking or Clipping 25¢
Shipped U.S. Priority Mail, Postpaid
Mite Free



GLENN APIARIES
1358 E. Mission Rd.
Fallbrook, CA 92028



Phone mornings, days, or evenings (619) 728-3731

STOLLER

FRAME SPACERS



Our spacers are sold from coast to coast. Contact your bee supply dealer for your frame spacer needs.



STOLLER HONEY FARMS INC.
LATTY, OHIO 46855

Homan's Quality Bred Caucasian & Italian Bees & Queens

2 lb. w/q — \$20.00	3 lb. w/q — \$25.00	4 lb. w/q — \$30.00
---------------------	---------------------	---------------------

QUEENS

1-49 — \$5.50 50-up — \$5.00

TRUCKS

2 lb. w/q—\$16.00 3 lb. w/q—\$21.00

Clipping & Marking .25 each. The prices above include postage, special handling, and insurance fee.

DISCOUNT ON LARGE ORDERS. Certified mite and disease free. We feed Fumidil-B. 20% books order. Balance 2 weeks prior to shipment.

HOLDER HOMAN APIARIES

Rt. 2, Box 123-B SHANNON, MS 38868 Ph: 601-767-3880
Or 601-767-3855

M. R. CARY CORPORATION

219 Washington Square
P.O. Box 122
Syracuse, NY 13208

A GOOD place to BUY
your Root Supplies
Drums, Cans, and Glass Jars

A GOOD place to SELL
your Honey and Beeswax.

Come to see us—or write—
or phone (315) 472-5487

START OUT RIGHT!!!
3 FRAME ITALIAN NUCS
\$35.00 each or 3 for \$100.00 postpaid
Will make up Nucs in your equipment for \$22.50 each. FOB Texas in April, 1986

QUEENS

1-10 \$6.00 11-25 \$5.25 26 up \$4.75



Box's Better Bees
410 N. Lide, Mt. Pleasant, TX 75455



FUMIDIL-B® Treated PHONE 214-572-0428

Pacific Wax Works
Deep Cell Foundation

This is a very deep cell foundation, yet weighing up to 7 sheets per lb. for deep frames. It is approximately .125 thick compared to an industry average of about .090.

Send for free sample.

Medium Brood	\$59.00/25 lb.
Wired with or without hooks	\$66.00/25 lb.
Make-up service — unwired	\$.60/lb.
wired	\$.80/lb.

DEALERS INQUIRIES INVITED

17530 N.E. Terry Lane
Phone: (503) 538-5591

Newberg, OR
97132

Italian	QUEENS	Caucasian
	1-24	25-99 100 up
2 lb. pkg. w. queen	\$21.00	\$19.75 \$19.00
3 lb. pkg. w. queen	25.75	24.85 24.00
Nice large queens	6.00	5.50 5.30
Clipping 50¢	Marking 50¢	
MITE FREE		
Write for package prices on truck. Order 1 or 1,000		
Mitchell's Apiaries Bunkie, La. 71322-0391 Ph. 318-346-2176		

Adventures In Bee Inspection — Part I

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

When I was about 30 years old, I was talked into working as a deputy bee inspector. I didn't want the job, but I was public-spirited enough that, when they asked me, I finally consented.

I was a hobby beekeeper, who did a lot of experimenting. I sometimes wrote up the results, of some of my experiments in "*Gleanings In Bee Culture*", "*American Bee Journal*", and "*Beekeepers Item*". (Popular trade magazines of that time.)

There had been a bad A.F.B. outbreak in four counties; Macoupin, Jersey, Green and Calhoun. This was also the central fruit belt in Illinois. These counties are all Illinois, Mississippi, and Macoupin River counties with timbered hills and many small streams that feed into these rivers. This made an ideal place for disease to be spread, as there were many bee trees. Also there were several small apiaries of logs, washing machines, dry goods boxes, kegs, barrels, and anything else you care to name. Lots of old houses had holes in the weather boarding and bees would go into these, too. The disease killed the bees; the spore-infected honey was left for any healthy colony to rob out. This, as any bee man can see, was just about an impossible task; worse, when you know that in those days, nothing had been done in the way of prevention; except the burning of any infected material, that the inspector found.

My Start

The State Inspector at that time, was Mr. Carl Killion, a young man with a college education and a commercial comb honey man. He was at a loss for someone to take this territory, who, he felt, could get it straightened out. He went to the professor, who taught beekeeping, at the University of Illinois, at Champaign, and asked his advice.

The professor told him of reading my articles and in view of the fact that I was successfully keeping bees right in the heart of this area, I was his choice.

One day in March, he came to see me, bringing the Secretary of the Illinois Beekeepers Association with him. One of the matters they talked to me about, was how I could be successful in that area. I told them that I hunted bee trees in all the spare time I had and either cut them and transferred the healthy bees; or helped others to cut them for honey, and if they wanted the bees, I would help to hive them. I got the bee tree hunters in my area to burn any old combs and scorch out any bee tree that they robbed. After some talk they asked me to take the territory. The season was eighty days at five dollars per day and four cents a mile for travel, using my own car. I told Mr. Killion and the Secretary that I could not do it, as, although it was a civil service job, the politicians would want, someone from the prevailing democratic party. I informed them that I was an independent voter, belonging to no party and choosing my candidate according to his record.

After a bit of thinking, he said, "I need **you**. Go to the April Primary and vote in the Democrat primary, so that no one can contest your appointment. I'll send you your letter of appointment and your special deputy's badge the day after the primary. I don't need a politician, but a 'doctor' for a 'sick patient'!. So that was how I became an inspector. After I was working for about a week, I had to inspect some bees that belonged to a Central Committee man. He jumped me about my politics, I replied that I wasn't a politician — just a veterinarian for bees.

I went to work near the Montgomery County line and Mr. Hill, the inspector from that area, helped me work the

border, working both sides of the line.

One day we came upon a yard of about 60 colonies of very black bees.

They Were Mean, Very Populous, And Had A Lot Of Honey

It was a cloudy day and no honey was coming in. Mr. Hill tore down several hives and left the honey exposed too long. The bees started robbing, I had lost my bee veil on the way to the apiary, so I had to work without a veil. The bees were so angry, they were stinging the chickens, the dog and us! They would sting us even through our clothes. Mr. Hill couldn't take it, even though he had bee gloves and a veil on; so he left to go into a dark shed. I stayed and put the hives back together before I went to the shed. When I returned home that night, my wife and the hired man found over 700 stingers in my neck and back. For several days I felt very sluggish; although I never swelled from the stings. That was the last time I ever saw Mr. Hill.

Every time I came into a community where there was very much disease, I would get all the beekeepers to meet where there were some diseased bees and would put on a demonstration. I would explain what the disease was, show them how to dispose of the equipment without scattering the disease, and explain the sanitation that was needed to stay in business. I held an open meeting, giving everyone a chance to ask questions and told them if they wanted to keep bees, they would have to learn to do for themselves, as no one man could possibly cover all that territory and keep everybody's bees clean. On the whole, they like me, and so they listened. I told them about cutting bee trees, etc., and got a real clean-up campaign

going. After the first year I spent my day spot-checking the territory — helping anyone that asked for help.

When I took the territory, it was about 40% diseased colonies. After three years we had it down to about 1%. I got the credit for it but the people did the "lion's share", after they were initiated.

The Job Can Be Dangerous

There were some incidents that were funny and some that could have been tragic. Once I called on some people of foreign origin, who talked broken English. They had about 30 log "gums", of which some were dead. I got the combs out of these and they were full of AFB scale. The only person I saw when I went in to see them was a woman. When I stated my business there, she said, "O.K.". I had been accompanied to their place by their neighbor, but he would not go in with me because he claimed that the man had shot another neighbor. "I wouldn't go in there for any price," he said. But I told him that my job made it mandatory. Well, I found out what he was afraid of that day. After I had written a burn order, for all the logs and gave it to the woman, the man stepped out from behind a tree as I passed it. He held a double barreled shotgun with both barrels cocked. He was so close that the barrels almost touched me as he held it aimed at my middle. I never thought about anything, except I became very angry. With one quick swipe I grabbed the barrels, pushing them to one side. With a hard jerk, I pulled the gun out of his hands and it went off right by my side. In my rage at this, I tore off the snap forelock on the gun, broke it apart, and threw the parts in different directions. Then I told the man that he had three days to burn those logs in a pit, and that I'd be back later to see that the order had been carried out. "If you try to shoot me, then the sheriff will get you." I got into my car and left; picked up the neighbor who came with me at the gate and took him home. He asked me if I was going to call back and I said I was. He told me that I was crazy and they would try to kill me. But I went back three days later and my "shotgunner" was waiting for me. No! No gun! Just a very polite man who took me out and showed me where he had burned everything.

I Had To Be Ready To Fight

Another time I was working in another part of the territory, and had the local barber with me. He was a beekeeper and knew everyone, so he volunteered to show me around.

Every place we went, it seemed like there were some bad bees to dispose of, not the entire yard, but at least some at every place.

The owner's of these yards were unhappy at having to destroy these diseased combs, as they had lots of honey on them. The last place had about 50 old Danzenbaker hives, in good repair and wellpainted. They were set in an apple orchard. I went down the rows of bees and on any hive that gave off an odor or were very weak, I put an apple on the lid. The owner asked me why I was doing that and I told him that was the way I marked suspect hives, which I would open first. When they were opened, of course all were diseased. Then I started opening the hives on each side of the diseased ones and they, too, were diseased. The owner was a huge farmer of German heritage and he became very angry; accusing me of not being fair. He told me that I'd marked the hives without opening them, and I tried to get him to understand, but he got very abusive. I was losing my temper so I walked away from him and the barber to another part of the orchard and sat down; in order to cool off my hot head. The big German wouldn't have it that way though, and came down to where I was sitting (with the barber trying to get him to be quiet and to let me alone). But he became more and more angry and wanted to fight me. I had not yet got control of my temper, so I told him, "Mister, the state doesn't pay me to fight, nor does it condone it. but if you want to go out on the public road, off of your property, I'll take off my star and put it in the car. Then I'll do my best to accomodate you." As we passed the house, his wife came out of the door and she managed to quiet him.

I was out in the road waiting and the barber came out where I was and said, "Brother, I wouldn't have your job at any price. I never saw anyone take the abuse you have today and I'm sure glad he didn't come on out here

as I have a feeling it wouldn't have been very good for me."

I wrote up an order for the equipment and bees to be cleaned up in three days (which was the legal time limit).

That night I got a call from my boss. He told me that the barber had called him and so had the German farmer. He said, "I don't want to interfere with the way you handle this, and from what the barber has told me, you handled it better than I would have. However, the farmer has asked me for more time as he has to fill his silo."

I went back the next day and told the farmer that I would give him an extension on his time and would come back and help him when the silo was filled. I did this and made a friend out of him. After that, if I ran across him anywhere, he would go out of his way to greet me.

Transferring

One man in Calhoun County had about 30 new hives with bees in them. He also had about the same number of log "gums". I tipped the logs over and pulled out a comb or two, spread the rest and checked these "gums." When I got to the new hives, I thought it would be easy. The beekeeper laughed when I told him that he should have all his bees in modern hives. I found out, when I took off the lids, what he was laughing about. He had hived a swarm in them without putting in any foundation. He said "Now what are you going to do"? I turned the body over and using my hive tool cut the combs loose from the sides of the body. I then, lifted the hive body off and started cutting combs away from the frames. He said "Now what am I going to do"? I said, "Get some string and tie these combs into the frames right". We went through all the hives in this way. When we were done, he said, "Now I know how to get rid of my logs, too." The next time I visited him he had about 80 hives, all modern, with combs you could remove. Of course, lots of them were partly drone comb; but he did get foundation for the frames that were used after he did his transferring.

Meeting With The Riverfolk

While we were working his bees one

day, the church bell began to toll. He counted the strokes and it was for a grown person of middle age; then it tolled again sixteen times; then four times; then, at last, two times. He tried to think of who it could be. He quit working and went down to the church to ask the sextant who it was that had perished. When he came back, he told me that it was a family living on a houseboat on the Illinois River. First the baby had fallen into the river. The father jumped in after her, but he couldn't swim. The two older boys tried to rescue him, but he panicked, and drowned both of them. They were "shelling" on the river for a living.

"Shelling" for the uninitiated was really raking the river bottom with clam rakes. When they had a boat load, they took the shells to the shore of the river where there were big vats of hot water ready for them. The shells (fresh water mussels) were boiled in these vats until the shells came open and the meat could be removed. The shells, themselves, were sold by the ton to factories that made pearl buttons that are common on clothing. It was not a very lucrative business; so "shellers" usually lived on houseboats. There they could also fish for food and sell any surplus catches to the fish markets.

The country was just getting out of the big depression at this time, so there were many river folk living along both the Illinois and Mississippi rivers. They were like the Okies, there as a last resort. They lived by fishing, shelling, hunting, and picking fruit. Many had no boats so they built shacks on the river banks. These shacks were made of tin, cardboard boxes and any old lumber that they could find.

They had feelings for each other and would share anything to help out someone. When this particular tragedy happened, the other river people in that area, as well as the residents there, provided a funeral for the victims and then looked after the widow and two children that were left. This country, between the two rivers, was a fruit growing area; so making it ideal for these displaced persons, they could get work at good wages for three to four months, then live off the rivers the rest of the time.

Some of these people cut bee trees

and part of the logs, with bees in them, were kept for future honey. That is how I got to meet many of these people. I also learned a lot about the tragedies of life amid these underprivileged.

Disease Free Bees

In working diseased yards, I found two yards that had been about 100 colonies. They were abandoned and the owners were working on the railroad. The bees had all died with AFB; except there were five or six in each yard that were healthy and strong. These bees had robbed out the others and now were using the spore-infested honey without any ill effects. The bees were cross-bred and some were very mean.

Some other inspectors had already experienced this same phenomena and there was a project beginning, to be put into use; in which these bees would be the foundation stock for a disease-free bee. I contributed several of these queens to the project. This project ran for several years. I think it was a good thing that got "lost in the shuffle." At about this time, someone discovered Sulphathiazole and its effect on diseased colonies was very effective in hiding the disease and also provided enough relief from its effects so that a colony could survive.

Bees with Fleas

Along came Terramycin and the project lost support. The quick relief was grasped to the detriment of a race of bees that were immune. One older man who ran a nursery, lost his bees with disease. I helped him to clean up the mess. He had hung all the diseased combs in trees, in order that the sun would sterilize them. I told him to render the combs as he could use the wax for grafting. When he had all his equipment sterilized in lye water, he put in new foundation. The next spring I ordered some new packages for him. It was early April when they arrived. I helped him make the syrup and install the bees. About a week later, I received a post card asking me to come quick as there were fleas on the bees, sucking them to death. I didn't know what to make of this, so I drove about 70 miles to his place. He was really excited and took me out to see the bees. The weather had been very cold during the time the bees were in the hives

and he had given them a very rich syrup; so that they could build up the foundation. The bees were loaded with wax scales on their abdomen, as large as grains of wheat. There were lots of these drops of wax on the bottom board; as it was too cold for the bees to make comb, except a little in the center of the cluster. He had seen these wax scales on the bees and thought they were pests anyong his bees. When I explained what had happened, he was happy and I went back home. Calhoun County was a long, high ridge with rivers on each side of it. The small creeks from the ridge tops followed the varied directions of the valley, leading to either river. The roads ran alongside the creeks, often crossing them or even going up in the creek bed for a long ways. The hills were very rocky and the roads going up them were filled with little edges of shelfrock. (Very hard on tires).

Our story continues next month in Part II of Adventures In Bee Inspection.

Art Kehl Is Honored

Arthur W. Kehl of rural Watertown was honored by the Wisconsin Honey Producers Association during their 197th Annual Convention recently held in Green Bay.

He was awarded the association's highest honor by being named "Beekeeper of the Year 1984-85." The 400 member organization limits itself to one such award each year.

Kehl, who started work within the organization back in 1946 when he was employed in the sales department of the old G.B. Lewis Co., has served with the WHPA in many offices.

He was secretary, treasurer, and editor of the group's monthly newspaper, "The Badger Bee" for more than ten years and served as president for two terms.

Kehl has also headed up the state fair display for the organization for many years and took a very active part in lobbying for industry legislation at the state capitol in Madison. □

FREE VACATION IN HAWAII

Buy 1,000 queens at May 10th prices and come to Hawaii on us. Smaller orders build credit for future years.

OUR 1986 PRICES WILL BE: Feb.-May 9th

1000 & Up	100-999	26-99
\$5.90	\$6.00	\$6.40
5-25	1-4	
\$7.00	\$7.50	



KONA QUEEN CO.
America's Isolated Breeding Grounds
ON THE BIG ISLAND OF HAWAII
P.O. Box 768
Captain Cook, HI 96704
(808) 328-9016

RUSSELL'S BEE SUPPLY

Box 1447
Sanford, FL 32772-1447
305-322-0864

BONUS DISCOUNT

10% Discount on first \$100.00
order of wood products only!

COMPLETE LINE OF WOOD
PRODUCTS & ACCESSORIES!

REQUEEN REGULARLY FOR MORE PROFITS

Shop Where
You See
This Emblem



American Bee Breeders Assn.

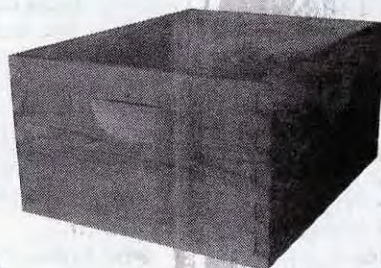
P.O. Box 215, Hayneville, AL 36040
Write for Member List, Trade Practices

Honey Bees have a
photographic memory
which allows them to
return by sight, to the
same type of flower.



Do You Know?

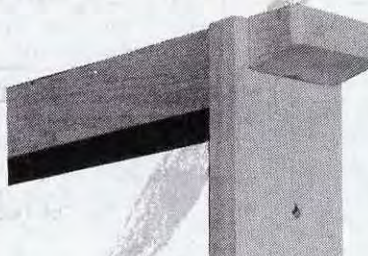
THESE ITEMS ARE ON SALE NOW!



VIKING SUPER—Many customers use these quality and servicable 9 1/8" deep supers. You will like them, for our cuts are unsurpassed in accuracy.
2W11—10.....\$35.00 per 10
2W11—100....\$320.00 per 100

PREMIER FRAMES—Machined to exact standards for high quality. Easy to assemble with standard thickness end bars, Hoffman-style top bar and shouldered bottom bar. Size 9 1/8".

LC21.....\$25.50 per 100
LC21.....\$245.00 per 1,000



Strauser
BEE SUPPLY, INC.

P.O. BOX 991 • WALLA WALLA, WA 99362 • 1-800-541-8908

NEW

ANNOUNCING NOW IN STOCK

Complete Line Of Commercial Supplies
Quality Western Pine

Dovetail supers all sizes - wedge top frames,
grooved or split bottom - reversible bottom
boards - telescoping tops

Bees use EVERY available space. We
took our lessons from them & have fill-
ed our warehouse. Come see for
yourselves our new quality commer-
cial line.

THE A.I. ROOT COMPANY

1949 Commerce Rd., U.S. Hwy. 441
N., Athens, GA 30607.
(404) 548-ROOT.

HEARTHSTONE

Beekeepers Quarterly

\$6.50 per year - Canada

U.S.A. & Foreign - \$7.00 U.S.

Box 58-Colinton, Alberta
Canada, T0G 0R0

BEE INTERESTED

For beekeeping information read the *American Bee Jour-
nal*. New editorial emphasis on practical down-to-earth
material, including question and answer section, for more
information or free sample copy, write to:

AMERICAN BEE JOURNAL
Hamilton, Illinois 62341

The J.C. Extractor The Beekeepers Dream

JOHN CSABA

6132 Beach Blvd., Buena Park, CA 90621
(714) 995-7652

ALPINE CARNIOLAN QUEENS & PACKAGE BEES

Write or call for Prices

HIGH SHOALS APIARIES

P.O. Box 665 B
High Shoals, GA 30645
Phone (404) 769-6638

F. W. JONES & SON LTD.

1878 - 1981

ATTN.: BEEKEEPERS IN THE NORTHEAST

Italian & Caucasian Bees Available at Competitive Prices (U.S.\$)

	1-5	6-24	25-99	100 +	+ Transport
Queens	\$ 7.15	\$ 6.90	\$ 6.65	\$ 6.20	—
2 lb. Pkg.	22.55	21.70	20.85	19.50	2.75
3 lb. Pkg.	28.90	27.80	26.70	25.05	3.20
4 lb. Pkg.	35.80	34.45	33.05	31.00	3.30

Postage not included - Loads each week April 15 - May 15

Pickup Bedford or We Mail Packages from Vermont.

— LIVE DELIVERY GUARANTEED —

ALSO A COMPLETE LINE OF BEE SUPPLIES

44 Dutch St., Bedford, Que.

Canada J0J 1A0 514-248-3323

68 Tycos Dr., Toronto, Ont.

Canada M6B 1V9 416-783-2818

MIKSA HONEY FARMS

Caucasian, Italian & Carniolan Queens

25 and up \$5.50 ea., Airmail prepaid
Under 25, \$5.50 ea., plus postage and
handling

All apiaries are Fumidil-B fed.

Also available—FORSSAPIN® —A vitamin and
mineral supplement for syrup feeding, which
increases brood rearing and helps bees abili-
ty to resist all diseases.

Rt. 1, Box 820
Groveland, FL 32736
PH. 904-429-3447

Farris Homan Bees & Queens

Package bees Italian or Caucasian. Inspected and free of mites or other disease. Prepaid
Postage and Insured.

In lots of	Queens	2 lb. w/q	3 lb. w/q	4 lb. w/q
1 - 49	\$5.50	\$20.00	\$25.00	\$31.45
50 up	\$5.00	\$19.50	\$24.50	\$30.45

Clip or mark queen 50° per queen

Truck Price quoted by request Shipments start April 15th

FARRIS HOMAN

P.O. Box 4 Shannon, MS 38868 Ph. 601-767-3960

QUEENS CAUCASIAN — ITALIAN

"Excellent Honey Producers"

All Colonies & Queen Nucs fed Fumidil B.
Free from harmful Mites.

Air Mail post paid, Live Delivery & Prompt Service Guaranteed

1-9	10-24	25-99	100-up
\$7.25	\$6.50	\$6.00	\$5.50

Terms: 10% Deposit to book order. Balance 2 weeks before shipping date. Master Card & Visa customers
include card number and expiration date.

HONEY LAND FARMS

Garry Oreskovic 904-429-3996
RT. 2, Box 311 Groveland, FL. 32736



Chrysler's Electric Welded All-Steel Queen Excluder

The only
worthwhile
Queen
Excluder
on the market!



- accurate spacing
- allows maximum bee passage
- better ventilation
- more honey production
- no wood/no burr combs
- no sharp edges
- so durable made that it is permanently
queen excluding and will last a lifetime. We
manufacture a full line of Bee Supplies.
Mostly duty-free. Write for prices.

W.A. Chrysler & Sons

595 Bloomfield Rd.
Chatham, Ontario, Canada, N7M5J5
Phone: 519-352-0486

ARE YOUR BEES READY? HAVE YOU DONE YOUR JOB? QUIK-GRO — THE COMPLETE POLLEN SUBSTITUTE

The normal development and growth of colonies in spring is often hampered by an insufficient pollen supply (*Protein, vitamins and minerals*).

Did you know that it takes 145 mg. of pollen (1/17 of a teaspoon) to rear a single bee from the period of hatching until emergence?

DO YOUR BEES HAVE ENOUGH POLLEN?

If not **QUIK-GRO** the complete pollen substitute in 1-1/2 lb. prepackaged patties **is the answer.**

Remember, the more **healthy bees** you have the **more honey** you get!



Before QUIK-GRO



After QUIK-GRO

SPECIAL SPRING PRICES! Price \$2.25 ea/pkg.
NOW IS THE 2.10 ea. c/12
PERFECT TIME. 1.95 ea. 30 c/12
1.80 ea. 60 c/12

VISIT YOUR NEAREST DADANT BRANCH LOCATION

RD #2 Rt. 17C
P.O. Box 267
Waverly, N.Y. 14892
Phone 607-565-2860

P.O. Box 331
1 Mile E. of Watertown
off U.S. Hwy. 16
Watertown, Wis. 53094
Phone 414-261-5363

P.O. Box 270
190 Mary St.
Umatilla, Fla. 32784
Phone 904-669-2622

P.O. Box 397
161 Tillman St.
Hahira, Ga. 31632
Phone 912-794-2785

P.O. Box 1735
1318 11th St.
Sioux City, Ia. 51102
Phone 712-255-3232

P.O. Box 146
1169 Bonham St.
Paris, Tex. 75460
Phone 214-784-6145

2425 Carroll Ave.
P.O. Box 2411
Lynchburg, Va. 24501
Phone 804-846-0666

P.O. Box 385
550 E. Main
Pottsville, Mich. 48876
(517) 645-7629

P.O. Box 7996
2534 Airways Dr.
Fresno, Calif. 93747
Phone 209-292-4666

2357 Durham Dayton Highway
P.O. Box 178
Durham, Calif. 95938-0178
Phone 916-893-0921



DADANT & SONS, Inc.

Hamilton, IL 62341

CAUCASIAN, MIDNITE or STARLINE QUEENS

PACKAGE BEES



QUEEN PRICES	CAUCASIAN QUEENS	MIDNITE QUEENS	STARLINE QUEENS	DOUBLE HYBRID QUEENS
1-10	\$7.40	\$8.00	\$8.00	\$8.00
11-39	6.85	7.45	7.45	7.45
40-99	6.40	7.00	7.00	7.00
100-up	6.00	6.60	6.60	6.60

For clipping and/or marking add 50¢ per queen. All queens shipped priority mail.

Package Bees	With Caucasian Queens		With Midnite, Starline or Double Hybrid Queens	
	2 Lb.	3 Lb.	2 Lb.	3 Lb.
1-10	\$23.45	\$29.25	\$24.00	\$30.00
11-39	22.25	28.25	22.85	28.05
40-99	21.00	27.00	21.60	27.60
100-up	19.85	25.85	20.45	26.45

We do not guarantee live arrival of Packages. In case of loss or damage enroute it is the buyer's responsibility to file the claim at his post office and collect the loss. If you buy as many as a pick up load, it will pay you to haul your own.



HOWARD WEAVER & SONS

Route 1, Box 24 NAVASOTA, TEXAS 77868 Office Phone 409/825-7714



A Queen's Best Age—When To Requeen

By WALTER DIEHNELT
Honey Acres Ashippun, Wis.

At Honey Acres we have tried to evaluate at what age a queen's performance starts to be less effective.

Each Spring, about the first two weeks of May, during the early flow of dandelion and fruit trees, the hive is checked for the number of frames of brood. At the same time, the queen is located and her age is noted. If both wings are present, it is a queen from the past season, i.e., one year old. She will then have one wing clipped. A queen found with one wing present, is two years old. Her second wings is then cut. The queen found to have both wings off has had two productive years and is starting her third.

By recording the age of the queen and the number of frames of brood we find at clipping time, we have a fine way to compare the egg laying ability of one, two and three (or more) year old queens. Here is a recap of 300 hives of bees that are located in seven bee yards. This type of record has now been available for several years and shows quite the same results.

As the chart shows, a two year old queen can perform as well or better than the one year old queen. However, queens older than two years do not retain as great an egg laying ability as the younger ones.

At Honey Acres, we, therefore, do not requeen on a yearly basis but rather, only to requeen after the second full year.

Y
A
R
D
S

Egg Laying Ability of 1, 2, and 3 Year Old Queens

	Frames of Brood		
	3 Year	2 Year	1 Year
A	4.0	6.6	7.1
B	4.3	7.2	6.9
C	3.5	5.8	6.8
D	4.6	7.0	6.4
E	6.0	6.5	6.4
F	3.5	6.4	5.2
G	5.8	7.1	7.4
Averages	4.52	6.65	6.60

GIVE YOUR BEES... AND YOUR PROFITS... A HEADSTART



with New, Improved Perma-Comb

"Time is honey," in the bee world, and you'll save more of both with new, improved, 6" Perma-Comb.

After nine years of research and testing, the one-and-only plastic comb—with fully-drawn cells, 1/2" deep—is now better than ever: **Stronger, lighter,**

and more affordable...with 11% more cells and textured sides for **excellent bee acceptance.**

Moreover, the new Perma-Comb is molded in a single piece of high-density, linear polyethylene, making it virtually indestructible. One unit can last a lifetime.

These are just a few of the benefits:

- Impervious to wax moths
- Extraction without uncapping
- Boilable
- Adjustable spacing between combs
- 10-Year Warranty (excluding ears)

Try Perma-Comb today!
It costs less than ever.

Price List	
QUANTITIES	#618 MEDIUMS
10 - 100	\$3.35
110 - 250	\$3.05
260 - 500	\$2.75
510 - 1000	\$2.45
SAMPLE 1 pc. #618\$5.00 ea.	
(Restricted to Continental U.S.A.) Postpaid	
General Utility & Uncapping Brush \$14.98 ea.	

FOB Warehouse,
Valencia, CA
Prices subject to
change without
notice.



Call or write for free literature and new price list.

Perma-Comb Systems, Dept. 2

22543 Ventura Blvd., #214 • Woodland Hills, CA 91364 • (818) 992-0369

NEWS and EVENTS

Minnesota Meeting Schedule

The Minnesota Honey Producers have established their 1986 meeting schedule as listed:

Summer Convention — July 17-18-19, 1986 at the Holiday Inn, Fergus Falls, MN. Located at the junction of (I-94 and MN 210). Theme of meeting "Honey Marketing — The Next Four Years"

Annual Meeting — Dec. 5 & 6, 1986 at the Sunwood Inn, St. Cloud, MN. Located on Highway 23, downtown St. Cloud.

Indiana Beekeeping Telecourse

As a follow-up to last years successful Beekeeping Telecourse for Beginners, the Cooperative Extension Service of Purdue University will be offering a telecourse for beekeepers via the Indiana Higher Education Television System. This broadcast will be made live from Purdue University on Monday, March 10, 1986 from 8 to 10 p.m. Bill Chaney, Extension Apiculturist, will host the Telecourse and will be linked to the 14 receive sites around Indiana by telephone to answer questions.

Among the topics to be covered in this course are Successful Wintering, Requeening, Queen Rearing, Shook Swarming, Tracheal Mite Detection Techniques, and an update on the African Bee Situation in the Americas. Those who attend the telecourse will receive a handout outlining the procedures discussed. There is a \$10 registration fee to help offset the cost of production.

Anyone interested in attending should contact their local county Extension Office to determine the receive site nearest their home and to pre-register. Anyone with questions concerning the telecourse should contact Bill Chaney at: Dept. of Entomology, Purdue University, West Lafayette, Indiana 47907.

Ontario

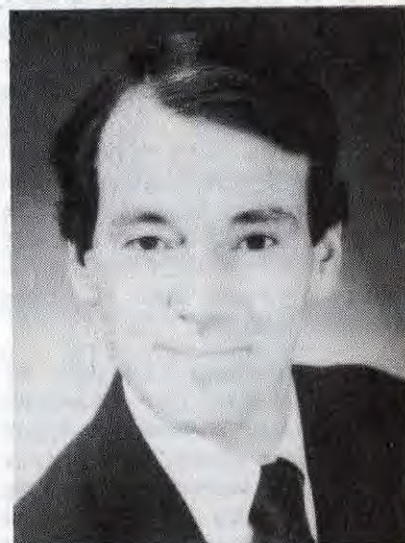


Celebrating their 105th Anniversary this year The Ontario Beekeepers Association submits this display of prize winning honey.

Pennsylvania Bee Meeting Set

DOYLESTOWN — The Annual Joint Meeting of the Bucks County and Montgomery County Beekeeper's Associations has been set for Thursday, April 3, 1986 beginning at 8 p.m. in Mandell Hall Auditorium on the campus of Delaware Valley College, Route 202 one mile south of Doylestown, PA.

The featured speaker for the evening will be Dr. Landis Donner research scientist with the United States Department of Agriculture's Eastern Regional Research Center, Philadelphia, PA.



Dr. Landis Donner

Dr. Donner's illustrated talk is entitled "Detection of Bogus Honey by Isotopic and Chemical Approaches". His topic is quite timely in that there are a number of food chemists who have been attempting to produce inexpensive "artificial honey". Some of these chemists have been quite successful in physically altering various non-honey bee produced sugars plus the adding to them of artificial flavors and colors to produce an end product closely resembling natural honey. Dr. Donner and his predecessor Dr. White have been working many years to develop laboratory methods of detecting these artificial honey products.

The meeting is open to the public and there is no charge.

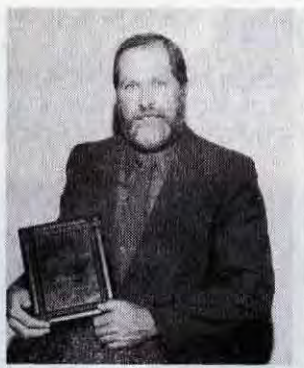
California State Beekeepers Association, Inc.



Foster



Wickard



Hart

California Honorary Beekeeper.

Howard Foster from Colusa was selected as "The California Honorary Beekeeper" for 1985 at the California State Beekeepers Association 96th annual convention. He has a distinguished family history in the beekeeping industry. His grandfather was an apiary inspector in Colorado and a beekeeper in the Snake River of Oregon. Howard has followed in their footsteps since 1935. Howard and his wife Eva operate a queen rearing and oney package business in Colusa.

Howard Foster's activities have been numerous throughout his beekeeping career: past president of the Northern Bee Breeders Association; past president of the California State Beekeepers Association; past president of the American Beekeeping Federation; and he presently serves on the American Honey Industry Council.

Locally, Howard has served on the Colusa School Board for 14 years and has been on the Colusa County Board of Supervisors for the past five years.

1985 Beekeeper of the Year.

James Wickard of Riverside was selected as "The 1985 Beekeeper of the Year" at the 96th Annual Convention of the California State Beekeepers held in Sacramento. James and Edra Wickard operate the Happy Bee Company in California and Montana, headquartered in Riverside.

James has been active in the California beekeeping industry for several years. He has served on

numerous committees and was president of the California State Beekeepers Association in 1983. Currently he is the Southern California representative on the California Apiary Advisory Board.

1985 Young Beekeeper of the Year.

Robert Hart of Visalia was selected as "The Young Beekeeper of the Year" for 1985 at the annual convention of the California State Beekeepers Association held in Sacramento. The award is given to an outstanding beekeeper with less than ten years in the beekeeping business.

Robert has been active in the Tulare-Kings County Beekeepers Association serving as president and secretary. He is currently on the Board of the C.S.B.A. and the Apiary representative for the Tulare County Farm Bureau.

Northern New York Seminar Chazy N.Y.

April 26, 1986

The William H. Miner Agricultural Research Institute will be holding its annual Beekeeping Seminar on Saturday, April 26th from 9:00 a.m. until 3:00 p.m. at Miner Institute in Chazy, New York. Dr. Clarence Collison from The Pennsylvania State University will be the guest speaker. A few of the topics to be discussed are: Spring Management, Honeybee Tracheal Mite, Africanized Honeybees, Honey Quality, etc.

You may register at the door, but registration would be appreciated.

Registration will begin at 8:30 a.m. The cost will be \$10 and will include coffee, donuts, lunch and membership into the Champlain Valley Beekeeper's Association.

The meeting is sponsored by William H. Miner Agricultural Research Institute, and the Champlain Valley Beekeepers' Association. For further information, please contact Loretta Surprenant, Miner Institute, Chazy, N.Y. 12921 (518) 846-8020.

NEW YORK

The Finger Lakes Beekeepers Club will meet Sunday, March 16, 2:00 p.m. at the Cooperative Extension Center, Fulton Street, Ithaca, NY. Richard Taylor will show slides and talk on methods of honey production. Everyone welcome.

AGRICULTURAL TECHNICAL INSTITUTE Wooster, Ohio

The Ohio State University/ATI at Wooster, Ohio is again offering a range of summer courses for training in beekeeping. This year, the summer program will be conducted at the new beekeeping laboratory, one of the most modern facilities of its type in the U.S.

Honey Bee Queen Production June 16-20, 1986

All aspects of queen biology and queen production will be covered. Students successfully completing the program will be able to produce honeybee queens from their colonies. Students will use Institute colonies and queen nuclei.

Basic Beekeeping July 7-11, 1986

An introductory program designed to introduce newer beekeepers to the biology, terminology, and techniques of being a beekeeper. Students will manipulate Institute colonies.

Comb Honey Production August 18-19, 1986

An advanced course offered to acquaint students with the techniques and specialized equipment required to produce comb honey. All major types of comb honey will be addressed.

Course may be taken on a credit/non-credit option. For complete information contact: Dr. James E. Tew, ATI/OSU, Wooster, OH 44691

CALIFORNIA

The California State Beekeepers Association elected officers at the 96th Annual Convention in Sacramento. Leslie Ferguson Jr., of Banning was elected president, Gene Brandi of Los Banos, Vice-President, and Frank Johnson of Riverside, Secretary-Treasurer.

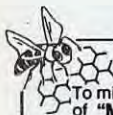


Brandi

Ferguson

Johnson

PENNCAP-M®
INSECTICIDE



PROTECT OUR POLLINATORS

Many pesticides represent a hazard to honey bees in the hive as well as in the field. To minimize problems, follow all label directions carefully. Write Pennwalt for a free copy of "Managing the Insecticide-Honey Bee Problem," a useful guide written by noted beekeeping authorities.

Pennwalt cautions readers of its advertisement for Agchem product Penncap-M® insecticide to "Protect Our Pollinators". Beekeepers in many parts of the country have fought to prevent the use of this microencapsulated pesticide on the grounds that bees pick it up in pollen gathering and are unpoisoned by it during the brief contact in their pollen basket. Once packed away in the combs with other pollen it contaminates the combs and kills the bees and brood as it is used to feed the young.

GEORGIA

The Tara Beekeeper's Association will hold our annual spring beekeeping class. The dates for the class will be March 18 and 20 and March 20 and 27. The classes will start at 7:30 p.m. and end at 9:30 p.m. each night. The classes will be held at Clayton Junior College in Morrow, Georgia.

The classes will cover almost all aspects of beekeeping. We will not cover queen rearing or bee breeding. We will cover all other areas. Some of the topics that will be covered are: beekeeping history; bee anatomy; hive construction and repair; hive manipulation; year-round management; honey production; and honey handling.

The class is open to anyone who would like to start keeping bees, novice beekeepers who want to learn what they are doing wrong, or people who are just interested in learning more about honeybees.

We welcome anyone who wants to learn about our fantastic hobby. For more information, call Evelyn Williams, 528 Bridge Avenue, Forest Park, Georgia, 30050, phone (404) 366-6404; or Richard Morris, 174 W. Windemere Way, Jonesboro, Georgia, 30236, phone (404) 471-3368.

Western New York Honey Producers Association

Our association will be having a meeting on March 22nd. The schedule is as follows:

Date: March 22, 1986

Time: 10:00 a.m.

Place: Wyoming County Cooperative Extension Service, 401 N. Main Street, Warsaw, N.Y. 14569. Phone: (716) 786-2251.

Program: Joan Spielholz, Research Assistant, Cornell University will present a video and slide presentation entitled **American Foul Brood: Identification and Methods of Control**. This program is sponsored by the NYS Department of Agriculture and Markets as part of the disease abatement program.

NYS now requires beekeepers to control disease themselves, so this is

an important educational program. It will help beekeepers identify AFB and teach them how to burn and scorch equipment.

Note: The Chautauqua County Beekeepers Association will hold this same program on March 22nd at 7:30 p.m. Contact John Kost at (716) 569-3148 for further information on the Chautauqua County program.

BEEKEEPER'S SCHOOL

8:00 a.m. — 4:00 p.m.

LAKOTA HIGH SCHOOL

5050 Tylersville Rd.

North of Cincinnati, Ohio

Located between I-75 (exit 22) and

Rt. 747; about 4 miles west of I-75;

about 1/4 mi. east of Rt. 747

Adults \$10.00

Youth \$6.00

LONG ISLAND BEEKEEPERS MEETING

March 16, 1986 — 2:30 p.m.

East Northport United

Methodist Church

Pulaski Road

East Northport, NY

Guest Speaker:

John Spielholz

Cornell University

Subject:

Recognizing and Control
of Bee Diseases.

Western Pennsylvania Seminar

March 8, 1986 — 9:00 A.M.
Zelienople, PA

The Western Pennsylvania Beekeeping Seminar will be held on Saturday, March 8, 1986, at the Park United Presbyterian Church in Zelienople, PA. This program is sponsored by the Penn State Cooperative Extension Service and Local Beekeeping Organizations.

Featured Speakers are Dr. Clarence Collison, Entomologist from Penn State University. His topic will be "Marketing", "Honey Quality", and "Brood Diseases". John Root, A.I. Root Company, will speak on "Honey Labeling" and "Bee Management".

This program will also feature information on Queen Rearing.

For more information and registration, contact the Beaver County Cooperative Extension Service, P.O. Box 99, Beaver, PA 15009 or call (412) 728-5700 Ext. 351.

Western Apicultural Society

Western Apicultural Society invites all beekeepers to a glorious meeting at the University of Victoria, Victoria, B.C., August 18-21, 1986.

The main theme of this meeting is "The Future of North American Beekeeping". Speakers include Basil Furgala, Orley Taylor, Mike Burgett, Norm Gary, and Mark Winston.

A short-course in judging liquid honey, creamed honey, and wax will be held August 18, 1986.

For further information, contact:

Anita Salmon

749 Haliburton Rd.

Victoria, B.C. V8Y 1H7

Phone: (604) 658-8907.

GOSLINGS - DUCKLINGS - CHICKS
Bantams - Guineas - Turkeys
- Gamebirds -

David Hartman

CLEARVIEW STOCK FARM & HATCHERY

Box 399, Gratz, Penna. 17030.

THE SPEEDY BEE — Monthly beekeeper's newspaper. The happenings of the beekeeping industry, plus how-to articles. \$11.25 per year (12 issues) in U.S., Canada and Mexico add \$2.50 postage. \$18.75 per year all other countries mailed first class. Airmail rates on request. Sample copy free. The Speedy Bee, P.O. Box 998, Jesup, GA 31545.

GENTLE ITALIAN QUEENS
Mite Free — Clipped & Marked
April through June — 1 to 100 \$6.00

WOOLF'S FAMILY APIARY

4592 Quail Valley Drive

Redding, CA 96002

Ph: 916-221-2840

The Australasian Beekeeper

The senior beekeeping journal of the Southern hemisphere provides a complete cover of all beekeeping topics in one of the world's largest honey producing countries. Published monthly by Pender Beekeeping Supplies Pty. Ltd., 19 Gardiner St. Rutherford, N.S.W. 2320 Australia. Subscription \$US 13.00 per annum (in advance). Payment by Bank Draft. Sample copy free on request.

Honey Soothes A Sore Throat

Q. "Recently I had a sore throat that went for days without relief. Then a friend suggested I try one tablespoon of honey and tablespoon of cider vinegar in a mug of hot water. After a few sips my pain disappeared. Is there a scientific basis for this?"

Kathy Hnilo
Daly City, CA

A. Carol Ann Rinzler replies:

We can't vouch for the vinegar, but we know there's something to the honey. According to Robert I. Henkin, a specialist in taste and smell disorders at Georgetown University Medical Center in Washington, D.C., sweet foods may stimulate brain chemicals that dull your perception of pain. New research suggests the reaction may be virtually instantaneous, so a sore throat feels better the minute you swallow the sweet.

Henkin points out that the honey-hot water combination is a winning one for other reasons, too. For one thing, it's pleasing to our cold-dulled taste buds (sweet and salt are the two taste qualities least likely to be affected by illness). For another, honey — like all foods — can stimulate saliva production, making a sore throat feel less dry and scratchy. And the hot water helps loosen the secretions that plug up your nose and head during a cold.

—American Health

Marketing Tip

Many store owners or institutions such as banks have store front displays and would appreciate having a display on beekeeping, honey, pollination, etc. It would be good publicity for you and help your honey sales.

CLASSIFIED CORNER

Classified rates: 49¢ per word, each insertion, payable in cash in advance. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it) counts as one word. Not less than 10 words accepted. Copy or cancellation orders MUST be in by the 1st of the month preceding publication. Blind Ads \$6.50 additional charge per month. Send classified ads to the A.I. Root Co., Advertising Dept., *Gleanings In Bee Culture*, Box 706, Medina, Ohio 44258-0706.

MAGAZINES

THE AMERICAN BEEKEEPING FEDERATION needs your support! Join in supporting efforts to stop adulteration, to improve marketing conditions and to encourage the continued research on African Bees and Varroa and Acarine Mites. Send for information, membership application and sample copy of bi-monthly News Letter! Write To: THE AMERICAN BEEKEEPING FEDERATION, INC., 13637 N.W. 39th Avenue, Gainesville, FL 32606. TF

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

The INTERNATIONAL BEE RESEARCH ASSOCIATION urgently needs your membership and support to continue its work of publishing information on bees, beekeeping and hive products. Write for details about publications and the benefits of membership to USA Representative, H. Kolb, P.O. Box 183, 737 West Main, Edmond, OK 73034 (phone (405) 341-0984); or to IBRA, Hill House, Gerrards Cross, Bucks SL9 0NR, UK, regularly publishes new information on bees, beekeeping, and hive products, for beekeepers and scientists all over the world. Mail inquiries from USA: H. Kolb, P.O. Box 183, 737 West Main, Edmond, OK 73034, Phone: (405) 314-0984. IBRA PUBLISHERS: *Bee World*, a quarterly journal for the progressive beekeeper. *Apicultural Abstracts*, a survey of scientific literature from all languages. *Journal of Apiculture Research*, for original bee research papers. Books and pamphlets on all beekeeping topics. Catalogues of publications and details of journals and membership \$1. Specimen copies of *Bee World*; *Journal of Apicultural Research* or *Apicultural Abstracts* from INTERNATIONAL BEE RESEARCH ASSOCIATION, Hill House, Gerrards Cross, Bucks. SL9 0NR, England. 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 (Air-mail). 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.

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

332 copies American Bee Journal and 200 copies *Gleanings* dated back to 1957. All different. Good condition. \$500 plus postage. Paul Sanders, R 1, Box 289, Shoals, Ind. Phone: (812) 247-3518 3/86

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

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

ADVERTISING

Make money from small ads like this! Plan (12 pages, 8½ x 11) shows how! **Voice Publications, Box EX65, Goreville, IL 62939.**

BUSINESS OPPORTUNITIES

\$1,250 WEEKLY HOME-MAILING PROGRAM! Guaranteed earnings. Start immediately. FREE DETAILS, Rush stamped, self-addressed envelope to: S & B-P, 804 Old Thorsby Road, Clanton, Alabama 35045 TF

Sell Rawleigh — Mr. Groom Products from your home with no overhead. Send \$1.00 for literature to start. Rawleigh Products, High St., Erving, Mass. 01344 TF

FOR SALE

INSEMINATION DEVICES. For prices write Otto Mackenson, Box 1557, Buena Vista, CO 81211 TF

For Sale: 100 1½ and 2 deep Italian colonies; equipment excellent shape; bees overwintered and strong; 3 shallow supers included per hive; 33 frame Kelley's stainless radial extractor; 1000 lb. tank; Dadant's brand wax melter, steam generator. Write Turnley, Rt. 7, Box 60, Spotsylvania, VA. 22553 or (703) 582-6176. 3/86

5 Frame Nucs, Italian and Starline Queens. Package Bees Complete line of supplies. Commercial prices. High Fructose Syrup. Meyer Stingless Goatskin gloves (used by U.S.D.A. working Africanized bees) Wolf Bee Supply, Box 707, Baldwin, WI 54002. PH: 715-684-2095 or 246-5534. 8/86

For Sale: clean, fresh, dry, Bee Pollen. \$6.50/pound. You pay shipping. Honeycomb Apiaries, R.R. 3, Box 74, Wrightstown (Kaukauna), WI. 54130. Ph: (414) 532-4314.TF

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:

Gleanings In Bee Culture
P.O. Box 97
Medina, OH 44256

For Sale — All or part of package bee and queen rearing operation 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

800 Colonies, 10 frame and 8 frame, equipment for 1500-2000 colony operation. Possible to take over existing operation in Michigan's Thumb area. Jelinek Apiaries, Fillion, Mich. 48432. Phone 313-987-6593 3/86

170 Strong colonies, never any disease 3-6 1/2 supers with 3 frame feeder each, 6.00, 6 1/2 supers A-1 equipment with extracting equipment. 804-556-4127 Virginia 5/86

Bee Equipment For Sale — 100 6 1/2 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 300 colonies plus honey supers with frames. Will sell all or any part. Phone No. 419-336-6053. 3/86

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

For Sale: 400 hives with equipment in New Liskeard, Ont. Can. Extra white honey, average 200 lbs. plus.

For Sale: Complete 800 hive outfit est. 1955—average 140 lbs. Honey house — 6400 sq. ft., extracting & warehouse space plus new truck garage also 2 story brick home on 1 acre. Excellent door sales plus over 70 stores. Edward Woods, Hillsdale, Ont. LOL 1VO. 4/86

For Sale: 100 plus beehives. \$50 each. Will deal. Mike Leach, RD #1, Box 234, Sherman, N.Y. 4781. 716-761-6355 5/86

New mill machine and sheeter for making beeswax sheets, \$12,500 could deliver, barter for real estate. Semi-Automatic uncapper, broiler, \$600. 120 hives, two story, \$65 after May 15th. Box 586, Rossville, Kansas 66533. 913-584-6206. 3/86

For Sale: 300 two story colonies, Queen rearing outfit, 69 two ton truck, Kelly loader, good honey outlets. Best offer. Andrew Hutchison, P.O. Box 6993, Boise, ID 87707 TF

For Sale: Northern California Bee Business 3000+ 2-story colonies. 10,000 queen mating nucs, honey supers and supporting equipment. Pollination, package and queen bee contracts. Boxholder, P.O. Box 4693, Chico, Calif. 95927. 3/86

Maxant 30 frame radial extractor, honey sump and pump, Clark bottle-mixer, Clark uncapper plus other honey house items. Total prices for all \$2,000 or best offer. Hives, 2 deep-2 shallow, no wax, \$40.00 each. 1-603-547-2047. TF

Used equipment, 45 frame radial Root extractor, supers, hive bodies, tops, bottoms, excluders, pollen traps, etc. Phone 503-363-6030 evenings. Salem, Ore. 4/86

100 — Two story hives of bees right out of the Almonds—you make the divisions. \$65 per hive or \$45 per hive combs and hives exchanged. Call 509-924-8316. Ancel Goolsbey, E. 9207 Broadway Spokane, Wash. 99206-3803. 3/86

"Temperature controlled ventilators, Conical bee escapes/boards, Special ventilating inner covers, optimized pollen trap. Free information. V. Shaparew, 3371 Trafalgar Road, R.R. #1, Oakville, Ontario, Canada L6J 4Z2". 5/86

500 Colony, Honey, Pollen, Packing Operation, Western Colorado. Complete. Perfect Family Operation. 4 1/2 acres, house, honeyhouse, shed, well, vehicles. 2 acres tillable. Senior water rights. Expansion of packing business possible. \$140,000.00 cash. Serious inquiries only. After 6:00 p.m. (303) 625-3382. 4/86

POLLEN CLEANING MACHINE proven design, 200-300 lb./hr. \$585. Mr. "B", Box 1066 El Toro, CA. 92630. (714) 380-8884. 5/86

FOR SALE Have 1 to 2 thousand colonies of bees for sale, warehouse with living quarters, three trucks, wax shop, locations. Owner old, retiring. Have pollination for 1,000 colonies. Call 801-798-3921. TF

Pollen Cleaner in new condition \$300, 25' Superbee pollen traps \$10.00 each. Call Doug 409-385-9470 or 409-385-5419. 4/86

FOR SALE: 12 fr. motorized 5.5 extractor, 30 gal. elec. double boiler, 5.5 settling tank w/strainer and S.S. uncapp. melter. All like new. 50% catalog price. Ph: (409) 532-5376. Ask for Doc Barfield.

105 New round section supers with Ross frames including rings \$1950. 304-653-4421. 4/86

Used brood and honey standard boxes \$10. shallow honey supers \$8.50. covers. inner covers. bottom boards. extracting equipment. 4 and 6-way pallets. small amounts. hundreds or thousands. Bob Bennett. Rt. 1. Appleton, Wis. 1-414-757-5115 4/86

FOR SALE — 120 strong two story colonies, 1985 queens, part or all, north central Oklahoma; supers available. (405) 762-3346. 5/86

FOR SALE. 170 new and good hive bodies \$2.50/\$3.50. 3500 wedge Dadant brood frames wired, glued, and nailed 40* a piece. 7 boxes crimp wired foundation \$75.00 a box. Johnson Dovetail Jig, like new \$75.00. Roger Rutz, RR #3, Box 80B, Lake City, MN 55041. Phone: 612-345-2262. 3/86

For Sale: 30 Frame, radial, electric, extractor — excellent condition — \$300.00. Richard Crawford, R.D. 2, Box 135, Morrisonville, N.Y. 12962. Ph. (518) 561-7167 3/86

Complete 500 colony production and bottling business for sale. Central Wisconsin, locations and honey house available. Warren Doede, 8900 Azalea Road, Wausaw, WI 54401. Phone: (715) 359-5492 4/86

For Sale: 30 colonies - double stories - mostly Killion equipment. Practically all new. 1985 packages and year old queens. Gene Killion, 502 East Jasper Street, Paris, IL 61944. Phone: 217/463-6270. 3/86

For Sale: 175 colonies plus extra shallow supers. Larry Wilhelm, Box 523, Erick, OK 73645. Phone: 405-526-3103. 5/86

BEES & QUEENS FOR SALE

WE USE ALL POSSIBLE CARE in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for a certificate of inspection as a matter of precaution.

Italian Queens & Package Bees, nuclei or brood and bees, queenless package bees. Bring your cages and save. Walker Apiaries, Rogers, TX 76569. Ph: 817-983-2891 or CLINT 817-770-0820. 5/86

3-Frame Italian Nucs. \$35.00 each or 3 for \$100.00 POSTPAID. Queens 1-10 \$6.00, 11-25 \$5.25, 26-up \$4.75. Box's Better Bees, 410 N. Lide, Mt. Pleasant, TX 75455. Phone 214-572-0428. TF

Quality Italian Queens, mite free, \$5 each. Johnston's Longhorn Bees, 29354 Westmore Rd., Shingletown, CA 96008 5/86

Package Bees delivered to Wisconsin near Green Bay. Eau Claire and my home. Ronald Hazard, RT. 2, Poynette, Wis. 53955. Phone: 414-992-3217. 5/86

20 Italian colonies, double deep, supers, Northwestern Ohio. Cherry Hill Farm, Alvordton, Ohio 419-737-2224. 4/86

ROYAL ITALIAN QUEENS AND NUCS. Strong, Healthy, Productive. Otte Apiaries, Rt. 2, Box 99-AG, Karnes City, Texas 78118. (512) 780-3521. 4/86

Bees & Equipment for 40+ hives with extracting equipment. 40 frame extractor. Would like to sell all in unit or bees. three supers deep \$40.00 each. John Murphy, 459 Rushmore Lane, Madison, Wis. 53711. (608) 238-3591. 2/86

500 — 2 story, 10 frame hives @49.00 ea. Make offer. Queens & 5 frame nucs. Mite free. 904-245-1106. 4/86

200 colonies in good condition, one story and half with supers \$60.00 each. Gale Hurd, 3762 Summit Rd., Ravenna, Ohio 44266. Phone: 216-296-3789. 4/86

3 FRAME ITALIAN NUCS. Shipped in disposable containers \$28.00. Sweetwater Apiaries, P.O. Box 449, Tylertown, MS 39667. Phone: 601-876-3400 nights. 4/86

Michigan Beekeepers: I will be hauling packages bees from Georgia again this spring. For prices, dates and information, call Don Reimer at 517-695-9031 4/86

NUCS — Quality nucs available at Fairmont, Nebraska approximately May 1st. Queens also. Chris Baldwin, Box 171, Shepherd, Texas 77371; 409-628-3514. 4/86

BEE SUPPLIES FOR SALE

WRITE FOR CATALOG—Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. Hubbard Apiaries, Manufacturers of Beekeepers' Supplies and Comb Foundation. Onsted, Mich. TF

FOR TOP QUALITY BEE SUPPLIES and advice on beekeeping problems, visit your nearest Root dealer and send for your FREE Root catalog. Satisfaction guaranteed. The A.I. Root Co., P.O. Box 706, Medina, OH 44258. TF

Italian or Banant Carniolan queens \$7.50. Two pounds bees with queen \$22.00 plus postage. Deposit of \$1.00 for queens and \$10.00 per package to book order. Balance before shipping. Phone (919) 489-9561. E.L. Selph, 2502 Winton Rd., Durham, N.C. 27707 4/86

ALL WESTERN BEEKEEPERS: Lock-corner supers — tops — bottoms — frames. Complete stock — supplies & equipment. Phone or write for quantity prices. UNITED BEE CRAFT COMPANY, 600 Harbor Blvd., West Sacramento, CA 95691. (916) 371-9340. TF

QUALITY CYPRESS BEEKEEPING SUPPLIES — dovetailed hives and hive parts, beginner's kits, complete supplies. Write: BEE-JAY FARM, Dacula, GA. 30211. TF

RADIAL HONEY EXTRACTORS-5 and 10 frames. Patented, factory made of stainless steel. Gamble's Bee Supply & Candle Company, P.O. Box 7997, Greensboro, NC 27417-0997 USA. Ph. (919) 299-3973, Day or Night. TF

SWEET HARVEST BEE SUPPLY
Serving the Black Hills and
Upper Mid West with Quality
From Root, Maxant, Strauser
and Perma Dent Foundation
P.O. Box 4100, Rapid City, S.D. 57709
Phone: 605-393-0545

6/86

BUILD YOUR OWN EQUIPMENT. 34 clear plans. 5 for \$3.95. Free catalogue. SUNSTREAM, P.O. Box 225, Eighty Four, PA 15330. 4/86

MISCELLANEOUS

RENDERING every day in our all new plant. All honey saved from cappings. Rendering slumgum and old combs. Write for FREE shipping tags and rates. HUBBARD APIARIES, Onsted, Mich. TF

"TV COMMERCIAL TAPE TO PROMOTE HONEY. For Public Service Announcement \$25.00. If not satisfied, return for \$20.00 refund. Contact MS Beekeeper's Association, Box 5207, MS State, MS 39762. Phone (601)325-3390. Allow six weeks for delivery."

MEADMAKERS, WINEMAKERS, BEERMAKERS

Fresh stocks, Fast Service, Free Catalog. O'Brien's, Box 284M, Wayne, IL 60103.

8/86

FREE SINGLES LIST! Send stamp. Kelley, 804 Old Thorsby Road, Clanton, Alabama 35045. TF

Dealership Territories available in some areas. Please contact The A. I. Root Co., P.O. Box 706, Medina, OH 44258 TF

Black Locust as little as 13¢ each. Other flowering shrubs. Coldstream Farm, 2030C Freesoil Rd., Freesoil, Mi. 49411. 616-464-5809. 4/86

WINEMAKERS—BEERMAKERS—Free Illustrated Catalog — Fast Service — Large Selection. Recipe Books, Yeast, Concentrates, Malt, Hops, Liqueur Extracts, Barrels. Kraus, Box 7850-BC, Independence, Missouri 64053. 4/86

POLLEN

FRESH, PURE, Bee Pollen available in 1 pound containers at \$8.50 per pound postpaid. 10 pound bulk pack at \$7.90 per pound. Large lots, ask for price. Hubbard Apiaries, Inc., Onsted, Mich. 49265. TF

Pure Fresh Bee Pollen in 1 lb. jars \$6.50. In 50 lb. bulk — \$5.00 per lb. Prairie View Honey Co., 12303 12th St., Detroit, Mich. 48206. TF

SPANISH BEE POLLEN. Excellent taste and quality. 3 lbs. \$20.00. 6 lbs. \$36.00. 10 lbs. \$50.00. 20 lbs. \$90.00. Free UPS shipping. BLOSSOMTIME, P.O. Box 1015, Tempe, Arizona 85281. TF

NO HEAT OR ELECTRICITY USED. Uncapping fork (not just a scratcher). No flavor loss and better flavor retention. No burnt fingers or shocks. Honey from dark comb not discolored as with hot knife. \$11.00 ea. pp.. Blossomtime, P.O. Box 1015 Tempe, Arizona 85281. TF

CLEAN FRESH FROZEN AMERICAN BEE POLLEN, give us your needs and we will quote prices. Howard Weaver & Sons, Rt. 1, Box 24, Navasota, Texas, 77868, or phone: 409-825-7714. TF

WHY PAY MORE? Pure, clean BEE POLLEN. 1 lb. Packages \$4.00, Min. 5 lb., bulk \$3.50/lb. prepaid. FREE SHIPPING. Stakich Bros., Inc. 4128 W. Orchard Hill, Bloomfield Hills, MI. 48013. 313-642-7023. 11/86

ROYAL JELLY

PURE FRESH Royal Jelly, 2 oz. bottle, \$22 pp.; 1 lb. \$120. Prairie View Honey, 12303 12th St., Detroit, MI 48206 TF

WHY PAY MORE? 100% Pure Royal Jelly. 2 oz. — \$15.00, 1-lb. — \$100.00 prepaid. FREE SHIPPING. Stakich Bros., Inc., 4128 W. Orchard Hill, Bloomfield Hills, MI 48013. 313-642-7023. 11/86

Quality Guaranteed 100% Pure, Fresh Royal Jelly. Direct from Beekeepers. Supplier for Doctors & Labs. 2 oz. — \$20.00 Postpaid. 1 lb. — \$110.00. Unprocessed, Organic Propolis & Pollen. Y.S. Royal Jelly & Honey Farm, P.O. box 147, Villa Park, IL 60181. 3/86

BEE POLLEN fresh frozen from Calif. Mts. No insecticides, tested 25% protein. Cleaned, 50-lb. boxes. Top qual., Ex taste. UPS collect \$200/box. Quotes on larger quantities or feed pollen. (714) 380-8884 eves. 5/86

BEESWAX

BEESWAX WANTED — Highest prices paid in cash or trade for bee supplies. The A.I. Root Co., Medina, OH 44258. TF

BOOKS

Bee Books New & Old. Write for quarterly list to BBNO, Tapping Wall Farm, Burrowbridge TA7 ORY, Somerset U.K.. Visa/Access American Express welcome. 4/86

Buying/Selling Books first try Honeyfields Books, Ashbourne, Derbyshire, ENGLAND DE6 1HX. 4/86

"Pollen The Miracle Food, 100 books \$40.00. Postpaid. Propolis The Eternal Healer, \$10.00. Murat 2132 Northwest Eleventh Ave., Miami, Fla. 33127. (305-325-9990). 3/86

SEEDS & PLANTS

Mixed sweet clover seed, 50% yellow, 50% white, 10# \$8.50. White Dutch Clover \$1.90/lb. Birdsfoot Trefoil \$2.40/lb. Inoculant \$2.00. Plus U.P.S. charges. Visa or Mastercard. Higgins Apiary, 3801 U.S. 50, Hillsboro, Ohio 45133. Telephone: (513) 364-2331. 5/86

HONEY WANTED

BEEKEEPERS TAKE NOTICE — We cannot guarantee honey buyer's financial responsibility and advise all beekeepers to sell for CASH only or on C.O.D. terms except where the buyer has thoroughly established his credit with the seller.

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. Hubbard Apiaries, Onsted, Mich. TF

All Grades of Honey. Any quantity drums or cans. Call Toll Free 800-248-0334. Hubbard Apiaries, Inc. Box 160, Onsted, MI 49265 TF

COMB HONEY White to water white, 10 oz. square cut comb. Send sample and price to: Moorland Apiaries, 5 Airport Dr., Hopedale, MA 01747. TF

HONEY FOR SALE

CLOVER, ALFALFA, Buckwheat, Tulip Poplar, Wild Flower or Orange in 60's. Dutch Gold Honey Inc., 2220 Dutch Gold Dr., Lancaster, PA TF

HONEY IN 60's FOR SALE. Bedford Food Products Co., 209 Hewes St., Brooklyn, New York 11211. Phone: 718-EV4-5165,

1 to 34 — 5 gallon buckets amber honey. Evenings or weekends. John White 614/625-5785, Centerburg, Ohio—(Columbus) 3/86

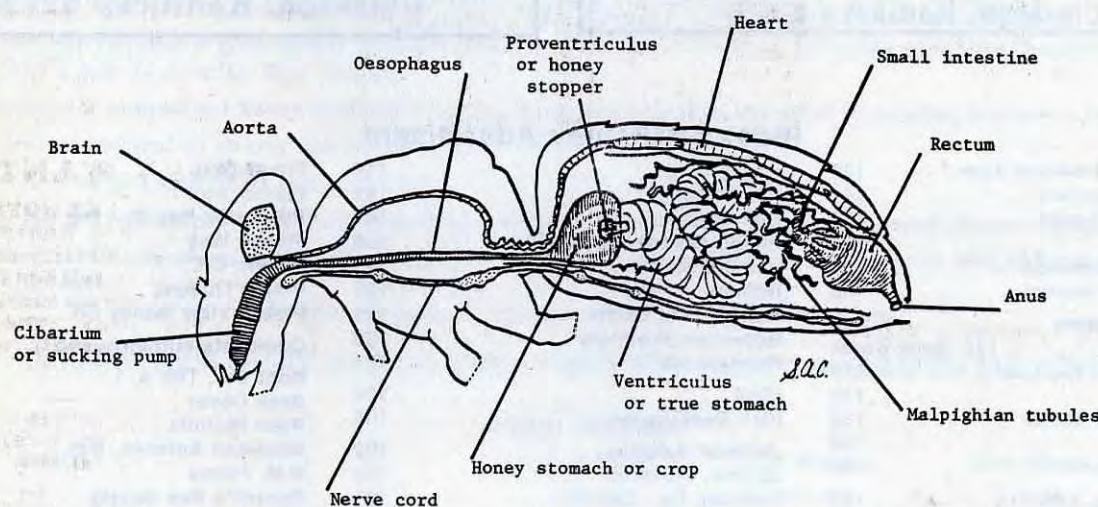
GLEANINGS IN BEE CULTURE

ANSWERS TO TESTING YOUR BEEKEEPING KNOWLEDGE

1. **True** Honeybees have an open circulatory system. Blood fills the body cavity of the bee; it is not confined in a closed system of arteries, veins and capillaries like that of a man.
2. **False** The primary functions of honeybee blood are the distribution of digested food materials absorbed from the digestive tract, reception of waste products of metabolism which are removed by the excretory organs, and the transport of carbon dioxide to be eliminated through the respiratory organs and the skin. Unlike man, bee blood is not responsible for the distribution of oxygen.
3. **False** The honeybee has a single dorsal blood vessel composed of the heart and aorta and a ventral nerve cord.
4. **True** The rectum retains digestive waste (feces) until they can be voided outside of the hive. In

over-wintering colonies, the rectum may become so greatly distended as to occupy a large part of the abdominal cavity before the weather will allow cleansing flights. Bees suffering from dysentary may void their rectal contents within the hive.

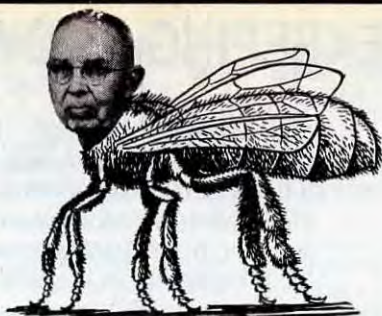
5. **False** Digestive juices and enzymes are produced by the cellular lining of the ventriculus.
6. **False** The blood of the honeybee is a pale amber color.
7. **True** The rectal pads are composed of a double layer of cells that are responsible for removing water from the contents of the rectum.
8. **See the diagram.**



There were a possible 20 points in 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.

NUMBER OF POINTS CORRECT

20-18	Excellent
17-15	Good
14-12	Fair



"Kelley The Bee Man"

Three Banded Italian Bees and Queens

SWARMS SHIPPED FROM GEORGIA

Shipments start late March or April 1st, (only by parcel post. UPS will not accept bees). Clipping or marking 40¢ each.

LIVE DELIVERY GUARANTEED

Queens — 1-24 \$5.75		25 & Up \$5.50	
Queens	2-lb. w/q	3-lb. w/q	
1-9	\$5.75	\$19.00 ea.	\$24.00 ea.
10-24	5.75	18.75 ea.	23.75
25-up	5.50	18.50	23.50

Plus Parcel Post and Special Handling

THE WALTER T. KELLEY CO.
Clarkson, Kentucky 42726

SWEET CLOVER SEED

Sweet clover is the most productive honey plant from Florida into Canada. Yellow blooms the first year and a bit earlier than white and white blooms the second year. 65% white 35% yellow mixture, seed should be inoculated and land should be heavily limed. Seed should be sown in September on wet snow in February or frozen ground, or folled ground in March 10 lbs. per acre.

Mixed Sweet Clover Seed

Cat. No. 66
10 lbs. Mixed Sweet Clover Seed, Ship Wt. 12 lbs. \$10.00

Cat. No. 66
50 lbs. Mixed Sweet Clover Seed, Ship Wt. 52 lbs. \$45.00

Cat. No. 56
6 oz. Pkg. Inoculant for Clover Seed, Ship Wt. 8 oz. \$1.80

A-B Inoculation — 6 oz.
(enough for 50 lbs.), Ship Wt. 8 oz. \$1.80

WRITE FOR 1986 CATALOG

Hubman Sweet Clover Seed

Plant in February or later as above. Blooms late in summer until frost the first year and will not crowd out the white sweet clover. Seed is scarce.

Cat. No. 75 — 5 lbs., Ship Wt. 7 lbs. \$9.25

Cat. No. 75 — 10 lbs., Ship Wt. 12 lbs. \$17.50
(Use the same Inoculate as listed with Sweet Clover)

THE WALTER T. KELLEY CO.
Clarkson, Kentucky 42726

Index to Display Advertisers

American Bee Breeders Assn.	140
American Bee Journal	141
American Bee Supply	101
Arnaba Ltd	135
Australasian Beekeeper	147
Australian Bee Journal	130
B & B Honey Farms	100
Babcock, Huck	133, Back Cover
Bee Supply Co.	118
BES	110
Better Way Wax Melter	112
Box's	136
British Bee Journal	130
Calvert Apiaries, Inc.	122
Canadian Beekeeping	132
Cary Corp., M. R.	136
Chrysler & Son, W. A.	141
Clearview Stock Farm & Hatchery	147
Cook & Beals, Inc.	135
Csaba	141
Curtis, Elliott	118
Custom Labels	135
Dadant & Son	Front Cov., 142
East Texas Bee Co.	130
Eli Apiaries	130
Farming Uncle International	128
Glenn Apiaries	136
Glorybee	135
G.Q.F. Manufacturing	100
Gregg & Sons	117
Hamm's Bee Farm	108

Happy Hive	112
Hearthstone	141
High Shoals	141
Hilltop Greenhouse	130
Homan, Farris	141
Homan, Holder	136
Honey Land Farms	141
Honeybee Products	136
Honeywood	101
IBRA	108
Irish Beekeeping	105
Jackson Apiaries	122
Jaycox, Elbert R.	100
Johnson Co., Carl E.	121
Johnston's	112
Jones & Son Ltd., F.W.	141
Kelley Co., Walter T.	117, 152
Kona Queen Co.	140
McCary Apiaries	122
Mackensen, Otto	108
March of Dimes	121
Maxant Industries	112, 131
Miksa	141
Millry Bee Co.	118, 133
Mitchell's Apiary	136
New Zealand Beekeeper	105
Norman Bee Co.	130
Northern Calif. Beekeepers Cooperative 5	
Pacific Wax Works	136
Peace Corps	108
Perma Comb Systems	143

Pierce Mfg.	133
Pierco, Inc.	101
Plantation Bee Co., Inc.	133
Plastic Way	100, 133
Pollen, C.C.	112
Prairie Queens	118
Prairie View Honey Co.	120
Qualcepts nutrients, Inc.	110
Root Co., The A. I.	100, 141, Back Cover
Ross Rounds	132
Rossman Apiaries, Inc.	133
R.M. Farms	127
Russell's Bee Supply	140
Sherriff, B.J.	108
Simon Apiary	112
Speedy Bee	147
South African Bee Journal	132
Stoller Honey Farm, Inc.	136
Stover Apiaries	117
Strauser	140
Taber Apiaries	108
Tate, W.L. & Son	132
Thorne, E.H.	100
Weaver Apiaries, Inc.	132
Weaver Howard & Sons	142
Werner, H.E.	100
Wicwas Press	134, 135
Wilbanks	118
Woolf's Family Apiary	147
York Bee Company	

BABCOCK BEES ARE NOW DISEASE RESISTANT

STEVE TABER, a former U.S. Government Bee Geneticist, has supplied us with disease resistant breeding stock which we have incorporated at no additional cost to you into all of our strains and races offered for 1986. This bred-in resistant factor is not a guarantee against infection from American Foulbrood, European Foulbrood, or Chalkbrood; however, in *most* cases of exposure our bees will not catch and will in fact clean out these diseases.

BABCOCK GOLDEN ITALIANS are large golden yellow bees that are easy to handle, very gentle and produce very large colonies. They are extremely good honey producers developed from my top honey producing hives. They are "THE MOST BEAUTIFUL BEES IN THE WORLD."

BABCOCK IMPROVED SILVER GREY CARNIOLANS have been developed from hardy, tough strains from the far North and can be wintered very successfully in outdoors in extremely cold temperatures. These large silver grey bees work equally well in hot or cool climates and are excellent honey producers. I believe my strain of Carniolans are the most Winter Hardy race in existence. These bees are extremely gentle and can be worked in good weather without smoker or veil.

BABCOCK RACIAL HYBRIDS are a true cross of my Silver Grey Carniolans and my Golden Yellow Italians. To obtain this cross bred hybrid, Carniolan queens are mated to Italian drones. This hybrid is a very prolific hard working bee developed for vigorous commercial honey production. This cross bred bee is very Winter Hardy and does well even under adverse conditions.

GOOD REASONS FOR BUYING BABCOCK BEES AND QUEENS

The State of South Carolina is government certified to be free of Honeybee Tracheal Mites (Acarine Mite Disease). South Carolina has never had a case of Acarine Mite Disease.

Huck Babcock is a commercial honey producer and above all else, our bees are bred to produce maximum crops of honey. Our bees are not inclined to swarm and if given plenty of room will seldom do so.

10% overweight is included in all packages to assure you of full weight upon arrival.

Fumidil-B is fed as a nosema preventative to all package colonies and queen mating nuclei. All queens guaranteed mated and laying.

A government certificate of health inspection certifying our bees are free of all brood diseases as well as Acarine Mites accompanies all shipments.

Queens clipped, marked, or both, add \$1.00 for each package or extra queen.

INDICATE YOUR CHOICE OF RACE. MIXED ORDER WILL CARRY THE QUANTITY DISCOUNTS.

1986 PRICES

Quantity	2-Lb. W/Queen	3-Lb. W/Queen	Extra Queens
1-9	\$23.00	\$27.00	\$10.00
10-25	22.00	26.00	9.00
26-99	21.00	25.00	8.00
100-up	20.00	24.00	7.50

ADD FOR SHIPPING PACKAGES VIA PARCEL POST

1-2 lb.	\$5.00	3-2 lb.	\$9.00	2-3 lb.	\$ 9.00
2-2 lb.	\$8.00	1-3 lb.	\$6.00	3-3 lb.	\$11.00

Add shipping prices to package if ordering by mail; Shipping charges include postage, insurance, special handling fees and handling charges. Insurance coverage is for full value of bees only. Insurance does NOT cover shipping charges. Personal checks, money order or cashier's check accepted in U.S. currency only. Queens are postpaid and shipped air mail. Shipments begin April 1st. Please indicate desired shipping date.

HUCK BABCOCK — Queen Breeder

Post Office Box 2685 Cayce-West Columbia, South Carolina 29171

Phone — (803) 796-8988

**WE RAN THIS VERY SAME AD
TEN YEARS AGO!**



The Air-Cooled Smoker with Disposable Fire Chamber

The Air-Cooled Smoker keeps the outside of the smoker many degrees cooler than the old type single wall can. The outer surface of the smoker is insulated from the hot smoldering fuel by a layer of cool air that surrounds the fire chamber. As the bellows is pumped part of the air blows through the space between the outer container and the inner container to keep the smoker cool.

Another advantage of the Air-Cooled

Smoker is its disposable fire chamber. Instead of throwing away the smoker when the fire chamber burns out you just replace the inner container at a cost of only 45¢. This gives you a smoker with twice or three times the life of a normal one.

For more details about the Air-Cooled Smoker, visit the friendly Root dealer nearest you or write one of the outlets listed below.

THE PRICES HAVE CHANGED A BIT, BUT NOT THE ROOT QUALITY
THE A.I. ROOT COMPANY

P.O. Box 706
623 West Liberty Street
Medina, Ohio 44258-0706
Phone: 216/ 725-6677
Telex: 753856 Root UD

P.O. Box 6
1028 Third Street
Council Bluffs, IA 51502-0006
Phone: 712/ 322-8438

P.O. Box 9153
537 South Flores Street
San Antonio, Texas 78204-0153
Phone: 512/ 223-2948

P.O. Box 1684
1949 Commerce Road
Athens, Georgia 30603
Phone: 404/ 548-7668

P.O. Box 357
Fogelsville, PA 18051
Phone: 215/ 285-2778