JULY '91

GLEANINGS IN BEE CULTURE

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Columns

Departments

COVER... Sunflowers are excellent sources of nectar and pollen for honey bees. This wild perennial variety, called Hopi Blue, has been selected by the Hopi Indians because, when seed hulls are soaked in water, they give off an intense blue dye. When added to any of several mordants (dye stabilizers) the blue color remains fast.

Recent changes in the Farm Bill have made sunflowers an attractive oil seed crop, and you can expect to see increased acreage of the domesticated annual varieties. This is a mixed blessing though, as anyone in sunflower country (primarily the Dakotas and California) will tell you. The 'easy pickins' a flower field makes is often outweighed by the constant battle with pesticides, needed to control pests while the plants are in flower.

– Sammataro photo

JULY '91

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117 Years Continuous Publication by the Same Organization

Features

INNER·COVER

I don't need to dwell on what's been going bad for the last five years or so. If you've had it you already know, and if you don't, don't ask.

But after five slow starts, and slow seasons after, most in the business were doing more looking than leaping this past spring. Caution was in the wind.

So it's no wonder so many got broadsided with good weather, good bees and good flows in May and June. Suppliers (or those who will admit it) were caught off guard, and short on some equipment. A few commercial operations hadn't prepared either, anticipating the usual high winter losses. But a strong fall flow in most areas, coupled with a mild winter had helped overall health. However these conditions are not, in themselves unusual. We've had good springs before.

It seems though, that the one population control technique we haven't had much control over took a rest. Those tracheal mites didn't take quite the bite this year as in winters past. Losses approaching 'normal' have been reported from far and wide for a change. There's certainly hot spots left, areas previously untouched by the problem finally came home, and spent their spring cleaning empty boxes.

But by and large there was a respite from this spring cleaning chore for many, and we were caught wonderfully, incredibly unprepared.

Some attribute the lack of loss to a general increase in bees not susceptible to the mite, or at least able to withstand their cohabitation. Others suggest that those who treated, with menthol or oil, were better off than those who didn't. And there are a few who suspect the mite itself has changed, an Andromeda strain in a beehive.

My guess is it's some of each. Any bees left have got to be either very tough, or they don't mind company inside. And more people treated this year than last – with both menthol and oil, and their treatments are more effective as the system gets fine tuned with experience.

As for the mite itself changing, I'm not so sure. But if it really is becoming less toxic, or less fearsome for any reason, I don't mind finding out too late, after it's gone. That is one sort of unprepared for party we'll all enjoy.

•

GOOD NEWS!

Here's some food for thought. In May, the USDA issued an amendment proposal for comment on a small section of the Honey Board assessment act.

In the past, if you produced less than 6000 lbs. of honey in a year you were eligible for an exemption from the penny-a-pound fee the bigger boys had to pay when they sold their crop. But first you had to apply for the exemption, and if you qualified you got a piece of paper that said so. Then, when you took a truckload to the local packer, you didn't have to contribute if you didn't want to.

But this exemption business caused a lot of paperwork for those involved in such things, and they wanted to ease the burden, thus reducing the costs and confusion of the exemption part of the program.

The feeling behind the proposal is, if honey enters the mainstream of commerce then it should share the costs and benefits of the Honey Board's promotion program.

This includes *any* honey sold to a handler (a handler is anyone who handles honey), or is placed under the price support loan program. The exception is if you sell your own honey directly, to a roadside stand, directly to a grocery store or out of your back door for instance, or you donate it to a nonprofit agency.

So, if the amendment passes without comment at least some small timers are going to help pay for the Honey Board. If that's you, don't think of it as a penny-a-pound cost (up to a grand total of $60.00), but the price you pay to have a say in how the Honey Board is run. And next time – you get to vote!

Kim Flottum

Reader Assistance

To subscribe, simply fill in the form below and enjoy the exciting features awaiting you this year — Insurance Regulations, Smoker How-To, Requeening Tips, Inspections, Feeding, Pesticide Protection, and Wintering. It's all here — every month!

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NEXT MONTH

The first signs of autumn start in August, and one of the most noticeable of these is the sudden appearance of farm market stands. They spring up in late summer like dandelions in May.

Beekeepers can profit from these enterprises, either by selling product to the more established, or becoming part of the party and setting up a booth of their own. One-to-one contact is the true test of salesmanship (salespersonship?), and we've got two pieces on how-to next month. One big operation out west, and a small time set-up in the midwest – different in many ways, but all too similar in the basics.

Most of us have trouble thinking about wintering when the heat's on in summer, but now is the time to begin gathering ideas and materials for that critical management activity. O.B. Wiser has a how-to that can't be beat, with exceptional photos and diagrams that anybody can follow. You won't lose bees this way. Check it out.

Richard Trump takes a look at the Boy Scouts next month, and makes some comment on their program. We need all the young people we can get, and we need them trained right – here's how.

And there's more. Another industry profile, a honey plant how-to, the regulars and even some surprises – all right here, next month. □

MAILBOX

■ Bees Work

This has no doubt been said before, but it won't hurt to repeat it:

Socialism works with bees because bees work.

Roger M. Wernicke
Pensacola, FL

■ Propolis

I have been reading about bee propolis, and at the same time found someone here with bee boxes and propolis. They don't know how to utilize this bee product for human consumption.

Do any of your readers have anything in print describing bee propolis and its uses?

David Parker
1105 Tower Dr.
Vista, CA 92083

■ Menthol Cough Drops, III

As promised, herewith a report on my bees.

Each of my nine colonies was given five menthol cough drops per month in early November, December and January.

A quick peek through the inner cover opening at mid February showed all nine to be doing apparently well. As of early April they were definitely doing well and on the way to a good start for spring.

Two other beekeepers who were apprised of this method of treatment ($30,000 Cough Drop, Chapter II, *Bee Culture*, Aug. 1990) and used it, report 100% survival of their colonies.

Therefore, from early indications this is an economical (50¢ to 60¢ per colony) and easy method to treat for mites.

It was a relatively mild winter here, so that probably helped. Early reports trickling in indicate some tracheal mite losses this past winter.

L. Edwin Rybak
Morrisville, VT 05661

■ Winter Wait

I wanted to comment on the article by "Older but Wiser" in March *Bee Culture*. It is pretty good but I don't appreciate it when an author asks a question and then does not answer it. Questions should be in the "Questions and Answers" feature.

What is "the consequence of having nearly 100% of your colonies come through the winter as strong as they went into the winter?"

Starving to death? Excessive swarming? So much honey that the beekeeper runs out of supers and then out of containers to put the honey in?

I am waiting for the other shoe to drop and didn't really want to wait till August.

Gerhard K. Guth
Micanopy, FL

Editor's Note: The second part of this wintering article will be in the August issue.

■ Notes Change

I was happy to receive the April *Bee Culture* and find that the quality of the magazine had noticeably improved. This past year I received copies that had two types of paper, missing staples, or other flaws in the printing. The quality of my copies were definitely *not* 'Root Quality' But the April, May, and June issues were printed very nicely and back to the quality of publication I like.

Thanks for the change!

Jeffrey L. Ott
HInckley, OH

Editor's Note: Jeffrey L. Ott writes the *Weekender* series.

■ Thanks!

At last I eventually got around to writing to you, to say how much I enjoyed the series, "Start Right" by Dewey Caron. I spent some time working bees last summer with Chris Werner, a friend in Wisconsin, and that's what got me interested in bees. *Thank You* for catering to us newcomers! My wife and

Continued on Next Page

MAILBOX

I plan to go to the Ivory Coast this year to be involved in Missionary work, and I hope to keep some bees in my spare time. If there is any of your readers who have worked bees in Africa, and could give me some tips, I would love to hear from them.

Steve White
20a West Hill, St. Austell
Cornwall PL25 5ET England

■ Florida Fan

As a new enthusiast with three hives and trying to grow, I appreciate basic "how to" articles.

Would especially enjoy information for warm climate beekeeping such as in South Florida.

Ed Fielding
Stuart, FL

■ Good Business

Recently, I had the pleasure of dealing with one of your advertisors and I want all of your readers to know what a pleasure it was for me.

I ordered two queens from this business, and one arrived dead. I called them and they sent a replacement right away. That queen arrived dead also, so I called them, again, and another queen was shipped right away. She arrived in top condition even though she spent *five days* in the mail (Priority mind you) TX to CA.

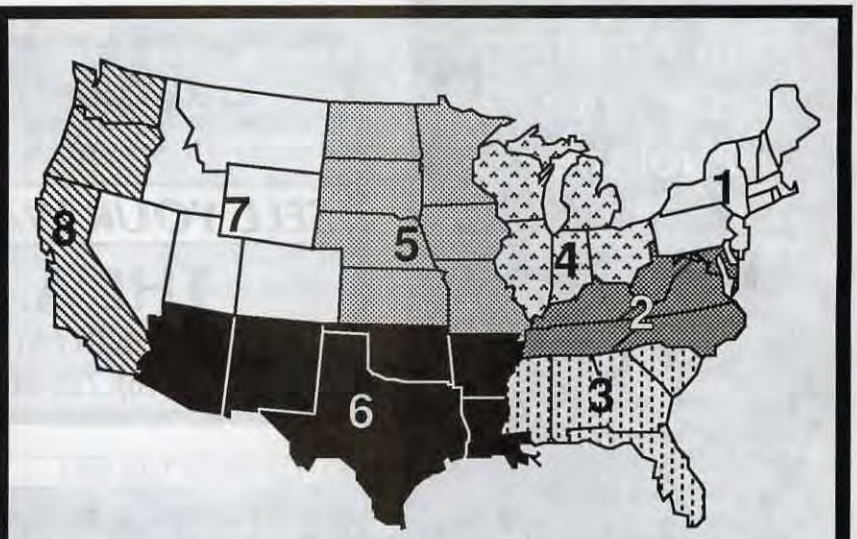
The business I dealt with was Howard Weaver and Sons, Inc. of Navasota, TX.

M.O. Mills
Georgetown, CA

JULY
Honey Report

July 1, 1991

REPORT FEATURES SUMMARY: R=Range of all prices; A=Average prices across all regions; LM=Last month's average; and LY=prices one year ago.



	Reporting Regions								Summary		History	
	1	2	3	4	5	6	7	8	R	A	LM	LY
Extracted honey sold bulk to Packers orProcessors												
Wholesale Extracted												
60 # Wh.	40.00	40.88	39.10	44.20	43.40	42.00	44.27	41.73	34.20-46.80	42.03	43.03	42.22
60 # Am.	39.00	35.50	36.75	39.90	41.10	40.50	40.00	37.73	28.20-44.00	38.37	40.29	38.72
55 gal. Wh.	.42	.42	.50	.50	.54	.52	.54	.55	.42-.60	.51	.51	.54
55 gal. Am.	.40	.40	.48	.48	.50	.49	.52	.49	.40-.52	.47	.49	.49
Case lots — Wholesale												
1/2 # 24's	22.80	18.35	25.00	22.95	15.10	21.82	15.60	20.90	15.10-25.00	20.18	22.27	–
1 # 24's	30.00	31.43	32.81	28.03	23.50	30.15	31.18	29.16	23.50-39.60	29.76	29.65	27.10
2 # 12's	27.00	29.20	31.25	27.20	22.20	29.95	27.50	29.48	22.20-37.20	28.23	27.43	26.42
12 oz. Bears 24's	24.00	26.04	31.25	23.65	24.10	25.83	26.80	26.87	26.00-31.25	26.06	26.12	–
5 # 6's	27.30	26.88	29.25	29.88	31.15	39.00	26.50	26.80	23.10-39.00	29.00	29.66	28.28
Retail Honey Prices												
1/2 #	1.00	1.18	1.25	1.50	.83	.95	1.05	1.07	.75-1.25	1.10	1.14	1.17
12 oz. Plas.	1.52	1.52	1.50	1.44	1.13	1.29	1.45	1.54	1.13-1.98	1.47	1.43	1.48
1 #	1.68	1.77	1.75	1.87	1.29	1.50	1.92	1.80	1.29-2.09	1.75	1.82	1.65
2 #	2.75	3.10	3.25	3.49	2.39	2.75	3.15	3.07	2.30-3.98	3.04	2.98	2.81
3 #	3.90	3.86	4.75	4.39	4.19	4.10	4.15	3.87	3.35-4.75	4.05	4.24	3.97
4 #	4.99	5.08	5.75	5.15	4.79	4.95	4.95	4.50	4.50-5.75	5.03	4.96	4.67
5 #	6.88	6.08	6.75	6.41	5.95	6.25	6.10	5.83	5.25-6.82	6.25	6.49	6.02
1 # Cr.	2.50	1.55	1.75	1.89	1.55	2.15	1.89	2.24	1.35-3.50	1.98	1.77	1.80
1 # Cb.	2.13	2.10	2.25	2.50	2.98	2.00	2.59	3.53	1.25-5.00	2.62	2.59	2.57
Round Plas.	2.50	1.78	2.25	2.25	2.25	2.49	4.00	2.20	1.50-4.00	2.37	2.45	1.93
Wax (Light)	1.65	1.17	1.40	2.00	1.25	1.15	1.58	1.25	1.10-2.00	1.39	1.57	1.48
Wax (Dark)	1.58	1.07	1.20	1.00	1.10	1.10	1.05	1.03	.85-1.25	1.15	1.16	1.45
Poll./Col.	22.50	30.00	40.00	30.00	25.10	30.00	30.00	29.50	15.00-40.00	28.78	28.14	25.60

MARKET SHARE

Watch for increasing honey prices this summer to compensate for the decrease in the support program. The big guys call the shots, but don't under price *your* product. Rumor has it that a one pound jar should go up 8 - 25¢!

Region 1

Sales and prices reflect the local economy – down, down, down. Warm weather and no money takes its toll. Bees strong, swarms up and production looks good.

Region 2

Demand down due to warm weather, but prices steady due to specialty crops coming on market. Wet weather has hindered production, but some crops look good. Mites still a problem, but lots of swarms indicate good overwintering.

Region 3

Sales and demand steady, but prices may be rising due to production shortages in some areas due to high amounts of rain. Mites losses high in places, way down in others.

Region 4

Sales and prices steady to just barely rising. Some beekeepers increasing prices to compensate loan increases earlier. More will follow. Early spring helped build up and adequate moisture increased chances for good summer flows. Summer rains scarce in some areas though.

Region 5

Sales steady to decreasing a bit due to regular seasonal slowdown. Prices steady to increasing a bit, generally. Early, wet spring helped build-up, but almost too much rain later has made yard work difficult.

Region 6

Prices actually increasing at a fairly steady rate, probably because of buy-back raises. Demand steady to slowing seasonally, but not much. Weather has cooperated, honey production and bee production excellent in most cases.

Region 7

Sales steady, prices steady too. Spring was generally wet and cool (cold?) which slowed build-up a bit. Needed moisture appreciated and should help summer crops.

Region 8

Prices steady to dropping, but northern tourist areas picking up. Should be good demand by mid summer. North has had too much moisture and cool weather early, southern not enough of either, but both areas better than last year.

RESEARCH REVIEW

DR. ROGER A. MORSE

Cornell University • Ithaca, NY 14853

"Canola – Nectar plant of the future?"

The average nutritionist is more than enthusiastic about the future of Canola seed oil. Acreage of this oil plant in the U.S. is increasing at a rapid, almost unbelievable rate. Canola is a variety of rape seed that was developed in Canada a little over 20 years ago. Canola stands for Canada-oil-low-acid (can-o-l-a). The traditional rape that has been grown and has been so popular in Europe, and to some extent North America, contains 22 to 60% Erucic acid. The new varieties of Canola contain less than two percent. Rapeseed and Canola contain about 40% oil and 40% protein and is used in animal feeds. An article on Canola in this magazine in April, 1990 predicted there would be seven to 10 million acres of Canola grown in the U.S. by the mid 1990's. That is still a reasonable prediction.

Canola oil has the lowest percentage of polyunsaturated fatty acids of any of the seed oils. Since it is the saturated fatty acids that are bad for health, according to nutritionists, Canola is rapidly becoming the food oil of choice.

Rape, which has been grown commercially for its oil for over 3000 years, is an outstanding nectar-producing plant everywhere it is cultivated. Canola has the same qualities. The problem for beekeepers is that rape and Canola honeys are high in glucose and low in fructose. This causes them to crystalize rapidly. If honey extraction is not done promptly, the honey crystallizes in the comb. Other than its tendency to granulate rapidly Canola honey is of good quality and is thought of as a table honey.

A new, 19 chapter book on Canola was just received in our library this past April and is cited below. The first six chapters are of special interest to beekeepers. They discuss global production, North American production, agronomy, new developments in research, biotechnology, and the sixth chapter is entitled "Canola Fatty Acids, an Ideal Mixture for Health, Nutrition, and Food use." It points out again that it is the preferred edible oil. The rest of the book is devoted to production, oil processing, etc.

I hasten to point out that there is no reference to bees, honey, or pollination in this book, or, for that matter, most other places where one finds information about rape and Canola. The plant apparently self pollinates to such an extent that bees are not necessary. However, when I talked to one of my friends in agronomy about Canola, and asked specifically if bees were necessary for pollination, his answer was unsure. He said that he had seen such furious bee activity on the Canola being grown on one of our Cornell experimental farms that he wondered about that question.

At this point I turned to S.E. McGregor's 1976 USDA Agriculture Handbook No. 496 entitled *Insect Pollination of Cultivated Crops.* He cites several papers that state that rape plants covered with screening, so that insect pollinators were excluded, produced fewer seeds. Canola is so new that the plant is not mentioned in McGregor's book. At the present time it appears that nectar production from Canola is so good that beekeepers are moving colonies near plantings for honey production, and no one is paying much, if any, attention to the pollination requirements.

Canola may be planted in the fall or spring. Fall plantings are undertaken in the central and southern states. In the northern tier of states Canola is not sufficiently winter hardy that it can be planted in the fall, and spring planting is done. Fall planting has the advantage to growers that no insecticides and no herbicides are necessary. The reverse is true of that planted in the spring. The problem for beekeepers is that fall sown rape and Canola bloom so early that colonies of bees are often not strong enough to take full advantage of the nectar flow. Spring planted Canola yields nectar in the summer when bees are ready to harvest a honey crop.

Now I come to one of my big gripes. I turned to J.W. White's 1962 USDA Technical Bulletin no. 1261 on the *Composition of American Honeys* to learn about the chemical composition of rape and Canola honeys. Neither are mentioned and with good reason, they were not important sources of honey when the bulletin was written. At the present time there is no active honey chemist in the U.S. We should have such a person on the USDA staff. We need to have more current information about the new honeys and other changes in American agriculture that are taking place.

New Plant Book

An excellent publication on the nectar-producing trees, shrubs, and herbs found in Ontario has just been made available. As agricultural prac-

tices change in the eastern parts of the U.S. and Canada, publications of this nature are helpful in explaining changing practices and their impact on current and future honey plants. The tables provided in this circular indicate the climatic zones where each of the plants thrives, as well as discussing their botanical features, and nectar-producing qualities.

I was especially interested to learn that so many of these better nectar-producing plants are from other continents. Of the 30 excellent nectar-producing trees in Ontario, only 33% are native. Thirty nine percent of the shrubs and only 29% of the herbs that are good nectar producers are native. These facts indicate that plant species on earth are intermixed to a great extent because of international travel and the resulting importations we have made into North America. □

Copies of this 15 page paper, Publication 82, are available at no charge from Doug McRory, Provincial Apiarist, OMAS, Guelph Agricultural Center, Box 1030, Guelph, Ontario, Canada N18 6N1.

References:

Shadidi, F. Editor, Canola *and Rapeseed, Production, Chemistry, Nutrition and Processing Technology*. AVI, Van Nostrand Reinhold, New York. 355 pages. 1990.

BEEKEEPERS MEETING

HONEY ACRES

A Honey of a Museum and A Great Place to Visit

Well settled in the best of Wisconsin's dairy country, halfway between Milwaukee's millions and Madison's University, sits one of the beekeeping industry's best kept secrets.

Not far off Interstate 94 is the little town of Ashippun, typical of most small towns in south-central Wisconsin. Though not a booming metropolis it has everything necessary to support the surrounding agriculture – a lumber yard and feed store, a garage and post office, and a bank and country grocery store. For entertainment there's a tavern or two, and for the serious there are churches for nearly every taste.

Just outside Ashippun is a tiny sign telling you it's only two more miles to Honey Acres. You'd miss the sign if you weren't looking hard. But at the crest of the next rise is the skep shaped "Honey of A Museum" sign on your left and you can see the long, low building with the tower at one end. Surrounded by low stone walls, gently rolling fields and a well landscaped parking lot, this 'museum' is also one of the largest packers of gourmet honey in the U.S.

Walt Diehnelt, owner and curator is the great-grandson of the first of the Diehnelts in the honey business, who was also a wool carder in the off season. His son was August Diehnelt, who became a full time beekeeper located on the northwest side of Milwaukee. He packed and sold all of his honey retail.

He was followed by his son Walter (Walt's father) who expanded the beekeeping and honey packing business and also moved into other food packing products. In the 30's they moved the packing part of the business to Menomonee Falls, just outside of Milwaukee. By the late 70's that area had developed so that expansion was too costly, and an extracting and honey bottling plant was built near Ashippun where most of the bees were being kept anyway. By 1980 the entire operation had moved to the far more bucolic countryside.

But Walt wasn't content, and after visiting a museum in Cape Cod run by the Cranberry people he decided the beekeeping industry needed something similar. He hired a museum designer from Milwaukee, had a new section to the plant designed, along with a display area and was open for business in 1983.

The Museum has displays and dioramas of beeswax, Egyptian beekeeping, American Indians, gum hives, Black bear, honey bee stamps, a reconstruction of his grandfather's workshop, a living bee tree, pollination and seasonal displays and a small theater. It also has a 'honey tasting' area, and by counting the number of spoons used, Walt has a fair estimate of the number of visitors each year.

In 1990 there were 125 scheduled tours through the museum, including school classes and other groups, and over 20,000 people tasted honey.

"We try to give people a little more than they expected", said Walt, "and they'll remember the trip."

In that vein, in '89 a hiking trail

The entrance to Honey Acres Museum. Situated in scenic southern Wisconsin, this entertaining and informative museum is also a high-tech and well managed honey packing facility.

and scenic view area was opened around the museum featuring a breath taking display of Wisconsin's beautiful country side.

Admission to the museum is free, but there's a display of all of "Honey Acres" products at the door, and hardly anyone leaves without at least a 50 cent sample, or two or three $3.00 bottles.

But most of those bottles are filled with honey from Walt's own bees. Honey Acres still runs 1800 colonies in 41 different yards. They focus on honey production exclusively, so they neither pollinate nor move to other areas. Crops are primarily Dutch clover, white and yellow sweet clover, alfalfa and basswood.

They run everything in deeps, all painted silver. They repair, repair, repair their equipment and haven't bought supers in years. Repairs are made mostly by Noel Baertlein in one of two workshops in the complex. "Noel makes repairs, keeps bees, and most anything that needs doing," said Walt, "I don't know how we'd get along without him."

Using only two small trucks to move honey (both from field to factory, and factory to store), Walt figures it only costs $16.00 to move 1000 lbs. of honey – truck and labor costs included.

Honey supers are brought into an enclosed unloading area just outside the extraction room. Equipment includes a Cowen uncapper and two 80 frame Hubbard extractors. Honey drains from the extractors through a sump and is run into barrels. The honey/wax mix from the sump is drained into a Fager Wax Press, separated, and the wax put into a modified bulk tank.

Continued on Next Page

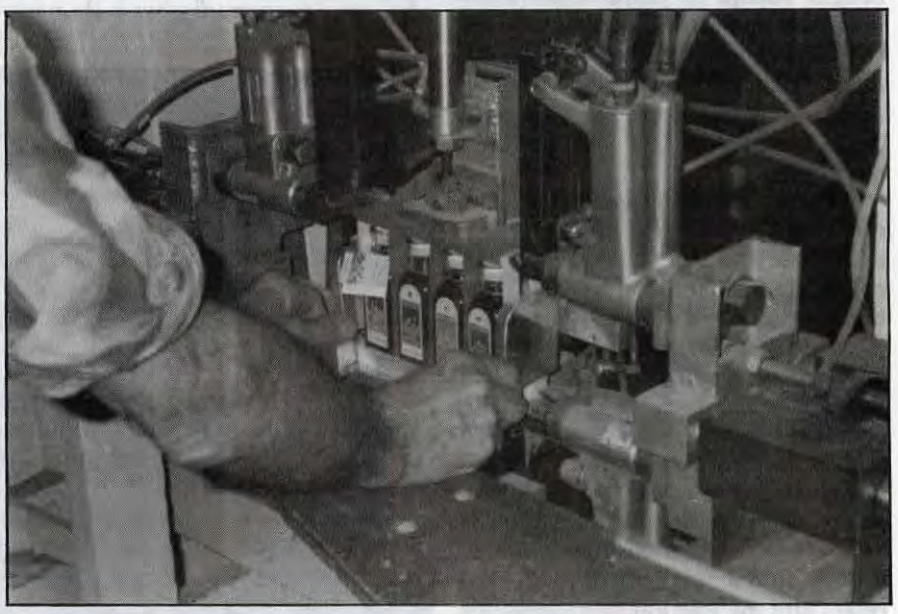
Just one of the many displays in the museum. Walter Diehnelt started the packing business in earnest, and expanded into other food products.

The display of Honey Acres products located in the Museum's entrance. "Hardly anybody leaves without purchasing at least a 50¢ trial bottle", says Walt Diehnelt, owner & curator.

Crated gift packs are bottled, labeled and boxed right in the plant. These are in the authentic Muth bottles with cork seals.

Honey Acres sells their grocery packs in plastic cylinders in 8 oz., 12 oz., 12 oz. bear, 16 oz., 24 oz., 3 lb. and 5 lb. containers.

This is the machine that makes the crates. Bottles are set in place on the wooden base, each wooden piece is set in place and all are fastened in one move. It is very fast, and can be arranged to make nearly any size crate around any size bottle or bottles.



HONEY ACRES ... Cont. from page 379

Wax is not an overlooked commodity in this business. Sold to several outlets, it is put in 2-1/2 lb. cakes, 1 lb. and 1-1/2 oz. bars. In all, about 25,000 lbs. of beeswax is handled each year.

Once filled, honey barrels are stored in the 50' x 120' warehouse, along with a large assortment of glass bottles, plastic containers, boxes and the rest of the raw materials used in the business. In one corner of the warehouse sits a huge trash compactor that handles all the cardboard generated each year. In 1990, Walt figures they compacted and recycled 30 tons of scrap paper.

"It's sure better than filling up our landfill with it", said Walt, "and besides, maybe we'll get it back again, as another box."

When needed, honey is melted (if crystalized) in either a Sioux Bee barrel melter, which holds 18 barrels at a time, or a home made melter that holds eight.

One of several bottling machines. Each machine is fed from a holding tank, and can be set to fill any of several size jars.

From the barrel melter honey is pumped through a heat exchanger (with a capacity of 1500 lbs./min) to a strainer, ("Honey Acres honey is not filtered," said Walt, "we only strain it"), and from there to a holding tank. The honey goes directly to one of several bottle fillers on the floor below from the tank.

Standard packs, those sold primarily in grocery stores, are all in plastic, in 8 oz. 12 oz., bears, 16 oz., 24 oz., 3 lb. and 5 lb. containers. A broker handles all grocery store sales and distribution is out of Chicago. They will have the required nutrition information on their label by late 1991.

But it is the gourmet products that are the most fascinating part of this business. At the heart of this is the bottle used in almost all of their packs – called the 'Muth' bottle, it has four flat sides that ascend to a round top, sealed with a cork, which is protected by a tamper resistant plastic ring. Other products are in hexagon shaped jars, mugs and canning jars.

Combined, Honey Acres packs about two million pounds of honey a year. Three quarters of that is under their own label, but they also pack for 'Harry & David', 'Knox Berry Farm', and 'Hickory Farms' Some packing goes on year round and there are about 15 full time employees taking care of sales, packing, and honey bees. Many of

Honey Mustards are another product sold under the Honey Acre label. These are in 3-3/4 oz. and 1-1/2 oz. jars. Honey Mugs (6 oz.), 5-1/2 hexagon jars, 1-3/4 oz. hexagon jars with either honey blends or named varieties are also sold. In fact, their price sheet lists almost 80 different products.

the employees have been working for Honey Acres for years, and have brought family and friends into the fold. "We like to think of ourselves as family," said Walt. However, it's the Christmas season that's the busiest time of year.

But this mid-winter holiday starts in July at Honey Acres, and by September there will be over 60 people filling bottles, putting them in little wooden boxes, shrink wrapping the finished product and boxing, loading and moving the cases as fast as possible.

But Walt Diehnelt never sits still (in fact he never walks if he can run), and he has plans in place for several new products, and for reintroducing yet another product. Candy is the next line Honey Acres is venturing into, and they're going at it full speed.

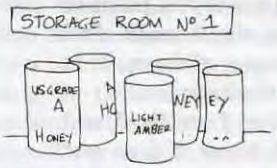
They're first going to reintroduce their Hi-Honey bar (a honey apricot candy bar) in new packaging and with significant promotion. But right along with that is a honey-plum bar and a crystallized honey-mint chocolate masterpiece that is unbelievably delicious. Packaging and promotion plans are in the finishing stages, but are still being fine tuned.

Honey Acres is much more than a Museum of beekeeping history and lore, and if you're in Walt's neighborhood, he'd sure like you to stop by and visit awhile. It's a great way to spend an hour, or an afternoon in the country. Your family will enjoy this part of beekeeping (even if they aren't thrilled with the rest of what you do), and even you might learn a little about the craft you practice.

Oh yes, don't forget to pick up a bottle or two of Honey Acres honey while you're there. If he's not out keeping bees, or dreaming up another new product Walt will come down and thank you in person. And that in itself makes the trip worthwhile. □

For more information on "A Honey of A Museum" write Honey Acres, Inc. N1557 Hwy 67, Ashippun, WI 53004, 1-414-474-4411.

Walt Diehnelt, owner & curator or Honey Acres making a critical test of one of his latest products – the creamed honey and mint chocolate candy bar. This new product passes even Walt's high standards – but not before lots and lots of taste tests have been made.



CHEWING THE CUD

OVER-THE-FENCE PUBLIC RELATIONS

O.B. WISER

It has been a long and hard, sweaty, July day and I have just finished working 150 hives. I am bone tired and my faithful old, steed the white 1965 Ford half-ton flatbed, is waiting anxiously to take me home to a warm shower, clean sheets, and some vittles to eat.

As I slowly drive out of my Wyoming's Bridger Valley location, down the rocky, steep backroad with its irrigation running over the rocks, I notice Ernest Georgis, the landowner, driving his old pickup in my direction. Ernest is retired and he loves to talk, and I enjoy each conversation, but I am so tired, so sweaty, and it seems so late, and my family is waiting!

Little decisions are often big assets in the bee business.

I consider my landowners one of my most valuable, capital assets and I make it a point to know about each and every one of them. It is good business.

Yes, I am tired and yes, I know if I do not wave and stop my truck, Ernest and this beekeeper will simply pass on the road with only a whisp of dust on our trucks to remind us we ran into each other. Maybe it will not matter, maybe he will not care, maybe he is as tired as I am, and maybe, just maybe, I'd better stop and talk.

We wave, he smiles. Our old trucks pull over to the side of the dirt road. "How are you Ernest?"

"Oh, can't complain."

"Last time we talked you were afraid the reservoir would not have enough water for July. What has happened? (This is the single, most important thing to him.) So we talk about fields and timothy and beef prices and hope for rain and how is that arm of yours doing you hurt last spring? And what about your son's accident? Is he OK? How's the wife? And yes, he may ask about the bees. "Oh, you bet we will have a crop this year, and I know you will like the honey I'll leave with you in September, the best we've ever had."

"By the way, have you been fishing in the Unitas this summer? Is that right? Which lake do you think is the best? Well, it has been so good to talk to you. Sure hope the tonnage per acre is up over last year."

It has been 30 minutes. We even turned off our six cylinder engines and we just *talked*. Nothing earth shattering, no big deals, no money made.

Just plain, ordinary talk that warms a person down inside where it really counts. Down where you really remember, down deep where the warmth of remembrance makes a strong ally.

> "I am a beekeeper. I do some real strange things from my neighborhood's point of view."

Later in the year in late August, the thunder showers are playing havoc with my honey harvest schedule. It is in the late afternoon, I have to fill my truck with a load. Driving home with a part load (over 130 miles of road) is not cost effective and it is my last yard to finish, but I have to make the bees mad to get the load. Ernest will be cutting hay tomorrow next to the bees. I pull the honey because I have to. The next day, Ernest gets stung. But you know, he remembers our last talk.

I'm a farmer just like him. I sweat and my joints hurt, just like his. *But most important, I talked to him* when I was busy and that makes the difference when he scratches out the stinger like I showed him and says. "Oh, what the heck. It is only one stinger. No harm done."

Then there was the time in Cache Valley, Utah, in a little, forgotten town called Cornish, on the border of Utah and Idaho. There had been bees on Denton Green's property for 25 years, between me and the previous beekeeper. Denton needed a witness for a case against someone to whom he had leased his property and who had not paid him and claimed he had no crop. But then I had driven through that hay crop all summer and I knew. I went out of my way and spent an afternoon sitting in a little courtroom waiting for my time to testify in a hearing and tell the judge what I had seen.

Denton got his settlement. Later that summer, I had worked the yard up by the irrigation pond on an off day for the bees. The weather was cool and windy, and when I left, the bees were still mean. His boys were changing irrigation pipe later that day and tied up their old, sweaty horse to the fence around my bees and left her there. The old family horse was stung bad, unable to break the strong, leather halter tied to a steel stake in the ground and later died of an over reaction to the stings.

This is the ultimate test for good PR with any landowner. We had talked many a time, and every time I delivered my honey rent at the end of the season, we sat and talked over a cool glass of mountain spring water. When he approached me to tell me about the family horse, I felt real bad and he knew it. I gave him assurance that it was an unusual situation. The horse was old and it was an unusually bad day. Gosh, I felt bad for the family. He knew that location of 75 hives was the best location I had. He knew my livelihood back then depended on it. We had talked about bees and farming and our fami-

lies and Denton understood. When we parted after that difficult time, I still had a location and he looked forward to his clear alfalfa honey I would once again drop by, later in the fall.

The honey rent money can be just so many dollars worth of good honey, or $5,000 of good will and friendship, and good public relations is up to the beekeeper and how he gives honey rent to his landowner.

I learned a long time ago, when I was 15 years old, what good PR really meant. The Andersons lived right next door to the neighborhood's budding young beekeeper, and Mrs. Anderson always hung out her white wash, especially the sheets, to get that wonderful fresh smell of the country in them. But, unfortunately, in the early spring on that typical first, warm, spring day, Mrs. Anderson had been waiting to hang her wash, my bees had been holding fire on a two week build up of fecal material, and as she hung the white wash on the lines, my bees headed for the outhouse on high for the pause that relieves and Mrs. Anderson had all these little, tiny, yellow spots all over her clean wash, and I heard the high pitched scream later that afternoon.

Boy, was I glad she liked the honey I had given her; and boy, did I ever think of a lot of good things to say about honey and flowers and pollination and about anything I could be positive about that evening when she sat down in my parents home, a long time ago with this not-so-happy look on her face.

That was years ago, but I learned my lesson well and I have simply kept up the good relations with every new neighbor that comes along, one at a time. And you know, after that tough night in my folk's home, Mrs. Anderson was careful from then on. On that first, warm day in Spring, she hung the wash in the evening and picked it up early the next morning, before it was warm enough for the bees to fly. Her wash was clean and smelled good and I spent many a wonderful Spring day as a boy watching my bees fly at the old homestead, instead of having to worry about how to defend myself in court, or against the Zoning Commission, trying to prove my case. "Good P*R kept the bees making cherry blossom honey for me to sell, and my life with the bees is still a pleasant memory, after all these years!!*"

Then there are my neighbors today, the Dicksons, the Hunters, the Kimballs, the Mulhollands, and our next door neighbors from Iran.

> "Public Relations has much in common with Johnny Appleseed. We plant a good seed here and there and move on, often never seeing the fruits of our labor."

I am a beekeeper. I do some real strange things from the point of view of the neighborhood. Like sometimes, I like to bring a truck load of bees home after loading them in the evening, so I can move them in the cool hours of the next summer morning, after a restful night's sleep, (the only time to unload bees). Well, it just isn't everyone who parks 50 hives of bees at the curb in the neighborhood and takes out the watering hose and stands in his front yard watering beehives on a truck. Is that different or isn't it, from a normal person's point of view?

There can be more good will in one free honey bear than a hundred reminders of the value of pollination.

Six months ago, I visited my new neighbor, three doors down, in December and I told Robert I was a beekeeper and if any time he had problems with bees, wasps, or ants, I knew what to do with them. Of course I handed Robert a quart of golden honey, fresh from my bees that fall and some fresh baked, hot bread right out of the oven, my calling card.

Now, as he gets up early to get to a rug laying job and sees a small halo of bees flying around my old, flat bed at 5:30 a.m. his first thought is not to call the Health Department, but rather he recalls the good honey and bread and the offer I made to him and all his family if they wanted any honey for their family, uncles, or cousins, I would have it for them at wholesale prices. And he knows what is going on with the bees, too, and that they will be gone shortly, and it is no big deal.

Then there was the rejuvenation of 200 supers last summer. A bigger mess in my driveway I cannot imagine. Everyone in the neighborhood saw it and everyone knew what it was – bee boxes. They knew how important it was to my family that I do the work, and the only comment I got was when I painted them all different colors of blue, and they wondered if I had bees in the boxes, and why wasn't I painting the boxes white like a *normal* beekeeper.

So this year, when it is time to recondition 200 bottoms and tops and my boys are out there scraping paint in the evening, the Dicksons know it is my family project and how I make men out of my boys. They even know the boys have their Beekeeping Merit Badge and even *their* boy can get help from the old beekeeper next door, if he wants.

So nobody calls the Planning Commission and asks if their neighbor can be painting bee boxes in his driveway. They just know what is up.

July is a busy month and a slow month. The bees are working to fill the boxes with honey. The cake is in the oven, so to speak. Not much more a beekeeper can do but wait. I know the supers are on and I am calculating how much honey I will make and it is at this time I always decide to make those few extra, new supers of foundation, and take advantage of the warm temperatures to embed the wax into the properly wired frames. (There are hundreds of wrong ways to wire frames and only

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CHEWING ... Cont. From Page 383

a couple really good ways.)

It is nice to know someone next door will not be too upset at my eternal hammering as I drive thousands of nails, making the frames. In fact, it is almost as exciting as harvest time, to be making frames in the evening and having the Hunters come over with their 10 year old to see what I'm up to now, and have an opportunity to tell a small boy about frames and bees and honey crops.

Good PR has rewards that sometimes do not have paydays for months, even years. But carefully planned public relations are like money in the bank when that rainy day comes along, which it always does, when a little understanding and compassion on the part of a neighbor means a lot.

Over the years, I have made myself available to elementary schools to talk about insects and especially bees and I have helped thousands of young people know a little bit more about bees and maybe, just maybe, they will have a more kind place in their hearts when they come into the inevitable contact with bees and beekeepers in the future. Maybe they will remember the fun day they had when the bee man came and took a bee and stung himself on the arm so he could show them how to scratch a stinger out the next time, so it wouldn't swell so much.

Beekeeping public relations has much in common with Johnny Apple Seed. We plant a good seed here and there and move on, often never seeing the fruit of our labor, but only hoping for the harvest that inevitably follows.

So, beekeepers take time, when you're tired and beat, to chew the cud with your landowner. And, when a little boy asks a question about if those are the kind of bees that sting and make honey, well, stress the honey and sweet part and tell the little boy "wouldn't he be mad too, if somebody stole his honey and nectar?" His Dad will laugh, the boy will smile, and you've just become an expert in Public Relations. □

HONEY HOME

Getting Your Gold From Here to There

JEFFREY L. OTT

In my part of the country we start pulling honey supers beginning the end of July or the first week of August. If you've kept up with your bees, they've been healthy, and your area produced enough nectar this year, there should be two or three shallow or medium supers of honey sitting on each hive. The last super you put on (when you got back from vacation) may not be capped by now, though. If it doesn't look like the bees are making any progress on it, don't worry – either pull the whole super and return the uncapped frames, or pull just the capped frames.

There are several good ways to get bees out of supers and they all work. The method that works best for you depends on the number of hives you have and the amount of time and money you have to spend on the process. You probably keep too many hives for the amount of time and money you have anyway. But then again, that's the way of the Weekender.

If you have less than five hives you can simply shake or brush the bees from the frames, one at a time. Put each clean, capped frame in another super and take them home. It is smart to keep the storage super covered. If you have lots of hives, you may want to use a 'bee blower'. If you have any number of hives, and a couple of days to spend, you can use one of several varieties of bee escapes.

I like, and use, a fume board. Using two boards at a time, on two different hives, I can remove supers quickly and without much fuss. I use the chemical that doesn't require a particularly hot day to be effective. However, the warmer it is, the better either of the two types work. Experience will tell just how much of the stinky stuff to use on the board and when to use more. Too much and the bees will boil out the front of the hive; too little and they won't leave the super. You shouldn't need more than ten minutes to clear a super. When a super is empty, remove it and put the fume board on the next lower super.

A word of caution is required. No matter how expertly you use these things, the stink *always* kicks in after you're done and home (It works the same as your smoker. It always smokes the most when you're done for the day). And for heaven's sake don't take your fume boards home and store them in the basement under your bedroom. And don't leave them in the family car either – you will definitely not be a popular person around home. For best results store them away from the house and let them air out (for a couple of months), or store them in a tightly sealed plastic bag – outside the house!

When your supers are chock full of capped frames it's time to bring your honey home.

If you have only a couple of colonies in your back yard, it's easy to load your honey supers into a wheel barrel and move them into the garage, basement or whereever you process honey. If you need to drive to your bee yard make preparations beforehand to bring them back in your car or the bed of your truck. Some beekeepers have or rent trailers just for the day and haul the supers home in that.

On a related subject, consider devising some type of bee-proof barrier for your pickup bed or trailer. A single misguided bee at a traffic light – stinging the wrong person – and you could lose everything. I mean EVERYTHING! I'm not an attorney but I have had some discussions with one and it is entirely possible that if someone gets stung and has an accident, or otherwise

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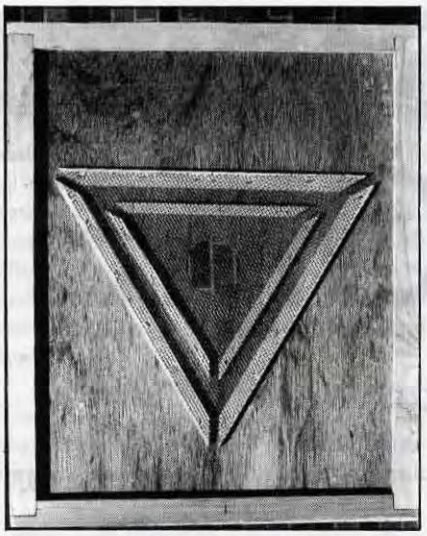
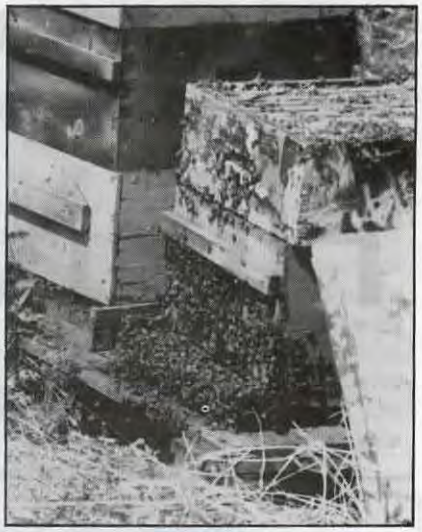


Put escapes on one day, and return the next to empty supers. But, be sure there are no cracks or holes. If there's brood in the super the bees will be reluctant to leave.

Use about a teaspoon of fumigant (Bee Go or the like) per application. Don't forget to read the instructions.



This is what happens when you put too much fumigant on. The bees will boil right out of the front of the colony.

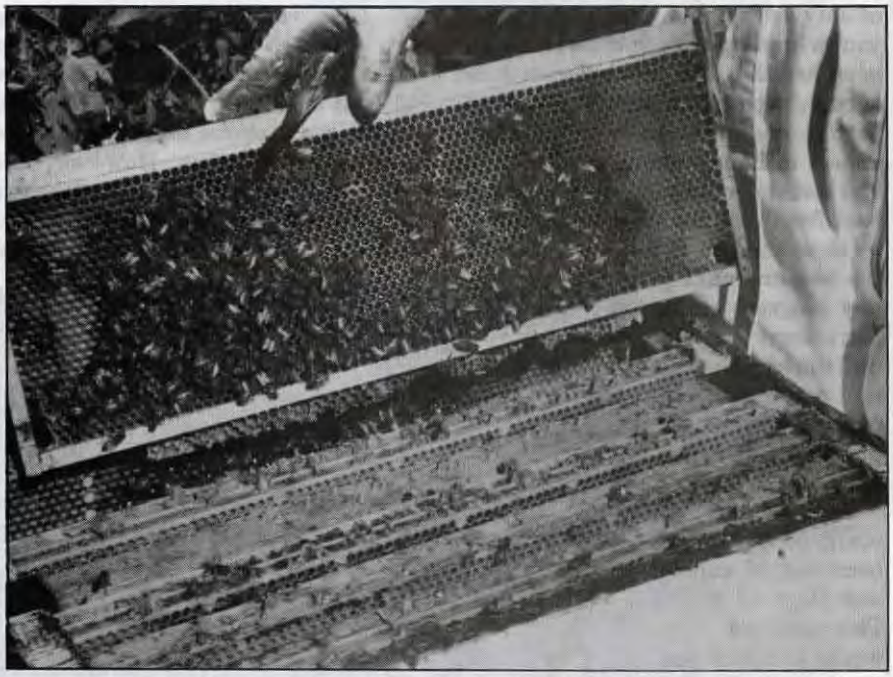
WEEKENDER ... Cont. From Page 385

feels personally threatened you could be in serious trouble. This may not be as big as a concern while transporting honey supers as it is while moving hives, but it should certainly be a consideration. Even if you aren't sued, it could result in laws or ordinances to be enacted against beekeeping, and beekeepers.

Honey dripping from broken burr comb, or the frames will make your harvested supers sticky and drippy. Place a cover of six or eight mil plastic in the trunk of your car to protect the upholstery. If you have a pickup you do not need to go to this trouble and can just hose out the bed afterwards. But make sure you do, otherwise you'll find every honey bee in the neighborhood flying around your truck later – to the consternation of family and friends.

Drive as close as possible to your hives when you pull honey. Carrying one super may not be difficult but many more than that, and you're going to be tired – more than you thought. Dr. Dewey Caron once said "there are two types of beekeepers; those with bad backs and those who will have bad backs".

There is a lot of truth to these words. Get as close as you can to your hives (or bring some kind of wagon or cart to the yard) so you don't hurt yourself. As supers are pulled from the hives put them in your truck. If you have a bee blower, the best place to use it is near your truck. Put a couple of supers on their sides and blow the bees out back towards their hives. They'll be confused



If your frames look like this, only partially filled and uncapped don't even bother bringing them home.

If your honey frames have this sort of pattern, brood in the center and honey over the top – leave it on the colony. You do not want brood in your honey, nor just-emerged bees in your extraction area

One way to use a bee blower. Better, take the super a little distance from the colony and then remove the bees. That way they'll go home, and not back to the super.

and fly back home and leave the honey supers to you. Now you can stack them free of bees.

When you have pulled all of the supers, cover the load with your bee tarp, spare hive tops or pieces of plywood. Some beekeepers simply place their supers on an up-side-down cover, and put another cover on top. This makes a bee tight tower.

If you have many supers to handle it's worth your while to buy a heavy duty dolly to wheel them around your garage or basement – your "Honey House" You may want to build a 'super' cart (or two) from a piece of 3/4" plywood the size of a bottom board and four-caster type wheels in each corner. One of these on the bottom of a bunch of supers makes moving them around a snap! The trick here, though, is having a smooth floor to move them across.

Storing just-home honey supers can have a dramatic impact on your beekeeping future. This phase can be more critical than winter management, spring feeding, swarm prevention or supering. If you bring bees into your basement or garage – and your family doesn't share your passion, only one or two bees buzzing in the window can ruin your operation faster than an army of varroa or tracheal mites.

Put your supers into a dark room if at all possible. If you can, move them to the uncapping area. Cover all windows except one or two and crack them open. Any straggling bees will leave the supers and fly towards the light and go outside. You can install one-way bee escapes in the windows to let them out, and keep them out, too. If you didn't use queen excluders (shame on you) and you have brood in your honey supers the bees will need encouragement to leave. If capped brood starts to hatch, you will find yourself with more bees than you started with. None of these girls will cause problems if you provide a way out. But for family members they're just plain unnerving. However, they can be a surprise when you inadvertently grab one as you reach for a frame.

One other way to rid your "Honey House" of these stragglers is to have a bug zapper in a corner where you won't always be banging your head on it. Leave it running a few nights and it will help clear the air. It also has a certain psychological appeal for household members who do not particularly like bees.

Bringing your honey home can be the beginning of a rich and rewarding experience. It is what you show for your long hours of planning and scheming, if not just as many hours of hard work. The next step is to extract the honey and finding something to put it in. We'll take a look at that – next weekend. □

WATER RIGHTS

A long cool drink on a hot day can be costly if your bees drink from somebody else's swimming pool or bird bath.

KIM FLOTTUM

Honey bees and humans generally live in completely different worlds. Encounters are usually limited to a casual observation of "Look, there's a bee on that flower". But when a chance encounter becomes a confrontation, the wonder of the honey bee can instantly become a legal nightmare.

You can maintain some control though, so the law lays low and leaves you alone. Screen your bees so the neighbors don't notice; don't overpopulate a city lot, the suburban lawn or even that never ending pasture; work bees and make hay when the sun shines; run a kind and gentle kingdom; and never, ever let the well run dry.

Unless you have a totally private pond or in-hive plumbing there is a perfect possibility your bees and at least one person, somewhere, will have a too-close encounter over water rights this summer.

And bees do need water. On a warm, sunny day a full sized colony may use as much as a gallon of water. Some of this comes from collected nectar, but most from a nearby water source. Your bees store this collected water in cells, on top bars and in burr comb. Fanning activity, which creates a draft through the colony causes the water to evaporate, cooling the colony's interior (much like putting rubbing alcohol on your skin – as it evaporates it feels 'cool'). Collected water also maintains the relative humidity in a colony, critical for the health of eggs and unsealed brood.

When the internal temperature increases certain foragers begin collecting water instead of nectar (these workers are 'selected' by genetics, age and perceived need in the colony). As the demand for water increases, so does the enthusiasm of the workers who meet the water foragers when they return. Collectors are encouraged to collect more water in direct proportion to the enthusiasm of that initial meeting. Water collectors also direct other foragers to water as if to a nectar source.

Bees will go where water is – and place little importance on who they must share the source with. Swimming pools, dripping faucets, bird baths, watering cans, pet dishes, or air conditioner puddles all make good sources, and excellent opportunity for confrontations over water rights. Moreover, the further your bees must fly to find a drink, the more time and energy they expend in the pursuit.

So, along with camouflage and population control, mindful manipulations and gentle stock, making sure there's a safe, *permanent* water supply at hand is not only good microlivestock management but an insurance policy on your right to keep bees where you want them kept.

This is possible using a variety of techniques – from very, very low tech to smart, sophisticated (and expensive) devices. But there are two Cardinal Rules to remember. First – reduce the need for water as much as possible. Place your colonies in a spot that receives some-to-full shade *in the after-*

noon if possible. Keeping cool reduces water requirements. Second – never, ever let the well run dry. Once you begin this management exercise, you must continue until the water demand is over (winter!). Once a water source has dried up your bees will find a new one, and your best efforts will be largely ignored. (Actually some may return but all of them won't, so you'll still have a problem.)

Low tech techniques include inexpensive plastic pet waterers, (some have containers, others require you to provide them). Usually a gallon or less, these may need more attention than you can provide. Poultry waterers, whether plastic or metal are usually larger and more durable. Placing gravel or marbles in the trough will reduce the water's surface area, thus evaporation.

The closest most of us will ever get to in-hive plumbing is a boardman feeder (waterer in this case) at the entrance. Somewhat on the small side, they will keep foragers home and are easy to refill.

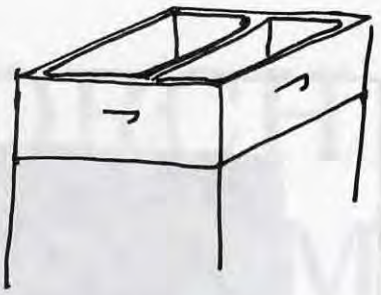
Those in-hive attic feeders work well, too. Often called Miller feeders, they'll hold two three gallons of syrup in the spring, and that much water in the summer. The biggest drawback is having to pop the lid to see if they need filling.

To supply water to several colonies some distance from a water source you can use open dishes, pails or even barrels. Depending on the number of colonies you have, something as simple as a cheap bird bath with stones in it may work. A five gallon bucket with a burlap bag rolled up inside will hold almost five gallons of water and provide a solid footing for bees. A partial cover will reduce evaporation and keep the water clean.

A 55 gallon drum, with a large cloth bag fastened around the rim that reaches the inside bottom will take care of a large apiary. The bag provides footing, all the way to the bottom, so you don't have drowned bees. Sticks and the like, even straw, just doesn't work as well.

For both the bucket and barrel consider placing a grid device on top to keep out unwanted small animals. And securing them so they don't tip is wise, too, to save yourself a second trip.

Around home, something as simple as a barely dripping faucet or hose will keep several hives happy all summer. Providing a slanted board for the water to run on will help by increasing the surface area. Just make sure the collection point is out of high-traffic areas, and maybe even fenced. Some go to great lengths with carefully constructed zig-zag step-type boards so there is lots of surface area for bees to land on. However, they usually aren't fussy.



The most foolproof, and expensive device is one borrowed from a livestock watering trough. An electrically powered (in-line or battery) float gauge detects when the water reaches a certain low level and kicks on a faucet to refill it to a predetermined higher level. The water never runs out, or over, and requires almost zero maintenance.

These are ideal in queen mating yards, or other small colony, high population areas near enough to running water to be practical.

From the simple to the complex – supplying water for your bees is not only good management, it makes perfect sense from a public relations point of view – it's an insurance policy for your beekeeping future. □

Small drawings by Diana Sammataro.

SCREENED PORCH EXTRACTING ROOM

FAITH BEDFORD

"Soup's on" I call out from the kitchen. The family troops in from the garden. While carrying the bowls of hot, steaming chicken gumbo out to the porch, a few bees tap hopefully at the screens. "Shooo" I wave at them. "The honey's all gone, girls. Go back to your hives."

I shake my head in amazement as my husband and children spoon up the freshly made soup full of ingredients helpfully pollinated by my bees. Only yesterday this porch had been the scene of our summer's honey harvest. Where the table now stands, the extractor had been bolted down, and where my chair now sits there was a tower of supers. On one wall there's a small table which holds the napkins, salt and pepper and a little lamp. Yesterday, it held the uncapping pan and my electric knife.

For many small-time beekeepers the question of where to remove honey is often a problem. Friends in my local association have told me tales of having to clear out their garage and turning it into an extracting room; of turning a basement playroom into a sticky mess; of pressing a garden shed into service, with bees pouring in through the cracks. I've seen kitchens stuffed wall to wall with honey supers, but worst of all are the friends who extract outside on a picnic table – all but invisible in a cloud of excited bees.

Five years ago we built our solar house on a ridge overlooking Virginia's Blue Ridge Mountains. This was an ideal opportunity to include a large, well ventilated, bee-proof honey house in the design. As in so many houses where rooms serve two or more purposes, we knew that an extracting room used for only a few days each year would need to have a year-round purpose as well.

At our previous home we extracted honey on our screen porch, a former sun deck, which had been roofed over and screened. It needed major work each season to transform it into an extracting room since it had not been designed for that purpose. Each crack between the decking had to be taped shut and gaps between the screen walls and the deck had to be stuffed with newspaper. But the advantages of an airy, bright space convinced us that a screened room was the ideal honey house. We planned one for the new home.

The siting and layout of the screen porch took a bit of thought but the implementation of these ideas was relatively simple. We placed the porch on the southeast corner of the house where it would be warmed for morning breakfasts by the early sun but would not get overheated in late afternoon. We made sure part of the driveway swept close to

Continued on Next Page

From This...

... To This

PORCH ... Cont. From Page 391

the steps so unloading supers would not be difficult. We gave the porch a high roofline and installed a ceiling fan to cool us as we worked. It opened off the kitchen, not only to make meal serving easier but to also facilitate warming the honey on my stove prior to straining. Finally, into the cement floor of the porch we embedded huge eye bolts. Never again would the extractor walk around the roomed like a crazed washing machine on "Spin".

Now, for the better part of the year our "honey house" is the scene of most of our warm weather meals. But come August the hanging ferns are taken down, the rush matting is rolled up, the furniture is moved out onto the lawn and, for a day or two, it becomes the headquarters for our honey harvest. The first year we had legions of bees hurling themselves at the screens, eager to get at the source of the wonderful aroma. But oddly, the last few years we've had only a few winged visitors tapping on the screen walls to be let in. Perhaps they've learned it's no use.

When the harvest is over, the cement is scrubbed with hot, soapy water and then hosed down. The floor slants imperceptibly to a less-than-bee-sized crack beneath one screen wall to allow for drainage. The pots of honey are carried into the kitchen to await bottling and order is restored.

A screened room is an ideal honey house. Whether incorporated as a porch into plans for a new home, or built as a separate screened house or gazebo it is an easy, inexpensive multi-use solution to the age-old problem of "Where do I take off my honey" In addition, an old porch or deck can be adapted or retrofitted with bolts and extra screening to meet your extracting requirements quite nicely.

As the children begin to clear off the luncheon dishes, I spread one last bit of fresh comb honey on my biscuit. Looking at the one or two bees still hopefully clinging to the screens, I think – "Thanks, ladies." □

BUILD A SOLAR HONEY MELTER

DON KIRCHART

If you're like me there always seems to be 200-300 pounds of extracted honey in jars or bears in inventory. I do not bulk store my honey in 60 pound pails since this requires bottling at a later date. Further, I have no means of re-liquifying such large containers should the honey crystallize. I live in the Mid-Atlantic area which means my inventoried honey spends many months at 50-60°F – prime condition for crystallization.

Every spring I check my honey in inventory and I find many of the jars are crystallized to one degree or another. Although not harmful it is not an acceptable way to market it. (Many unenlightened honey users believe that the honey has "gone bad" when they detect crystallization in a jar they have sitting on their shelf and will throw it away.) So I must re-liquify my honey using one of several methods.

Other Methods

In my efforts to re-liquify my honey I have tried several processes which include ...

Microwave – Although this method is quick and easy it subjects some of the honey to higher than desired temperatures before all the crystals are heated sufficiently to dissolve. The metal lids must also be removed. Another disadvantage is that most microwaves will not hold more than 10-12 one-pound jars at a time.

Hot Water – My main objection to this method is that labelled jars will have to be re-labelled after the decrystallization is finished. Limitations on the number of jars that can be processed in a given pan are also a problem.

Oven Heating – Using the lowest setting on the oven (190-200°F) and carefully controlling the time the jars are exposed to heat will liquify honey with a minimum of local overheating. This method is not acceptable for use with plastic bears as overheating can cause deformation of the polyethylene.

Continued on Next Page

You can build this solar honey melter from scrap wood, duct tape and two sheets of plexiglass. And you'll save yourself hours of work later.

MELTER ... Cont. From Page 393

Common Problems

All of these methods suffer from two big drawbacks:

Overheating – None of the methods have an easy way to control the temperature of the honey which should not exceed 140°F to prevent degradation.

Monitoring – These processes require my constant attention to prevent or minimize overheating. Also since most of the methods do not hold many jars at a time, removing and reloading jars is necessary.

A Better Way

In my quest for a better way I reviewed my requirements for a system. It must be:

- Easy to use
- Must not overheat the honey
- Hold many jars of honey
- Accommodate plastic bears
- Inexpensive to build and use.

We have a south facing sunroom and I also use a solar wax melter so these gave me the idea for a Solar Honey Decrystallizer which would be an insulated box like the wax melter.

Construction

The photos show how I built my solar chamber but the only requirements are to have two transparent surfaces to admit the sunlight and insulation on the remaining four sides.

My construction materials were 2"x3" lumber, a sheet of 1" rigid urethane foam and 1/8" Plexiglas. I sealed the unit with duct tape and clear plastic packaging tape on the Plexiglas. The clear packaging tape (2" wide) was also used to create a hinge between the front and top pieces of Plexiglas. This permits top loading of the chamber. I painted the interior of my chamber a dark color to enhance the absorption of solar energy.

When you design a Solar Honey Decrystallizer do not make it too large, because you will have to store it when not in use.

Operation

My Solar Honey Decrystallizer fits all of my criteria. It was easy and inexpensive to build (cost was about $15) but the best feature is its ease of use.

To use the system I choose a day with full sun. I place 20-30 jars or bears of honey to be liquified in the chamber along with a thermometer positioned so that I can read the temperature without opening the lid. The Decrystallizer is placed facing south so that the sun is shining on the transparent surfaces. I usually put it outside but it will work just as well in a sunny location indoors.

Depending on the time of year, your latitude and how well you insulated your chamber will determine how high the inside temperature will rise. You should monitor your system every few hours when you first use it to get a feel for how hot it will get under different conditions. Mine has never exceeded 140°F (air temperature) on the hottest summer day, which keeps honey temperatures at 5-10°F less. If your unit gets much higher than this on the hottest days just crack the lid until you see the temperature drop to 130-140°F.

Leave your jars of honey in the chamber for 4-5 hours which should liquify even a totally crystallized 2 pound jar. Five pound jars may require longer if they are totally crystallized

Natural Process

You will be pleased with your Solar Honey Decrystallizer because this reduces a chore that might take a half day of constant watching to only a few minutes twice a day. And, you are adding yet another natural process to your honey operation. □

MOVE IT!

BUZZ PHILLIPS

Moving bees in the middle of the day, in the middle of a honey flow can be done, but a little planning is necessary.

The phone rang at 12:30. That's 12:30 a.m., by the way.

"Hello, Mr. Phillips?"

"Mrghph, Yglemk!" (I'm not real sharp after having been asleep a couple of hours.)

"Mr. Phillips, I'm Katie Summers. I'm the Realtor for Mr. Smith who has decided to sell the property on the south side of Burns Road, next to the Krasney farm. You know, where your bees are?"

This, however, brought me to complete attention.

"Yes, I know the place."

"Well, Mr. Phillips, we have to have your bees out of there by 6:00 tomorrow night so we can get our people in to start cleaning up the brush and what not. I hope that's not inconvenient."

My mind raced through tomorrow's plans. Take the kids to school at 7:30, meeting with the boss at work at 9:00. The soonest I could get there would be a little after 10:00 a.m. And of course the weather promised to be warm, sunny and perfect for honey flow conditions.

Since I was really awake now I got up and fixed myself a sandwich and gave this problem some thought. Having to move bees in the middle of the day in the middle of a honey flow was not the best of all possible worlds. The two colonies had been splits this spring and both were really strong. One already had a shallow of honey, the other a full deep, and both needed more room. This wasn't going to be fun. And it wasn't going to be fun alone.

So here's what my plan was.

I had a place to move them to, so first I'd set up a pallet and hive stands to put them on. Then, I'd make splits of each, since I wanted more colonies and I had two queens in a holding colony just waiting for their chance. At the first yard I had a weak nuc I'd made from a small swarm in early June that needed more bees, so I'd bring that

These two colonies sat not a hundred yards from an alfalfa field, but they had to go. The one on the right was in two deeps, the bottom mostly brood, the top mostly honey, but there was some of each in both. The colony on the left had brood and honey in the bottom deep, brood in the bottom shallow and only honey in the top shallow.

On my way to pick up the two colonies, I stopped at the yard they would be moved to and set up a pallet with new hive stands, so I didn't have to move all that equipment when I got there. The old hive stands weren't in very good shape and it was a good time to replace them.

along. Then, I'd move the two (now four) colonies to the new yard and leave the nuc to pick up all the field bees left homeless when I moved their colonies in the morning. Then, at 5:59 p.m., I'd head back and pick up the nuc (unless I could talk the Realtor into letting me leave them until about 9:00 p.m. or so), and take it back to its original site. Simple, right? Well, almost.

The next morning at 11:30 (things never go quite the way you plan), I got to my first yard, laid out a pallet and put down a couple of hive stands, picked up the nuc and was off.

I got to the Smith yard about 12:30. It was 80ish, sunny, and the honey flow was in peak form (there's an uncut alfalfa field not a hundred yards from here – pure honey and I sure hated to move). I put a new bottom board on my truck bed, took the top two shallows (one brood, one honey), from colony one on it, added a cover and put the bottom deep on top of that, with a new cover.

Colony two was the same. I put a new bottom board down, put the top deep (brood/honey mix) on that with a cover, then put the bottom deep on that with a new cover. Moving these by myself wasn't difficult, even with the amount of honey inside. The heaviest super was about 80 lbs., more than I like, but not unmanageable (this says something for using mediums instead of deeps, though).

When all was loaded I put down the single five frame nuc, and left. I dropped off the colonies at the designated yard and headed back to work. I called Ms. Summers and told her what I'd done, and could I please, please come by about 9:00 p.m. and pick up the nuc. She said that would be O.K., but absolutely no later!

Continued on Next Page

The five frame nuc was weak, and could use all the bees left behind. The top deep has already been removed, placed on a bottom board and had a top added.

Loaded up. I wedged an inner cover and excluder between the colonies and tailgate as added insurance against the top colonies sliding off. I tied them down before I left.

Unloading by myself wasn't very difficult since I had made splits. The heaviest super was the top deep on the left, at about 80 lbs. I brought the pick-up nuc back to this same yard later that night.

MOVE IT! ... Cont. From Page 397

So at 8:59 p.m. I stopped by, picked up the nuc, which was now loaded with bees, both inside and out, threw a net over it and moved it back to it's original spot.

I got home about 11:00 p.m., made some notes in my fieldbook and sat back and had a long, cool drink. My plan had worked pretty well, I'd been able to do it alone, and everybody was happy.

Except for those foragers missing that perfect alfalfa field. □

CIVIL OBEDIENCE

Ordinances outlawing honey bees can be avoided. This proactive outline for action will get you started.

If your community doesn't yet have an ordinance, whether directly associated with honey bees, or indirectly by dealing with agriculture, livestock, a for-profit business or public nuisances, you are living in an unprotected and potentially dangerous environment.

You can hope this doesn't change, or take the initiative and help formulate a set of rules and regulations that, while setting some limits, allow you to continue keeping bees in a safe and reasonable manner.

Changing the status quo is a two edged sword, however, and there are some very real dangers inherent with any change. One problem is that once you speak out some people will listen, and you will be the voice they turn to (this 'voice' can be a single person, or an entire association).

The other danger is that once you wake the beast, it may turn on you.

The situation may go from "We didn't even know there were beekeepers here" to "Well, we can't let them do *that* anymore"

Which is why you need to undertake careful research before you begin your task. This means finding the 'culture' for the level of government you want to tackle. Small towns are usually less formal and more flexible than city or county governing bodies. But can your local laws be overruled by a more powerful force? Can a county government tell you how to keep bees, or not to keep bees in your back yard? Find out.

Once decided, find any existing regulations on bees and beekeeping, and don't forget other rules on 'agriculture' and zoning. Then find existing regulations on 'business', selling, and all or any laws and customs you can dig up. Do your homework here, because any stone unturned could be future trouble.

When all you can find has been documented it's time to approach the legislators with a proposal. Your research will have turned up many good examples of how ordinances are prepared locally. Use them. Follow the format and tone of what you find.

But what to cover in an ordinance meant to at once keep bees, and protect those who don't? The Texas Beekeeper's Association, in concert with many others in that state put together a "Model Beekeeping Ordinance" a couple of years ago that covers much of what must be addressed in this area.

This ordinance covers beekeeping definitions; fencing flyways; providing water (see the article on watering bees in this issue); requeening; colony densities (2 colonies/1/4 ac or less; 4 colonies on 1/2 ac or less; 6 on 1 ac and 8 or more on an acre); identifying colony ownership; inspection; compliance of all of the above (interestingly, 1/3 of the entire document is devoted to hearings, provisions and other necessary bureaucratic language to make enforcement, and compliance easier).

The North Carolina "Good Neighbor" program works in a similar vein, and although they haven't yet developed a generic ordinance, the program trains individuals to work with the public by providing accurate information, how to deal with the media and the principles of sound and safe honey bee management.

One situation neither of those programs address is crisis management at the local level. A sure fire way to impress any governing body is to convince them your program will not only protect the public at large, but hold the municipality harmless in case of emergency.

Depending on the level of government you are working with, be prepared to train emergency response personnel in how to deal with a bee spill in the middle of downtown; an overturned semi just outside town; a multiple sting incident; a fire at a packing facility; or an inappropriately located swarm. They'll need to know how to kill bees fast, find a fork lift, get a hold of 100 pallets, find and use 25 bee suits and veils, put out a wax fire or any of a 100 things that can go wrong with and in the business of bees.

Creating an ordinance where one wasn't before can be a lot of work. It may be expensive, and it will take not only the cooperation of both beekeepers and legislators, but a willingness to compromise by everyone involved.

The Texas plan took two years to develop and involved a State Extension Specialist, four major beekeeping businesses, a State Association committee and others from out of state. Do not expect less in your area. However, much has already been done, and you job may be easier.

Another aspect to consider is that Texas had individuals from an entire state working together, and they had African honey bees knocking on their southern door. Approached from a local level, you probably won't have the resources available they did, nor the urgency behind the work. With that in mind, carefully pick the level of government you will work with. If you have only two beekeepers in a small town you'll have far less influence than 200 in your county. Numbers do affect politicians.

Finally, whether you choose this path or not, a certain amount of self-policing is always in order. Marginally cooperative (or non-cooperative) beekeepers in a community can, and will, make life difficult, and maybe beekeeping unlawful for all of us. Don't ignore this problem, because it will soon be yours. □

For a reprint of this article and a complete copy of the Texas Model Beekeeping Ordinance, send a stamped, self-addressed business envelope to Ordinance, P.O. Box 706, Medina, OH 44256. We'll send one right out.

BEE TALK

RICHARD TAYLOR

Box 352, Interlaken, NY 14847

"Have Inspection Programs outlived their usefulness?"

Officers of our state beekeepers association met recently to discuss, among other things, possible ways of improving the efficiency of the bee inspection program in the face of increasingly restrictive state budgetary provisions. After some discussion an official from the Department of Agriculture suddenly announced that he had submitted to the legislature a bill that would impose a tax on every apiary, these revenues to be used, presumably, to pay the salaries of bee inspectors under a provision of the law that would require, under the threat of heavy penalty, the registration of all apiaries in the state. This came as a total surprise, with apparently no prior consultation with any representatives of beekeeping organizations, and, according to the written report of the meeting, left those present "in a state of shock" There is, I think, no reason to doubt that the measure will be routinely enacted into law, to the lasting resentment of beekeepers, who can do nothing about it except grumble.

This got me to thinking again about the whole idea of government involving itself in the inspection of beehives, and here, for what they are worth, are my thoughts on the matter.

State bee inspection programs came about, in many parts of the country, in the early part of the century in response to beekeepers' dreadful fear of American foulbrood. They had no way of dealing with this disease, other than by burning infected hives, and they understandably felt that some way had to be found to insure that neighboring beekeepers would do the same, to contain the spread of the infection. Mandatory inspection seemed to be the only answer. Since then, of course, ways have been discovered to control American foulbrood, first by the use of sulfathiazole, and now by the use of minute quantities of Terramyacin. This latter antibiotic, mixed with powdered sugar and distributed to colonies in early spring, before the bees begin to store honey in supers, is highly effective in preventing any outbreak of foulbrood. The beekeeper himself is now, therefore, able to control this disease quite simply, cheaply, and effectively, and without posing the remotest threat to the environment or to food.

Still, the state bee inspection programs have been retained, with the general support of beekeepers themselves, who have come to look upon them as a free service, whose great costs are borne by "the government" They have been somewhat curtailed here and there, but this has resulted less from the perception that they are not needed than from a shortage of funds to pay the salaries (and pensions) of the inspectors.

To put this whole matter in a proper perspective, I think the following considerations have to be taken into account and all weighed together.

First, we have, in just the past several years, encountered three additional diseases of bees, all new to this continent, two of them very serious, and one of them a far greater threat to beekeepers than American foulbrood. These are chalkbrood, tracheal mites, and varroa. Chalkbrood is a pest, but not, in my experience, a very serious threat. Tracheal mites often cause greater loss of colonies than American foulbrood. And varroa is the most contagious, and fatal, of all. Ways are being developed of combatting tracheal mites and varroa, just as ways have been found to control American foulbrood, but the fact remains that the bee inspection programs are still geared primarily, if not entirely, to dealing with foulbrood. One significant difference here is that American foulbrood leaves combs and hives contaminated, whereas mites do not. Still, it is myopic to think of American foulbrood as the great threat that it once was.

Second – and I am always astonished at how little note is ever taken of this – not all colonies of bees are conveniently housed in hives. By nature, they live in hollow trees and other cavities. There is no such thing as a domesticated bee. There is no way of knowing what proportion of bee colonies are feral, that is, living in untended cavities, but one leading department of entomology estimated a few years ago that probably half of all the bees in that area were living in such cavities. Who inspects these? And does it make any sense to speak of controlling a contagious disease when perhaps as much as half the susceptible population is beyond reach? This question becomes all the more serious when one considers the normal course of American foulbrood. Thus, if a colony of bees in a hollow tree succumbs to foulbrood, as it sooner or later is likely to, then it of course dies out. But the spores remain in that hollow forever, that is, as long as the tree remains, a persisting source of

disease for the entire area. And, as is well known, such former nests are highly attractive to stray swarms, even long after they have been riddled by wax worms and other invaders, although the spores are still viable. Thus bee trees and other untended and, usually, unknown colony locations pose a far greater threat as sources of foulbrood than manufactured hives. But they are of necessity beyond the bounds of inspection programs.

Third, American foulbrood is to some extent endemic to certain areas. That is, there are places where it keeps cropping up, and other areas where it is seldom found at all. It has always been the goal of inspection programs to wipe it out in those areas where it is most troublesome. But the late Frank Pellett, one of our greatest authorities on beekeeping and for years the chief apiarist in Iowa, ruefully noted towards the end of his long career that this had never been achieved. Even the most strenuous efforts at detection and eradication have always, in the end, failed. Sometimes, he observed, the incidence of American foulbrood in a given area could be significantly reduced over time, by thorough inspection and burning infected hives, but then, in time, it always came back, bad as ever. It is not hard to see why, in view of our second consideration. One contaminated bee tree, standing there year in and year out, easily undoes the work of numberless inspectors.

Fourth, it is worth noting that every beaurocracy, private or public, has a life of its own. That is, there are forces that keep such an organization going even long after its purpose has been met or, as often happens, lost sight of. This is especially true of any government-sponsored beaurocracy, funded by a vast and faceless sea of tax payers and established by laws difficult to repeal. Once a person's name goes onto a public payroll it is very unlikely that it will ever be removed, and the job will itself outlive him. We think of government services as "free", but they never are; governments are by their very nature extravagant in waste. Beekeeping organizations have for some time, as if by a kind of reflex, sounded the chorus of more and more free apiary inspection. Now, (at least) one state has responded by saying, in effect: "You want an inspection service? Fine. And you can pay for this service, whether it is really needed or not, mandated by us, and at rates set by us." It is a precedent that is likely to be picked up by other states whose budgets are strained. The reaction of the beekeepers is likely to be shock, but it is difficult to see how they can pronounce such a policy unreasonable.

My own view is, and has for some time been, that mandatory inspection of apiaries is something whose time has long since come, and gone. American foulbrood is a manageable problem that can be left in the hands of beekeepers themselves. This is not going to eliminate American foulbrood, to be sure, but neither is anything else. It is not a proper area of government. □

(Questions and comments are welcomed. Use Interlaken address, above, and enclose a stamped envelope for a response.)

QUESTIONS? ANSWERS!

Richard Taylor

Doesn't Need Knees

Q. I am using pollen traps this year, and I find that many bee body parts (legs, wings, etc.) end up in the pollen. Do my traps injure the bees? And how can I efficiently remove the body parts?

Art Zoller Wagner
Morgantown, WV

A. I have used five mesh screen (five holes per inch) in pollen traps and I did not feel that the bees were injured in going through them, although some foreign matter is bound to end up in the pollen. Bee body parts in tiny amounts, although unsightly, are harmless to human health. I know of no good way to remove them other than plucking them out.

Gentle Bees

Q. I have just purchased two packages of Starline bees. These are much more gentle than my Italian bees. Do I dare keep them in the same apiary? Or will the Italians rob from the Starlines?

Edward Heyer
Sheridan, IL

A. I have never found, nor heard, that the temperament of a colony has anything to do with a tendency to rob. Robbing ordinarily results from one or the other of two factors: A dearth of nectar in the fields, and exposure of honey, or sugar syrup, near the apiary. Under such conditions even gentle colonies are likely to rob. On the other hand, robbing in unlikely to occur, to any significant extent, when there are abundant nectar sources, even when there are colonies in the apiary killed by mites, for example, but still heavy with honey.

Chalkbrood

Q. What can one do about chalk brood?

Fred Schearz
Clark, NJ

A. A colony is sometimes severely weakened, but never, I think, killed entirely by chalkbrood. My own method of reducing and sometimes, I think, eliminating it from a colony is to have the hive up off the ground and out in the sun, to achieve dryness.

Different Strokes

Q. Did Allen Latham's "side-opening" hives, and untapered ends on the frames, have any virtues?

John D. Williams
Lakewood, CO

A. Some beekeepers like to make their bottom boards in such a way that the hive sits "sideways", with the opening to the side. I have never seen the slightest advantage to this. One real disadvantage is that it is a poor arrangement in case you tip your hives forward for wintering, as I do, to keep the bottom board free of dead bees. I can see no point in untapered frames. In general, it is almost always best to stick with standard equipment.

In-house Royalty

Q. Is it true that if the bees are allowed to build their own queen cells, and then these are destroyed, then they will more readily accept a new queen that is introduced?

Maurice J. Walsh
Limerick, Ireland

A. I think there is no truth in that, and it is a bad idea anyway. If you let the bees build queen cells then they are likely to swarm before you know it. If you want to insure acceptance, introduce the queen first to a nuc, then combine the nuc with the colony to be requeened.

Staying Home

Q. Will bees ignore a pickle jar of sugar syrup if the jar still retains the odor of pickles? And will bees be more likely to swarm if they are next to a compost pile? Or near machinery, or hot tar roofs, or a burn barrel?

Jacqui Carroll
Ft. Wayne, IN

A. No. I do not think a pickle taste would discourage the bees' hunger for sugar syrup. And the environmental factors you mention would be unlikely to cause significant stress. When bees come under severe environmental stress – for example, continual dampness and heavy shade, or the more or less constant presence of smoke – they are likely to abandon the hive completely, all flying off together. This has nothing to do with the normal swarming cycle.

[Questions are welcomed. Address Dr. Richard Taylor, Box 352, Interlaken, NY 14847. Questions not accompanied by a stamped envelope will not receive a direct response.]

GLEANINGS GLOBE

JULY, 1991 ALL THE NEWS THAT FITS

Handle With Extreme Care

FORMIC ACID DANGEROUS!

Research reports from Europe and the United States have documented the efficacy of formic acid as a fumigant for controlling parasitic mites in colonies of honey bees. These reports have failed to mention the potential consequences of human exposure to this acid.

Formic acid is the simplest carboxylic acid with a formula of H-C-OOH. It has a molecular weight of 46.03 and is described as a "colorless, fuming liquid with a pungent, penetrating odor." It boils at 216°F, melts at 35°F, has a specific gravity of 1.2, a vapor pressure of 23 mm Hg at 20°C, mixes well with water, alcohol, ether, and glycerol, and has an odor threshold at 21 ppm.

Vapor-air mixtures of 18-57% are explosive, if the ambient temperature is at or above 122°F and the mixture is ignited by a spark. "The vapors are heavier than air and may travel a considerable distance to source of ignition and flash back." However, fire is not a major concern.

1) Organic acids are dangerous materials to handle. If you spill formic acid on your skin, expect "severe pain, brown or yellowish stains, burns that usually penetrate the full thickness of the skin, have sharply defined edges, and heal slowly with scar tissue formation." If you spill it on your clothes and don't wash it out, chronic exposure can lead to "dermatitis (rash), protein precipitation, and red blood cells in the urine."

2) Splashed into the eyes, formic acid causes pain, tears, blurred vision and photosensitization (lights are too bright). In severe cases conjuntival edema (puffiness around eyes) leads to destruction of corneas.

If someone accidentally drank formic acid, it would cause "severe burning pain in the mouth, throat and abdomen; followed by vomiting, watery or bloody diarrhea, tenemus (painful straining during urination), retching, hemolysis (ruptured blood cells), hematuria (blood cells in urine), anuria (extremely small amount of urine from kidneys), liver and kidney damage with jaundice, hypotension (low blood pressure), collapse, convulsions, coma and paralysis."

> "Formic acid may hold promise as an acaricide, but mishandling it will cause severe, even life-threatening consequences!"

3) The most subtle effects, however, involve inhalation. Opening a container of formic acid in an enclosed space liberates fumes. At 100 ppm, the fumes are "immediately dangerous to life and health. Inhalation of low concentrations causes tearing, rhinorrhea (runny nose), coughing, throat irritation, and headache. Higher concentrations may produce the previous symptoms, followed in six to eight hours by pulmonary edema (fluid in the lungs), tightness in the chest, difficulty in breathing, dizziness, frothy expectoration, and cyanosis (bluish or purplish skin discoloration due to lack of oxygen in blood)." Breathing only a little at a time over prolonged periods can lead to "erosion of the teeth, local tissue death in the jaw, bronchial irritation with chronic cough, frequent attacks of bronchial pneumonia, and gastrointestinal disturbances."

If there is any good news to this story, it is that formic acid does not appear to be carcinogenic. It is a mutagen.

Use of proper protective equipment is a must when handling formic acid. The chemical container should be opened only in a room with powerful exhaust ventilation. The acid is strong enough to eat through some forms of plastics, rubber, and coatings. Employees must wear appropriate protective clothing and equipment to prevent any possibility of skin contact with this substance, including appropriate gloves and splash-proof or dust-resistant safety goggles and faceshield to prevent contact with this substance.

If a person is going to be in an atmosphere where there are 100 ppm (0.01%) formic acid, one of the following must be worn:

1. chemical cartridge respirator with an organic vapor cartridge and a full face mask
2. dust, mist and fume respirator
3. gas mask with an organic vapor canister (chin-style, front- or back-mounted canister)
4. supplied-air respirator with a full face piece, helmet or hood
5. self-contained breathing apparatus with full facepiece.

We hope this information is convincing. Formic acid *MUST* be handled with care.

Reprinted from: U.C. Apiaries by Eric Mussen U. CA Davis.

Orange Co. Extravaganza

BEE FAIR!

Norm Gary doesn't do flies, doesn't to bumblebees and doesn't do windows. What the university professor *does* do is honey bees.

Gary and his charges will be the main event at the 1991 Orange County Fair. The 99th annual event, which runs July 17-28 at the fairgrounds in Costa Mesa, is themed "How Sweet It Is," a salute to bees and the honey industry.

Gary is planning to do several spectacular exhibits at the fair, including a real hive of bees behind glass, one of the world's largest beehives, which will be a huge working hive behind glass; and a spectacular exhibition in the fair's grandstand arena where Gary ends up covered in hundreds of thousands of bees.

Gary, 57, is similarly philosophical about all the aspects of his work, which he sums up in his resumé as "Forty years of diverse

experiences with honey bees, including hobby and commercial beekeeping, research, teaching, and supplying bee special effects, acting and consulting for the television and film industry."

One way Gary keeps his bees entertained is through music, as he facetiously explained. In fact, bees cannot hear music as we do.

Continued on Next Page

Other Oil Explored

MITES ON THE RUN

Dr. Nicholas Calderone, a researcher at the USDA Bee Research Lab in Beltsville, MD, has found botanical oils useful as an acaricide against tracheal mites. Speaking before a joint meeting of the Maryland State Beekeepers Association and the Association of Southern Maryland Beekeepers at Charlotte Hall, MD on March 16, 1991, Calderone explained recent research investigating tracheal mite infestations and their eradication using naturally occurring compounds.

Dr. Calderone tested a number of volatile botanical oils to observe their effect on the tracheal mite. Those botanical oils tested were derived from plant materials such as citronella, citrus, clove, mint, and thyme. These were in the form of isolated compounds as well as complex blends. Only those compounds with approved residue level tolerances were considered for this test. The various compounds were compared with menthol (oil of mint) and rated for effectiveness. From the test results Dr. Calderone found the botanical oils to be quite promising as acaracides.

Besides being used for tracheal mites, Dr. Calderone suggested that botanical oils might also be used to control varroa mites as well as other diseases. He stated that further study would be needed to investigate these possibilities.

SEND YOUR NEWS TO THE *GLOBE!*

GARY ... Cont. from 403

Gary plays the clarinet and other instruments in jazz bands and, with his clarinet labeled with queen bee pheromones, bees are attracted to the stage.

"As long as I play in the key of B, everyone's happy," Gary noted.

"Bees are fascinating to each person in some way, whether through love, hate or simple curiosity," said Gary, noting he was afraid of bees when he first began his career.

Although he has long since conquered any fears about bees, there is one problem with his buzzing buddies that he cannot change and can be quite a problem when he has 30 pounds of bees hanging on him:

He's allergic to bees.

HONEY BOARD HIGHLIGHTS

NEW MEMBERS

The U.S. Department of Agriculture has announced the appointments of 10 members to serve three-year terms on the National Honey Nominations Committee, which forwards names to the secretary of agriculture for appointment to the National Honey Board.

Newly appointed as nominators are Reg Wilbanks, Claxton, GA; Robert Brown, Haddam, KS; Donald O'Neill, Baton Rouge, LA; Jacob Dekorne, Ellswoth, MI; Darl Stoller, Latty, OH; and Stephen Dilley, Nashville, TN.

Reappointed for second three-year terms are Sharon Gibbons, Ballwin, MO; Robert Barnes, Dillon, MT; Marjorie Ehry, Dundee, OR; and Rae Kohn, Medford, WI.

All of the appointees will serve terms beginning Jan. 1, 1992, and expiring Dec. 31, 1994.

HONEY MONTH HELPER

Summer is a busy time for beekeepers – nurturing the bees and managing the honey flow. Summer is a busy time at the National Honey Board office, too, preparing for National Honey Month in September, 1991.

National Honey Month press kits will be available on request starting this month. The kits are designed for beekeepers to share with their local newspapers, radio and television stations to help publicize National Honey Month.

The 1991 press kit will offer more than ever. A story on "A Year in the Life of a Beekeeper" will be accompanied by a beautiful photograph of a hardworking honey bee on clover. A "Back to School with Honey" feature will be accompanied by a taste-tempting recipe and photograph for cookies with a honey chocolate icing. In addition to the special feature, kits will contain many informative news releases including honey trivia, honey history facts, floral sources and more.

To order your Honey Month press kit, write – National Honey Board, 421 21st Avenue, Suite 203, Longmont, CO 80501-1421.

E.H. Thore, manufacturers of beekeeping equipment in England, have recently opened a new equipment show room and self-service supermarket for beekeeping supplies. "It is the only facility of its type in England," says P.B. Smith, Director, "and if any of our many U.S. customers are in the area, they're invited to stop in and browse."

Australian Team Improves Production

INDONESIAN BEEKEEPING INDUSTRY GETS LIFT FROM DOWN UNDER

A combined Australian scientific and university research project over the next three years, aims to maximize honey production and pollination of eucalypt seed orchards in Indonesia. The research is also expected to help develop a viable beekeeping industry in tropical northern Australia and southeast Asia.

In this Indonesian project, the Australian team will be working with varieties of bees indigenous to southeast Asia, and the more efficient pollinating European strains suited to the areas under trial. Kleinschmidt is also testing a range of hives of his own design and other designs to discover the optimal hive for microclimate and production levels in tropical conditions. This involves measurement using expensive solar-powered recording equipment in hives in tropical situations.

The Australian team will work with the Indonesian Department of Forestry on honey production and lowering the water content of honey. In humid areas, honey water content tends to increase, reducing the keeping quality of the product, so sophisticated hive ventilation techniques are required to reduce moisture. An additional benefit of this Indonesian program will be its expected boost in developing a viable beekeeping industry in tropical northern Australia. Most Australian apiculture research involves commercial strains of temperate area European bees. Graham Kleinschmidt said a tropical beekeeping industry would improve the yield over a wide range of Australian agriculture.

Super Volunteers

CLARKS SHARE EXPERIENCE

Canton, PA, commercial beekeepers Walter W. ("Bill") and Bess Clarke recently completed training to become community educators on international development, as part of an innovative new program, sponsored by Volunteers in Overseas Cooperative Assistance (VOCA), entitled "Share the Experience."

Under the program, the Clarkes and more than 100 other U.S. agricultural and related specialists – all of whom have also lived and worked overseas as VOCA volunteers – will make presentations to community groups throughout the nation on topics ranging from global interdependence to foreign aid. Eighteen "Share the Experience" educators received training at a workshop, held April 25-28, 1991, in Cleveland, Ohio.

The Clarkes served as VOCA volunteers on beekeeping projects in Bolivia (1987), The Gambia (1987, 1989), Indonesia (1990) and Tunisia (1988). Following their "Share the Experience" training, they are preparing presentations for professional, educational, religious, social and other community groups.

Organizations interested in scheduling a "Share the Experience" presentation may contact the Clarkes at: 19 W. South Avenue, Canton, PA 17724; (717) 673-8619.

At their annual spring banquet this year Ted Jansen was awarded "Beekeeper of the Year" for 1990 by the members of Eastern Missouri Beekeepers Association. Ted serves on the executive board, and in addition to being an outstanding beekeeper, his main goal is to teach and develop new beekeepers and to promote the positive aspects of bees and honey. He is pictured with Pres. Bob Finck and 1989 Recipient Sharon Gibbons.

Display Index

Thymes are multipurpose perennial herbs which are easily incorporated into any home landscape. There are between 300 and 400 species of thyme, many of which are difficult to identify and classify because they hybridize readily. Of these, about 50 species are available through nurseries or catalogues.

Common Thyme, *Thymus vulgaris*, is probably the most familiar to gardeners and cooks. This grows as a neat shrub about 12" high. The species is very variable; some cultivars have foliage variegated with silver or gold, and some have rose-colored flowers. The commonly grown culinary herb generally has white to pale lilac flowers clustered on upright stems, which draw bees to their abundant nectar. The sugar content of the nectar is about 40% and apparently thyme honey has a minty flavor. The herb blooms in June and, if spent flowers are removed, may continue flowering through summer.

Wild Thyme, *Thymus serpyllum*, is a mat-forming evergreen

ground cover which roots at the nodes along its stems. Its name is derived from the Latin 'serpere', to creep. The herb grows only 4" high and is very hardy. Spicy nectar is produced freely by the fragrant, rose-purple flowers from June to August. The famed honey from Mount Hymettus in Greece is said to have been gathered from Wild Thyme.

In addition, there are thymes which produce an array of aromas. Try Lemon Thyme with its tiny pale lilac flowers, or its variegated leafed cousin with gold-edged foliage and the same intensely lemon scent. Or maybe you'd prefer Caraway Thyme, a native of Corsica and Sicily, which bears deep pink flowers and smells of caraway.

Leaves of Brittanicus Thyme are grey with silver borders, and the foliage of Woolly Thyme is deep green and fuzzy. Thyme plants can provide a wide range of interesting colors, scents, textures and growth forms.

The fragrant foliage of thyme is an asset to any garden. The smaller creeping thymes are good edging plants for the border, or fillers in the rockery. Between stepping stones or as a small area lawn, thyme releases fragrance when stepped on. Creeping thymes grown on top of a bulb garden provide a carpet through which the spring bulbs emerge.

Thymes thrive in any light, well drained soil in full sun to light shade. They do best in warm, fairly dry soil and may need some summer watering. They will rot in very wet ground.

Propagate thyme plants by seeds, division of clumps, or cuttings. Take cuttings of new, green stems during June and root them in a light, moist substrate.

Thymes are easily managed plants, requiring little maintenance. Growth can be controlled by cutting back the branch tips if necessary. Shear off the dead flower heads to keep the plant looking tidy.

Thyme got its name from 'thymos', a Greek name for a species of thyme. These herbs belong in the Labiatae, or Mint Family of plants. Members of this family often have aromatic foliage, and most have stems which are square in cross-section. Many of the familiar fragrant and culinary herbs are in this family, and a large number of them are attractive to honey bees.

There is a thyme for any spot in your yard. Ground covers or small shrubs, they will fit into tight corners, between flagstones, beside the path, edging the border, in a window box, or as a small area lawn. With their fragrant foliage and nectar-producing flowers, thymes will enhance your garden and enchant your hours. □

Always Time For Thymes

B.A. Stringer

BOTTOM·BOARD