DEC '90

GLEANINGS IN

BEE CULTURE

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John Root	Publisher
Robert Stanners	Assoc. Publisher
Kim Flottum	Editor
Cynthia Stephens	Production Coordinator Classified Ads Manager
Susan Steppenbacker	Photo Supervisor
Dawn Brotherton	Subscription Manager Advertising Manager
Buzz Phillips	Circulation Director
Diana Sammataro	Equipment Editor

Contributors:
• Ann Harman • Roger Morse • Richard Taylor • Michael Burgett • Dewey Caron • Eric Mussen • Sue Cobey • B. A. Stringer

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Photo by Flottum

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INNER · COVER

Dollars, Cents, and Common Sense

I often wonder if those who routinely analyze the financial conditions of this country are, rather than 'reporting' what's going on, actually 'directing' what's going to happen.

For instance, I read in a national business magazine recently, that because housing starts were down nearly 10%, suppliers to the housing industry were beginning to cut back inventories, reduce labor and increase prices.

The ripple effect, whether real or imaginary from that 10% report then becomes real. Manufacturers raise prices, cut labor and reduce inventories; retailers anticipate fewer sales so they reduce staff and inventories; and individuals, fearing rising prices, shop less and spend less — which reinforces the retailers cutbacks, which, in turn, supports the manufacturers reduction moves It becomes a cycle that feeds on itself, all because of a self-fulfilling prophecy made by a business magazine – a 'media recession', of sorts.

But regardless of the why's, that nasty word — recession has been circulating, and coupled with the uncertainty of fuel costs, prices of many items are increasing at an alarming rate. Some we have very little control over — medical costs, insurance and the like. But some costs we can control, and whether you run one colony or a thousand, you can save money on your beekeeping operation without sacrificing the quality of care you give your bees, or the product you sell.

Although I'm not going to discuss specific beekeeping practices (the vagaries of region, weather and the like preclude addressing actual colony manipulations), there are general practices that every beekeeper can consider incorporating into their operation that will save money, and, if important, even increase profits.

During the off season (if you have one) or the time you are not using most of your equipment —

- Check every piece you own for breaks, needed repairs or replacement, or missing parts. Though time consuming, this practice will reduce down time next spring, when time *is* important. It will also increase the safety factor of each piece used. For instance, belt driven equipment should be checked, machinery oiled and greased, torn clothing repaired or replaced — anything that can lead to an accident should be checked, so it doesn't lead to a situation that increases both down time and costs.
- What about your honey extraction operation? Can it be streamlined? Now is the time to do this chore. Right after you've finished using it this season all the problems are fresh in your mind, and now you've got the time to make the changes you need. Don't put it off, or you'll be wasting the same time next season.
- How about training? If you have employees, could they benefit from attending meetings or workshops, learning new techniques or procedures? How about you? Are you up-to-date on finding and treating diseases and pests, honey production, pollen collection, queen breeding? Now is the time to learn new skills to use next year, to save time, money and bees.
- Buying equipment is probably your biggest on-going expense. If you need to buy this year, consider the following. Can you band together with others nearby and order larger quantities of the same equipment? Dealers or suppliers routinely give discounts to large-quantity purchases, and several buyers can take advantage of this. Or, with a large enough purchase, you may not only get a discount, but be able to dictate shipping method, thereby saving even more. Having a common carrier deliver a whole load to a central point is cheaper than UPS delivering small parcels door to door.
- When buying fairly expensive equipment, consider it on the basis of cost over the life of the equipment rather than initial cost. For instance, is it more or less expensive to pay $50.00 for a widget that will last seven years,

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Reader Assistance

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NEXT MONTH

January brings the New Year, and a fresh start for the beekeeping industry.

Although the *New York Times* met the African honey bee with only a yawn when first found in Texas in October, the implications of the incident have not escaped the bee industry. Next month we'll have a first hand account from the researchers who found the first pioneer swarm — history in the making.

But more serious, and certainly affecting far more beekeepers this past year, and probably for the next few years is the Tracheal Mite. In January we'll take an extensive look at the history, migration, treatments, and future of the interactions of tracheal mites, honey bees and beekeepers. This will be an extensive and in-depth look at this situation, and, no matter whether you have one colony or a thousand, this article will enlighten, and assist your beekeeping practices. Several months in preparation, you won't want to miss this one.

How about raising your own queens next year? The Jenter system has been around a little while now, and we've got an experienced user telling it like it is with this unit. A revealing, and useful article — Next Month.

Continuing a two year tradition, in January we'll also have an article covering an environmental issue that affects the quality, or perhaps even the possibility of keeping bees. This year's topic is an eye opener for sure, and the situation is occurring even in your back yard, in the hills and dales of the rest of the U.S., and is a global problem, too. Stay tuned to what's happening, and what you, and your bees can do.

Next Month — Raising queens, honey plants, AHB plans, Tracheal mite overview, and the environment — all here in *Bee Culture!* □

MAILBOX

Editor's Note: This letter was sent in response to a television ad for pick-ups run this past fall. The Honey Board continues to be a positive and dynamic force for our industry.

■ Honey Board Responds

Mr. Freeman McCue
Public Relations Department
American Isuzu Motors Inc.
P.O. Box 2480
City of Industry, CA 91746-0480

Dear Mr. McCue:

The National Honey Board represents the nation's beekeepers in responding to your current television ad depicting angry bees.

Although it may not rival "Monday Night Football" as a popular pastime, beekeeping is a hobby enjoyed by over 200,000 folks. (No, we're not lying.) It's not unusual to find a number of these folks in suburbs and city lots, as well as rural areas. Therefore, probably a significant number of them are in the demographic group your ad targets.

Honey bees are really gentle insects, not like wild bumblebees or wasps. (again, we're not lying.) That's why the Isuzu ad is off the mark. Isuzu is propagating a myth which in unfounded and offensive to the beekeepers of America.

In fact, Mr. McCue, we could invite you to visit a bee yard to show you that bees don't sting. (Now, we're lying.) Seriously, beekeepers know how to handle bees. When honey bees are properly handled, they won't bother you.

You know, honey bees produce mankind's oldest and favorite sweetener. Honey is a pure and natural product which is enjoyed in 73% of U.S. households.

That's the bottom line. The National Honey Board is responsible for maintaining the image of honey and its producers, the honey bees. Thank you for your attention and concern.

Sherry S. Jennings
Industry Relations Director
National Honey Board

■ Beeswax Origins?

What a thoroughly obnoxious picture on page 614!

Better not show it to the uninformed public, or the press.

Moses K. Renno
Mifflintown, PA

■ Queen Excluder Use

In the July issue Bill Henry of Trenton, NJ asked a question about why his colony produced no honey. Richard Taylor addressed the over wintering size of the colony. Over wintering size is important. I have adjusted my own after much experimentation. But before Mr. Henry begins to make those adjustments he should correct an error which could in itself cause the small honey crop he experienced.

Bees do not like to go through a queen excluder (QE). When the QE is placed over the second brood box bees will often try every trick in the book to live under it. When this happens beekeepers often call the QE a "Honey Excluder" and throw it away. But, like any tool a QE must be used properly to produce the desired results.

The proper place for the QE is in the middle of the colony so that the bees are forced to live *on both sides of it.* When the QE is in the proper place bees will pass through it as if it were not there and there will be no difference in honey production.

Through early spring the Queen should be allowed full run of the hive whether it is one, one and a half, or two brood boxes. When supers are put on the colony the QE should be placed directly on top of the bottom body. The Queen and as much sealed brood as possible are placed under it. The half or second brood box goes on top of the QE with the supers on top of that. The emerging brood below provides the Queen with ample laying space while above the QE the bees begin to work in the supers and as brood emerges in the half or second box those cells are filled with honey providing for the colonies winter stores, which is the real purpose of the half or second brood box.

Pull the QE out at the same time you take your supers off.

Henry Harris
Elkhart, IN

■ Foundation Press

As Dr. R. Taylor pointed out in the September Q & A, there was a waffle type foundation press available from England. I purchased one of these presses, and I must tell you it produces *very good* quality sheets of foundation. With a little ingenuity I made my own devise to ripple the wire that goes in each sheet with or without hooks.

Robert A. Alten
Lancaster, OH

■ Keeping African Bees

I am a Peace Corps Volunteer stationed in Sierra Leone, West Africa and I have just received the first three issues of *Bee Culture* to reach me here. Thank you for sending them.

My African counterpart, Ohmed Lorawalbi and I have been trying to establish apiaries using Kenyan style top bar hives. We have, counting Ohmed, twelve apprentice beekeepers.

The native beekeepers here still lure swarms into torpedo shaped basket hives wrapped in straw and set up in trees. The entrance is an opening about as wide as your finger but not

Continued on Page 689

MAILBOX

your thumb. After swarms have settled and have stored some honey the straw is ignited and either forces the colonies to abscond or serves as their funeral pyres. The remaining honey is then collected.

At the end of this past May we set out some modern hives baited with sugar syrup, but no swarms would settle in them. Then in July we started receiving reports of clustered swarms and by mid-August we had collected twenty-two of them. Unfortunately only three of the swarms have stayed with us. This is the height of the rainy season here, flowers are few, and the bees seem bent on traveling. We expect our success rate to improve as the rains diminish.

Meanwhile we are enjoying your magazine immensely. Ohmed is fascinated by all the ad's for equipment and hybrid queens. He enjoys the attention paid to mites and bee diseases. Over here little consideration is given to the health of anything but people and even that is small by first world standards or involves primitive and native 'cures' I appreciate your easy-to-read print as at night I must read by candle light.

In dealing with these swarms, a few feral colonies, and also with a half-dozen previously established modern top bar hives, we have been meeting these African bees head on in their own land. We have found some of them to be gentler than any I ever encountered in the States, and some to be quite the opposite. They continually offer me new surprises as they reveal bits of the story of their survival tactics in this complex, tropical environment. Our goal is to establish a good management program for them. We hope to have some successes to report in the near future.

Tom Johnson
Sierra Leone, West Africa

■ Use A Substitute

I was shocked and saddened to see that Geary Wong, in his article on cosmetics, would condone the use of spermaceti, and its derivatives cetyl alcohol and esters. One of the more barbarous practices of the past (apparently still with us) was the killing of one of the planet's most magnificent creatures, the Sperm Whale, to obtain materials for the production of utterly trivial consumer items like cosmetics.

I hope that beekeepers are well enough in touch with the natural world that they would refrain from using this material.

Paul Bonneau
Gaston, OR

■ UFO?

I enjoyed your Inner Cover on the close encounter with the hornets. Stories like that only encourage readers to play "I can top that."

Here's my entry: I had a nest of nasty yellow jackets buried in the front yard a while back. Of course I didn't know they were there until I passed over them with the lawn tractor! My, they were feisty critters.

Continued on Page 691

MAILBOX

So after dark I gave 'em the old "soak-a-rag-in-kerosene-and-stick-it-in-the-hole" routine. I lit a match to it and watched it burn for a looooooong time, a couple hours at least. I must have slopped some kerosene on the ground around the hole because it left a nasty looking burn spot on the lawn.

In the morning it was still smoldering a bit. I was running late getting to work that day and happened to glance out the window, only to see my neighbor cutting across my front lawn with a couple of fully loaded trash bags in hand. I had long suspected that he put his trash on my curb (out here we all have individual pick-up that we have to pay for). I really didn't care because I've borrowed a million dollars worth of tools and repair expertise from him.

He must have figured I had left for work and it was safe to slip his bags on my pile. Well, as he's cutting back to his house he spots the smoldering hole in my lawn and stops to investigate. I could read the expression on his face even from 50 feet away. He must have figured it was a meteor or something, but he couldn't figure out a way to explain why he happened to be at that spot on my lawn. He actually started back to get his trash bags but then decided to forget the whole thing.

The next time I saw him he asked, for no apparent reason, if I believed in flying saucers or stuff like that. I couldn't help myself. I told him that I really didn't until the other night when I could have sworn that I saw something land in the front yard and even the ground was a bit singed. He fell for it. Seems he saw the same flying saucer and the spot on my lawn and suggested maybe we should call the local newspaper or maybe the *National Enquirer*. I talked him out of it since he and I both are a bit suspicious to begin with! I never have had the heart to tell him the truth. I've seen him put his trash bags on my curb several times since and he always looks over to where that burned spot was.

I'm hanging onto your October cover to use as an illustration of what a (you know, that K-word) certain kind of bee looks like. I think it will serve as a great educational tool. Hope others do the same.

I wonder if you should print this, just in case my neighbor might see it. I'd hate to destroy the myth. I'd bet dollars to donuts he tells a story about the night an alien visitor landed on his neighbor's lawn

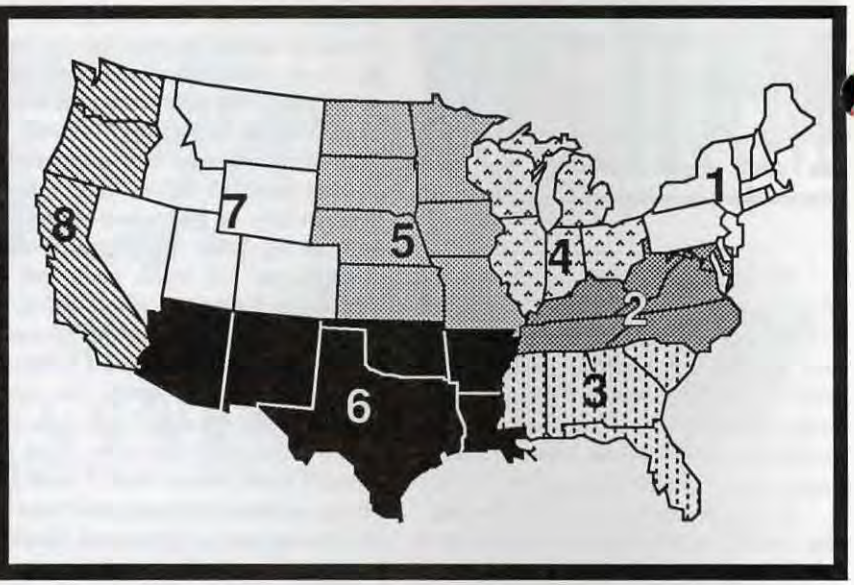
C.W.
Ohio

Season's Greetings

DECEMBER Honey Report

DECEMBER 1, 1990

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.	40.25	40.50	42.75	42.00	40.10	41.10	42.15	38.95	27.15-48.25	40.98	41.25	38.76
60 # Am.	40.00	35.25	40.00	41.50	39.00	40.00	39.11	36.00	27.15-46.50	38.86	37.89	35.05
55 gal. Wh.	.51	.45	.45	.49	.49	.50	.55	.53	.39-.63	.50	.52	.49
55 gal. Am.	.50	.41	.42	.47	.42	.49	.52	.49	.39-.57	.47	.48	.46
Case lots — Wholesale												
1 # 24's	27.95	30.00	38.75	25.33	22.50	24.00	28.75	29.25	20.50-38.75	28.32	28.47	27.23
2 # 12's	24.15	24.25	37.00	25.00	24.00	23.50	27.50	29.39	21.25-37.90	26.85	26.00	26.02
5 # 6's	27.50	25.00	26.10	24.48	23.10	26.10	28.50	27.20	20.10-32.00	25.99	26.82	27.27
Retail Honey Prices												
1/2 #	.95	1.10	1.20	1.20	1.15	.99	1.10	1.10	.75-1.40	1.10	1.09	.93
12 oz. Plas.	1.35	1.40	1.51	1.35	1.35	1.25	1.51	1.41	1.25-2.00	1.39	1.41	1.43
1 #	1.51	1.60	1.74	1.69	1.75	1.65	1.69	1.65	1.40-3.43	1.66	1.74	1.58
2 #	2.55	3.00	3.41	3.35	2.90	2.70	3.25	2.61	2.25-4.00	2.97	2.95	2.76
2-1/2 #	3.75	3.60	3.50	3.50	3.59	3.13	3.51	3.10	2.30-4.21	3.46	3.42	3.62
3 #	3.90	4.25	5.00	3.50	4.10	4.00	4.29	3.85	3.33-6.00	4.11	4.12	3.82
4 #	4.30	5.00	5.25	4.75	4.95	4.91	4.75	4.55	3.95-5.00	4.81	4.77	4.20
5 #	6.00	6.10	6.25	6.10	5.95	5.17	6.13	5.90	4.95-7.10	5.95	6.00	6.11
1 # Cr.	2.35	1.35	1.61	1.71	1.50	1.88	1.89	2.35	1.20-5.00	1.83	1.96	1.66
1 # Cb.	2.25	2.15	2.00	2.25	2.25	2.10	2.25	2.63	1.20-4.00	2.24	2.20	2.08
Round Plas.	2.60	2.00	2.10	2.20	1.95	1.25	1.99	2.20	1.10-3.00	2.04	2.00	2.05
Wax (Light)	1.20	1.12	1.25	1.20	1.10	.99	1.00	1.25	.90-1.75	1.14	1.28	1.08
Wax (Dark)	1.10	1.05	1.05	1.00	.95	.89	.90	1.03	.89-1.50	1.00	1.05	.96
Poll./Col.											26.00	25.40

MARKET SHARE

The recent increase in the buyback price (a 6¢ increase) will change the way honey is sold. Retail prices will rise eventually, wholesale prices soon, and you better be prepared!

Region 1

Prices steady to a bit lower, probably a reflection of a somewhat depressed market generally. Sales only steady, but cooler weather not set in yet. Colonies in good shape in most areas because of good fall flows.

Region 2

Sales seasonally average, actually down some from earlier in the season. Prices steady with few increases except for speciality crops. Excellent fall crops make overwintering colonies strong and in good shape.

Region 3

Sales steady, and prices average for the season. Colonies strong and in good shape. High moisture in some areas has reduced fall flows. Generally crops average to much higher this year.

Region 4

Prices increasing slowly, but only average. Concern being voiced about rising prices, and other costs. Colonies in good shape generally, but some areas have had poor production. Both mites seem to be increasing, but beekeeper awareness is too.

Region 5

Sales only fair so far, and prices steady to decreasing a bit. Colonies in good shape for winter, but crop lower than average this year.

Region 6

Sales and prices steady, but production up in most areas. Concern about mites heard, but awareness increasing. Colonies in good shape for wintering, and splits should be easier this year. African honey bee discovery in Texas has already caused some concern, but next spring should be the test.

Region 7

Prices uncertain because of just-implemented buy-back price. Nevertheless, ales steady to increasing a bit. Colonies strong and production average to above average and in good shape for wintering.

Region 8

Sales steady to strong in northern areas, average to a bit slow in the south. Demand seasonally steady in most areas. Mites generally distributed throughout the region, and have become a management problem, not a curse. But, non-attention will result in colony loss.

RESEARCH REVIEW

DR. ROGER A. MORSE

Cornell University • Ithaca, NY 14853

"The author concludes . . . 'removing (varroa) infested capped drone brood from a colony is an efficient method of controlling varroa mites.'"

According to the paper below, good control of tracheal mites, "can only be obtained when temperatures within the hive are high enough to actively vaporize the menthol. This can be achieved by either high temperatures outdoors or from the heat generated within a colony by a large population of adult bees."

In these tests, three treatment times were tested: spring, fall and a combination of spring and fall. Fall treatments were the least effective because of cool weather. Spring-fall and spring treatments rid the colonies of most of the mites. Most of the tests were undertaken in Nebraska though some of the colonies originated in Texas. In Nebraska, the spring treatments were started when solid menthol cakes were placed on the top bars over the brood cluster on February 13. These were replaced March 18 and removed on April 23.

In their conclusions, these researchers state that one menthol treatment a year, in the spring, should be sufficient to keep the mites populations under control.

Drone Congregation Areas in the Indian Honey Bee

European honey bees mate in specific areas, 20 to 80 feet above the ground in what we call drone congregation areas. Until the paper below, no one had found locations where any of the Asian species of honey bees mate; however, like the European honey bees, we know they do not mate on or in the nest.

In Sri Lanka, it was found that drones and queens of the little Indian honey bee, *Apis cerana*, congregate and mate among (not above) the tree tops at a height of about 12 to 30 feet. The congregation areas were as well defined as those used by European honey bees. This is a surprise since our bees avoid flying in the woods or among branches where they might easily be caught in spider webs and by other predators. Hopefully, these observations will cause others to search for mating areas used by other Asian species.

The Preference of Varroa for Drone Cells

It is well-known that varroa mites prefer to enter drone cells with larvae over worker cells with larvae the same age. Some researchers and beekeepers have advised placing combs with drone cells into the center of a brood nest to trap varroa mites. After the drone brood has been capped the drone combs are removed and destroyed, thus killing many mites. A recent paper sheds further light on this subject.

It was observed that the number of mites in drone cells was 8.3 times the number found in worker cells in the same colonies. This figure is in keeping with those published by others and confirms that varroa mites have a strong preference for drone larvae. The bees under test were Carniolans. The preference for drone cells over worker cells was greater when there were fewer cells with drone larvae. The rate at which varroa moved into drone cells was not affected by the number of mites already in the cells; in other words, even if a cell with a drone larva contained a number of mites, more were not deterred from entering. It is stated that the ratio of mites in drone cells is lower at the end of the season when, apparently, drone larvae are "nursed less intensively." The author concludes by stating that removing infested capped drone brood from a colony is an efficient method of controlling varroa mites.

There is, I believe, an important lesson in this piece of research for those who do not want to use chemicals and may care to try to control varroa mites by a biological control method. It is that merely cutting out patches of capped drone brood from colonies infested with varroa should serve to reduce the varroa population so that the mites will not be a problem. Most of the papers I have read on using drone comb to trap varroa mites advise placing a frame with all drone comb into the center of the brood nest during the active season. The varroa mites prefer the drone brood over worker brood and will preferentially move to it. The paper cited below makes it clear that a small patch of drone brood will serve just as well to attract mites as a large one or a whole comb. The data show that mites are not restricted from moving into a cell just because there are already a number of mites present. Cutting out drone brood and allowing the bees to build more drone comb in the same place will probably work just as well as removing the whole comb. And, the new drone comb would serve as a new trap. However, to be efficient, I suggest one should have most of the combs in the brood nest in excellent condition, that is, they should contain mostly worker

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cells. For those who wish to try this method this means sorting combs and replacing poor comb with new foundation, or building new combs that will contain only worker cells. This time of year, when there is little other bee work to be done, is an excellent time to start this sorting and making of new combs.

I do not know how many times during the year one must cut out drone comb for this method of varroa control to be truly effective. This is what must be field tested. I suspect that removing drone comb six to eight times, at least when there is a heavy infestation, may be necessary the first year. After that fewer colony examinations and comb removals may be necessary. I don't think that cutting out infested drone comb is a method of varroa control that is practical on a large scale; however, when a beekeeper has only a few colonies it might be the easiest method. □

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BEEKEEPING IN THE EMPIRE STATE

Roger A. Morse
Department of Entomology
Cornell University
Ithaca, NY

The most important thing to understand if one is to be a successful beekeeper in New York State is that great changes are taking place in agriculture, and as a result, in the abundance of honey plants. Beekeepers do not plant crops for honey production; they move to those places where good honey plants abound in order to make a crop of honey. The number of colonies one may keep in one location depends upon the quantity and quality of the forage available for the bees.

Prior to the Revolutionary War, only the Hudson and Champlain Valleys in New York State were settled by Europeans. The Indians held the Adirondack and Catskill Mountains and everything to the west in the state. Following the war, the western portion of the state was settled rapidly. By 1880, 76% of the land in the State had been cleared; there were three acres of cleared land for every acre of forest, and there was seven million acres of forest. However, 1880 was the turning point and the start of the major western movement of people in the U.S. By 1950 there were 15 million acres of forest in New York and by 1980, the last year for which I have found figures, there were 18.5 million. At that time 61% of the State was forested; today, we can reasonably estimate that about 63% of the State is forested and that figure is continuing to grow slowly.

The U.S. Bureau of the Census figures show that there are about two million farms in the U.S. today versus slightly over five million 40 years ago. These changes in agriculture have had a profound effect on beekeeping in New York State. In the 1940's we had over 225,000 colonies of honey bees; today, the New York State Department of Agriculture and Markets estimates there are 11,000 apiaries and 120,000 colonies of bees in the State. Beekeepers who live in the high lime areas, that is areas where the soil is rich and has a high or nearly neutral pH, still produce good crops of alfalfa and clover honey. A few new honey plants have appeared in recent years. Basswood, which was always of some importance, is becoming more common as natural reforestation is occurring in areas where farms are being abandoned. Two plants that were once of major importance in honey production in the state, buckwheat and wild thyme, are of little consequence today.

HISTORY Around the turn of the century W. L. Coggshall lived in the Ithaca area, where he had nearly 4000 colonies of bees. Pictures in the bee journals of the time show Coggshall and his crew of four or five men leaving home on a Monday morning with a team of horses and wagon, with the men on bicycles. Coggshall's grandsons have told me that the crew would move from apiary to apiary, sleeping in barns at night and obtaining meals from the farms where they stayed. They

would return home Saturday night; their furthest apiary was probably only 30 miles from home but that was too far to return each evening with a team and bicycles. Each apiary had a wooden building about 12 by 16 feet with a hand-cranked, 4-frame reversible extractor. The honey was extracted in the apiary and stored in 120-pound wooden barrels. The barrels were picked up after snowfall by bobsled. Good trucks, suitable for beekeeping, appeared in the 1920's and 1930's. These made it practical for N. L. Stevens of Venice Center, in the central portion of the state, to build the first centralized extracting plant in New York, and perhaps the country, in 1936.

THE CHIEF HONEY PLANTS In New York State, as in much of the U.S., the clovers are the most important honey plants. White clover, sometimes called white Dutch clover, is probably the single most important clover. Other clovers, including alsike, and to a small extent white sweet clover, are also important. Yellow sweet clover is seen in small amounts and contributes a small amount to the overall crop. Several varieties of thistles are also important and flower at the same time as the clovers. The clovers and thistles do especially well in the areas where we find the better, high-lime soils.

Dairy farming accounts for about 70% of New York State agriculture; the successful dairy farms, for the most part, are found where we have the better soils. Alfalfa is the most important forage plant grown for dairy cattle and is abundant in areas where the soil is rich and with a nearly neutral pH. This includes portions of the central, western and northern parts of the state. Alfalfa yields best during droughts; its roots extend downwards eight to ten feet and can obtain water when it is not available to other plants. It is recommended by forage specialists that alfalfa for hay be cut in the bud or early bloom stage; at this time it has the greatest quantity of protein in its leaves. However, because of poor weather, or because dairy farmers are almost always behind in their work, much alfalfa comes into full bloom and is worked by honey bees. In New York State, alfalfa is an especially good yielder of nectar in August. In years when there is a drought and the growth of alfalfa is stunted, but it still flowers, beekeepers may make nearly a million pounds of alfalfa honey.

Alfalfa does not grow well everywhere. It thrives in rich, well-drained soil. In heavy, wet soils its roots may be rotted and easily broken by heaving frosts. Across the U.S., clover and alfalfa are responsible for about 55% of the honey crop, with alfalfa being responsible for 10 to 15% of the total honey crop. In New York state the percentages are probably a little lower. It is interesting to note that even in Jefferson and St. Lawrence counties, in the northern part of the State, alfalfa is important, though in these counties there are greater problems with frost heaves that may damage or kill it.

A honey plant that has become increasingly important is purple loosestrife, which grows well in the wet and swampy areas of the state. It is especially abundant in the Hudson valley and in Cayuga County in the central part of the state. In many areas purple loosestrife has replaced cattails much to the consternation of duck hunters. Some species of ducks need cattails to make their nests and cannot live without them. Purple loosestrife honey is amber with a slightly greenish tinge; despite its darker color it is a mild tasting honey. Most purple loosestrife honey is used in the baking trade.

> ‘Colony Population has dropped to nearly half of what it was 40 years ago.’

OTHER PLANTS Goldenrod is found in all parts of New York State and was once a very important plant, especially in producing honey for the baking trade. The last big crop of goldenrod honey that was harvested in the state, that I remember, was in about 1972. This year, 1990, there was a fair crop of goldenrod honey but there is much less than there once was because of the reforestation. In the eastern part of the state, and to a lesser extent the southern tier, sumac is an important source of nectar. This too, has been decreasing as farms are being abandoned. Leafy spurge is sometimes important in northern New York. False bamboo, sometimes called Chinese bamboo, yields a good supply of nectar that bees make into a mild, fairly dark honey. It is common in the southern tier though I was surprised to see a big patch in the Adirondack mountains a few years ago. It appears to be spreading in the State.

HAS BEENS The chief honey produced in New York state for many decades was buckwheat, which grew well on the wet, heavy, acid soils found in the southern tier and many other parts of the state. Only a small amount of buckwheat is grown today and plant breeders have told me that the plant has little prospects of ever being an important crop again.

In Delaware county, on the eastern slope of the Catskill

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Mountains, the chief occupation from about 1850 until 1950 was dairying. There are only a few farms in the county at present. Large decaying and falling down barns that could house 50 to 100 cows each, can still be seen in the area. Wild thyme, which had been accidently introduced from Europe thrived in the dairy pastures. Cows would eat the grasses and clovers that grew but did not care to eat the thyme, which, as a result, prospered, much to the consternation of the dairy farmers who considered it an obnoxious weed. M. E. Ballard of Roxbury in northern Delaware county, owned about 3000 colonies, in the 1920's through the 1940's, more than any other beekeeper in the state. He had apiaries with 60 to 80 colonies each in the wild thyme area every two or three miles along the major roads. Today, these same apiaries will support four to six colonies.

Raspberry honey was once produced in the Adirondack area as well as parts of the Catskill Mountains. When forests in the area were clear cut, that is all of the trees cut down at one time, raspberries appeared a year or two later and grew in such profusion that good honey crops could be secured. The raspberries continued to yield nectar for six to eight years, until the trees that sprang up shaded them to the extent they could no longer grow. Raspberries grow in profusion following bad forest fires. They are also common around old house and barn foundations. No beekeeper has reported a crop of raspberry honey in a number of years so far as I am aware.

THE FINGER LAKES COOPERATIVE New York State beekeepers formed the Finger Lakes Honey Producers' Cooperative in 1939. W. L. Coggshall, grandson of the famous New York beekeeper who was active around the turn of the century, was the first president. Dr. E. J. Dyce became plant manager and treasurer of the cooperative in 1940 and remained until 1942 when he joined the faculty at Cornell University.

During the Second World War the government fixed the wholesale price of honey at 12 cents per pound. However, the retail price was not fixed and beekeepers who belonged to the cooperative received a much greater price per pound, since they could benefit from the higher retail price. In 1941 the Finger Lakes Cooperative processed a million and a quarter pounds of honey; it reached a peak of about three million

pounds a few years later. At this time plants processing this volume of honey were thought to be of an efficient and manageable size. However, as food processing and packing equipment improved, and less honey was produced in the state after the second World War, the cooperative ceased to prosper. It ceased operation in the late 1960's.

MIGRATORY POLLINATION On average, approximately 14,000 colonies of bees are moved in an out of New York State each year. About 10,000 of these colonies go to Florida, 3,000 to South Carolina and the rest to other states. Within the state we estimate that over 15,000 colonies are moved for the pollination of fruit, especially apples, in the spring. An estimated 1,000 colones are used for pollination of squash, pumpkins, melons, onions and a few other miscellaneous crops. There is very little movement of colonies from one honey crop to another within the state.

> On average, 14,000 colonies move into the state each year for pollination.

BEES AND QUEENS For many New York beekeepers, buying package bees and queens has been the easiest and most expedient way of making increase. Packages should be installed between April 15 and May 15 to be successful; the earlier the better. Those that are installed after mid-May usually do not have time to grow in population sufficiently to gather the 60 pounds of honey needed for winter. If a frame, half of three quarters full of capped brood, can be added to a package when it is received in April it is possible that the colony may grow large enough in population to produce a surplus for its owner the first year. When colonies are split, and the new units are headed by young, purchased queens, they too may have time to grow enough to collect the food needed for winter if they are started early in the season. No federal or state agencies record the number of package bees and queens that are sold to beekeepers in the north. As a result we have no figures and know only that the movement of these bees from the south is extensive and continues despite a fear of mites.

INSPECTION Hobby beekeepers and those with stationary operations have suffered severely from tracheal mites during the past four years. Those beekeepers with southern operations have been able to recoup these losses by growing new bees but others have not. Many hobby beekeepers have gone out of business. Fall treatments of tracheal mites with menthol have not proven effective because of the cool weather; however, the information we have from other states suggests that spring treatments should be effective. Varroa mites have been found in several counties in New York, but beekeepers are not yet reporting the deaths of colonies from varroa. Apistan strips have proven effective against varroa in the state.

It is clear that the original infestations of varroa and tracheal mites in New York came about as a result of the movement of infested colonies into the state by migratory beekeepers. It also appears that the importation of package bees and queens has also helped the spread of these mites. Tracheal mites may be found in almost all parts of the state and varroa mites may be almost as widespread.

Several of New York's beekeepers routinely file their names with local police and fire departments so that they may be called to capture stray swarms. Several of these beekeepers have told me they had very few swarm calls this year. At Cornell, we usually receive 20 to 40 phone calls informing us about stray swarms and asking if we would care to pick them up. This year we had only three such calls. While these are not scientific data they do suggest there were fewer feral colonies alive in trees and buildings and also fewer hobby beekeepers whose bees might swarm in 1990. I believe this is a direct effect of tracheal mites.

The New York State Department of Agriculture and Markets employs 17 part-time apiary inspectors and a consulting entomologist to carry out the apiary inspection program. Their chief concern has been American foulbrood. The last inspection report indicates that between 13,722 and 21,118 colonies have been inspected each year between 1986 and 1989; the American foulbrood infection rate "in colonies of apiaries of all sizes taken together" ranged from 2.1 to 2.6%. □

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The following bulletins and fact sheets are available by writing the Distribution Center, Research Park, Building 7, Cornell University, Ithaca, NY 14850.

Beekeeping: General Information. Information Bulletin 90. $1.25.

Package Bees: Their Installation and Immediate care in the Northeast. Information Bulletin 7. $0.75.

Bait Hives for Honey Bees. Information Bulletin 187. $1.55

Small-scale Queen rearing by Beekeepers in the Northeast. Information Bulletin 209. $2.50

Identification and Prevention of American Foulbrood. *Fact Sheet 295. $0.50.*

DOWN EAST

LARRY CONNOR

An Overview of Bee-keeping in New England

New England is a diverse and dynamic area. Likewise, beekeeping here is diverse and dynamic, too, complete with a rich, historic tradition. The area delineates one of the largest commercial honey markets in the world, especially when nearby New York City is considered. Three major bee-pollinated crops — cranberries, apples and blueberries require the use of about 50,000 colony placements from outside the area for adequate pollination (about 16,000 were used twice last summer). While New England states has between 35,000 to 45,000 colonies, accounting for only 1 to 2% of all the colonies in the United States, the economic importance for migratory colonies often dictates national policy and concern over colony movement. Frequently, these policies are made by growers, farmers, government administrators and politicians — but not by beekeepers.

New England consists of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island and Connecticut. You can drive Interstate 91 from New Haven, Connecticut north to the Canadian border in about 7 hours. During that drive you travel through the same number of plant climatic zones as you do when you drive from Northern Texas to Canada. The mild coastal regions of Connecticut, Rhode Island and Massachusetts (including Cape Cod) support nectar and pollen plants found as far south as the Carolinas. The inland mountainous areas of Vermont and New Hampshire, as well as the interior regions of Maine, frequently report some of the coldest temperatures in continental United States. Depending upon soil conditions, this can result in excellent honey production.

The six states of New England have vastly different policies and attitudes toward beekeeping. Maine, Vermont and Massachusetts have strong commercial beekeeping interests but for different reasons. Maine has extensive wild, but managed, blueberry areas which produced $60 million worth of produce during 1990. Massachusetts has a huge cranberry and a large apple region, valued at over $100 million. Vermont has relatively small pollination needs, but excellent nectar-producing land.

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New Hampshire, Connecticut and Rhode Island have important but smaller pollination and beekeeping industries. The largest operation in Connecticut has between 400-500 colonies, which is an *increase* from a decade ago.

While these reasons make it difficult to describe the "average" New England beekeeper and his or her operation, the region supports one of the strongest hobby-sideline beekeeper populations found anywhere. Hobby beekeeping interests are very strong, especially in suburban and rural areas. These people are usually not farmers. They have enough land to keep bees to pollinate fruit trees and vegetables. Or, they just like honey. In spite of the myth, most are effective marketers of honey, taking it in pails to local bakeries, or cases to be sold on the honor system at work. Their honey appears at local flea markets, tag sales, and especially at farmers markets. Most of the honey they produce is sold by Christmas.

The New England hobby-sideliner is independent, but may belong to a local bee club. Beekeeper associations are found throughout New England, and they range from the very large, with over 200 members to small clubs with less than a dozen members. Like all service clubs, memberships have declined in numbers over the past decade as free time has evaporated. These bee clubs provide the only organized educational effort in New England, since none of the land-grant universities have entomologists on staff which deal with bee matters. For most of the New England states, it is difficult enough to justify a full-time person for apiary inspection work.

New England beekeepers have traditionally been hard to find and difficult to regulate. State inspectors relate countless tales of their efforts to obtain cooperation in registration and disease control. And when they find a beekeeper, they may find people with 50 or 100 colonies, often located on the back of farms and forests, well out of sight. On paper, it would appear that the number of beekeepers in Connecticut has doubled in the past few years. Actually, the number who *registered* doubled, as the State changed the apiary registration procedure (which was always mandatory), and a new bee inspector started seeking bees in areas quarantined for tracheal mites. The fear of becoming mite-infested motivated more beekeepers to identify their neighbor beekeepers. The promise of an inspection for mites motivated others to register.

Migratory beekeeping is carefully regulated in Maine and Massachusetts, but all but completely banned in Connecticut and Vermont. Connecticut State Police have turned back loads of bees entering Interstate 84, forcing them to travel through other states. Even package bee shippers are subject to the wrath of the Connecticut bee law: both the Dadant and Sons, Inc. and York Bee Company were threatened with a law suit by the State Attorney General for shipping package bees into Connecticut from mite-infested areas in the south. The Connecticut state entomologist has placed advertisements in bee journals for the past several years warning shippers about the state's law, and has sent notices to many by mail. This approach kept Connecticut tracheal mite free until late 1989, even though surrounding states had found mites four or five years earlier.

The importance of migratory beekeeping to Massachusetts and Maine does not mean that native bee-

keepers appreciate the need for this activity. Maine's migratory beekeepers tally only 20, but they moved in 32-33,000 colonies last summer onto blueberries, a crop worth $60 million in 1990. At an average charge of $30 to 35 per colony, the industry's income was about one million dollars from blueberry rentals. About 16,000 of these colonies were moved to Massachusetts to pollinate cranberries, where the average rental was $40. These colonies generally return to Florida or Georgia rather than move to a honey producing area in the north.

The 16,000 colonies imported for cranberry and apple pollination in Massachusetts is up from the 1989 season, when only 12,000 colonies were rented, and may represent a decline in pollination services offered by local Massachusetts beekeepers. Fearing contamination with varroa mites, native beekeepers have elected to avoid the eastern part of the state where the majority of Florida- and Georgia-based beekeepers migrate. The economics are not small, at an average rental of $40 this past season, these beekeepers are turning their backs on a part of a potential $650,000+ income. Obviously, they have elected to avoid varroa-mite contamination of their own colonies, and apiaries in the central and western part of Massachusetts.

Massachusetts apiary supervisor Warren Sheppard explained that the state has two standards for migratory bees, packages and queens. Bees may enter the eastern area, where cranberries are produced, with certifications showing they are under a varroa mite treatment program. But for the central and western areas, especially the important apple-production areas, the bees *must* be certified mite free.

Maine uses a multi-page cooperative agreement which beekeepers must follow. It allows tracheal- and varroa-mite infested colonies to enter Maine, but only after certain sampling procedures have been followed. If the varroa mite level is too high, the colonies must be retreated.

Regulatory confusion is certainly likely to be found in New England over the Africanized honey bee. Once the AHB reaches central Texas, regulations must be in place, one inspector said, because of the popularity of the Buckfast bees with New England beekeepers. Clearly, a huge debate will form when AHB reaches Georgia and Florida, where Maine and Massachusetts migratory beekeepers are based.

An emotionally charged but extremely ambivalent relationship exists between the northern beekeeper and the migratory beekeeper. Migratory beekeepers introduced tracheal mites and varroa mites into New England. But Massachusetts and Maine beekeepers cannot supply the 50,000 colony placements for pollination, and most of them realize it. But some beekeepers are attempting to increase their colony holdings to meet some of the demand. What has developed are functional pollination districts, where mite-infested colonies are permitted

"One of the Brightest gems in the New England weather is the dazzling undertainty of it."

Thoreau

pollination placement only if they are removed from the state after the rental is completed. This restricts bees to the cranberry areas of Eastern Massachusetts, but prohibits bees entering Worchester County, where apple production is important. There, bees *must* be varroa mite free. This keeps migratory beekeepers out of the area. It is important to add that Worchester County Massachusetts has one of the strongest county beekeeper associations in New England, a critical factor in keeping the area varroa-mite free, or at least attempting to do so.

Similar ambivalence exists with southern package and queen producers. It has gone so far that Maine and Vermont apiary inspectors have authorized the limited introduction of bees and queens from Canada, where the chance of obtaining mites is, at least for now, considerably reduced. Yet many supply dealers and independent beekeepers have made an annual trip to Florida to obtain packages and queens in April. Nowadays, without the proper paperwork, the introduction of these bees might result in a fine, destruction of the bees and even arrest. Some New England apiary inspectors are not ready to look the other way: "If the law is on the books it is our job to enforce it," said state officials from several states.

Queen stock is a major concern. Kona queens from Hawaii are realistically the only queens which may be introduced into Vermont and Connecticut, and many beekeepers purchase these queens. Bristol, Connecticut beekeeper Norman Farmer uses the queens for increase colonies and packages until he has queens of his own, usually by the end of April or the first week of May. But other beekeepers are unhappy with queens from any southern or western supply because of the very high rate of supercedure they experience with them, and the lackluster performance of those which survive. With southern bees and queens restricted, several NE beekeepers have increased their package and queen business. These efforts are usually poorly organized. Generally beekeepers desire locally produced queens, but only a small percentage routinely requeen. However, local beekeepers successfully provide a valuable service by providing nucleus colonies with locally-produced queens. These colonies are more successful than package bees, especially in the hands of novice beekeepers. They also require less management, and are popular with sideline beekeepers who often work a full-time job.

Honey production in New England is not high. Average production was under 40 pounds per colony in all states but Vermont in 1989. The national average was 51.1 lbs. Vermont, with 61 lbs., is usually the best honey-producing state in New England because it lies at the eastern edge of the clover belt. This beekeeping territory extends through New York, into the Great Lakes states, and into Wisconsin, Minnesota and Iowa. A small region in

"I hear many condemn beeekeepers because they were so few. When were the good and the brave ever in a majority?" (with apologies to)

Mark Twain

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Connecticut and Massachusetts has been heavily developed by housing and industry.

Key nectar sources vary widely. In Vermont the important plants are: clover, alfalfa, purple vetch, locust, sumac, basswood, and spotted knapweed. In Maine, raspberry, milkweed, goldenrod and limited amounts of blueberry honey are produced. These plants are important in other parts of New England, with considerable value placed on sumac species, which bloom over a six week period in mid-Connecticut. Two 'southern' plants are important in coastal New England: tulip popular and sweet pepperbush. Tulip popular is common enough in southern New England to give much of the honey a reddish color, typical of what is produced in the mid-Atlantic states. Sweet pepperbush locations are hard to find and highly valued by the few beekeepers who have them.

The honey-production season starts early in New England. Surplus honey has been produced in April, but it is rare. May produces considerable honey which is converted into bees and swarms. Most of the plants listed above bloom from late May to mid July, when the nectar flow is usually over. Goldenrod and aster are often highly praised by beekeepers, but I feel that they produce little surplus honey in New England. They are, of course, very valuable to the bees for pollen and winter stores.

There is little room for additional beekeepers in New England. On a limited basis, beekeepers can probably expand by taking over existing operations. But, in part because of the long beekeeping traditions in New England, it would be difficult to find a suitable beekeeping area which could support more than a few hundred colonies. Vermont is especially crowded with bees, said Apiarist Rick Drutchas, who plans to leave his position soon and expand his small bee operation. "If the mites don't wipe out a few beekeepers here my chances of expanding are slim," he joked. Established beekeepers like Norm Farmer in Connecticut have expanded, primarily by buying out smaller operations, cleaning up the equipment, and keeping the locations. Many apiary sites are small, with only 8 or 12 colonies in much of New England. Only in the clover regions of Vermont can beekeepers afford to keep large yards or 48 colonies or more. Major honey producing areas have been quickly changed in southern NE. Most open fields and orchards have been converted to housing developments and other 'progressive' building. The largest undeveloped areas are town and state lands set aside for green belts. These are ridge tops, but these are not prime bee forage areas. The other remaining bee territory is in the industrial parks. One such park is located in Chesire, CT, with wetlands, woods, and open fields. It also comes complete with a sideline beekeeper located on one of the properties.

"As Maine Goes, so goes the Nation"

Anon.

New England beekeepers quietly carry on their activities. While they may complain of hard times when asked, many sideline and commercial beekeepers are operating profitable businesses. Increased costs for fuel, chemicals, and bees are balanced by a strong honey market and increasing income from pollination rentals. New England beekeepers have inherited a strong work ethic and are not likely to brag about their success. While change is anticipated, as long as a profit can be made New England beekeeping will prosper. □

Old Man . . . . . And The Honey

JULES ARCHER

Old Len was a Happy Man, but he had no reason to be

In our little town of 1800, there's an old gentleman who gets around the icy roads at Christmas time on crutch and cane. No one is tactless enough to offer to help him. That sort of thing rubs a self-reliant New Englander like Len Bartram the wrong way.

The pockets of his knee-length great-coat bulge with jars of honey pure nectar from his own beehives. Honey brings a good price in these parts. But no amount of cash has ever bought a jar of it from Len Bartram. On his Christmas rounds, the hoardings of his bees are distributed among the children of Sharon.

The old gentleman is eighty years old. He has a horseshoe of white hair and a large white mustache. Wrinkles of calculating mischief radiate from the warm blue eyes behind his spectacles. His tongue is dipped in shrewd Yankee wit, and when he's amused, his laughter comes from his stomach. Old Len Bartram is the happiest young man I've ever met. With the least reason to be.

To the folks of Sharon, accustomed to fortitude as a Connecticut way of life, the octogenarian stands out brightly as a man whom life tried hard to crush, but couldn't. Twenty-two years ago, had Len Bartram been less the man, he might have said with Job, "My days are past, my purposes are broken off, even the thoughts of my heart."

His wife, in ill health for thirteen years, became a total invalid. Completely paralyzed and bed-ridden, she wasted away from a strange disease that baffled the doctors. For seventeen years, alone and unaided, Len Bartram faithfully attended his wife, who was unable to look after her simplest needs. At the same time he earned his living and ran the household.

At no time did he fall prey to self-pity. Not even when, a few years ago, following his wife's death, he was forced to depend upon a crutch and cane.

"Arthritis," he shrugged lightly. "Gettin' too doggone old." But the folks in Sharon believe his hip ailment resulted from the strain in lifting his wife in his arms all those years.

Throughout his time of tribulation, two things kept him cheerful and undismayed. One was a boundless interest in nature. The second was a passionate addition to a range of hobbies, from mushrooms and bees to playing in the town band, when Sharon had one.

"Heck," Len Bartram says, twinkling his eyes over his spectacles, "when you stop bein' interested in somethin', you got no call to keep on takin' up space in this world."

With barely a grammar school education, he call roll off the full Latin name of almost any wildflower or shrub from memory. So highly regarded is his lore as a naturalist that botanic writers and editors frequently seek his advice and help. Sharon's nature experts — every second citizen — had inventoried the countryside's mushrooms at about 100 varieties, until Len Bartram helped one woman identify and gather more than 200 for a fair.

Keenly delighted when his knowledge is sought, the octogenarian is careful to disparage himself as an "authority". Half in earnest, he tells any seeker of natural truth, "By golly, you're askin' about the most ignorant man in Connecticut. I'm just old enough to know how much I don't know."

But that doesn't prevent the doctors around Sharon from rushing to him any patients who have gorged on wild berries or mushrooms, and then belatedly wonder *if* —. The old man has a wonderfully reassuring way of telling these folks they're not going to die of poisoning. He simply takes the sample they show him and eats them, enjoying their expressions of utter relief.

Although he's kept bees for all of sixty-five years, he delights in shocking admirers by stating that if he lives with

BEEKEEPING in the Mid-Atlantic

DEWEY CARON

The Mid-Atlantic Region has a wide range of opportunitites for new and long-time beekeepers.

There have been a number of changes since *Bee Culture* published a few articles in the 1970's about beekeeping in the mid-Atlantic region. The strong popularity of beekeeping has now subsided, neither nectar flow nor pollination rental conditions are as favorable and African bees and bee mites contribute to create a pessimistic mood among the beekeepers of the region. Still, retail honey markets are strong and beekeeping remains popular in the mid-Atlantic region.

In preparing this article I talked to beekeepers and extension/regulatory officials from New Jersey, Pennsylvania, Maryland, Virginia and West Virginia. Most agreed that it was more difficult to get beekeepers to meetings or short courses in the 80's than the 70's, and predicted it will continue to be so in the 90's. Too many individuals who become interested in beekeeping are not around a year later as active beekeepers.

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Bee colonies in a pear orchard — pollination rental for fruit and vegetables is common in the region.

Backyard apiary — one to a few colonies in the yard is typical of beekeepers in the mid-Atlantic states.

MID-ATLANTIC ***Cont. From 709***

Bee meetings feature the same faces; the same individuals volunteer. It is difficult to get persons to step forward in a leadership role. Yet because of honey sales or beekeeping short courses, many of the associations in our region have a bigger treasury with better financial reserves than even five years ago. State associations are less strong but local associations are doing better. All state associations and many local groups publish very professional looking newsletters.

Apiary inspectors have become more educators than regulatory officials in our region. Full or part-time state apiary inspection employees are frequently addressing beekeeper meetings, work as volunteers in local and state bee associations and significantly assist beekeepers with routine management information. Regulatory officials work on African bee and bee spill plans and inspect fewer colonies for foulbrood disease each year. Recently they have become pesticide applicators as they survey for bee mites.

There is less extension assistance to beekeepers in our region compared to 10 years ago and little state support for research on honey bees. Yet, Pennsylvania beekeepers recently were able to obtain state legislature support for bee research with a significant appropriation of state funds. The beekeepers of Pennsylvania with strong leadership and excellent committee efforts lobbied extensively to secure this commitment.

The need for bees in pollination rental remains strong in our region. The large commercial beekeepers are in residence only part of the year and several large East coast migratory beekeepers visit our region to pollinate fruit (apple, cherry, blueberry, strawberry and brambles) and cucurbit crops. Several states, Delaware and New Jersey included, do not have sufficient bee colonies to pollinate the crops that require bees. In Pennsylvania the beekeeping organizations have made the effort to have local beekeepers participate more in pollination rentals.

The trend for the growers in the mid-Atlantic area is that fewer beekeepers are willing to rent bees so they tend not to question quality of the rental bees as there usually are no alternative supply sources. Although acreage of crops requiring pollination has not increased, the awareness of the need for bees, changes to higher density/higher yielding plantings and the decline of native pollinators has resulted in growers becoming more dependent on honey bee colonies for planned pollination. The price of rental bee colonies has not significantly increased in the last 10 years.

Our majority of beekeepers are hobbyists and backyard beekeepers. They are not strong attenders or supporters of beekeeping. With concerns about liability, fewer of these people attempt to sell honey. Our markets are increasingly dominated by a few beekeepers/honey packers who buy honey from other beekeepers in the region. Yet all of our states have strong programs that promote sale of local produce. Beekeepers have free marketing aids and help is readily available from state Department of Agriculture officials in programs to promote locally produced and marketed products like honey.

Our mid-Atlantic beekeepers have a great advantage being located close to a large buying public. Roadside sales of honey, from local floral sources to honey in the comb, remain strong. The variety of honey sources however, has declined and honey in the comb is not commonly available except for a short time in the late summer. Roadside outlets typically feature a large differential in price although generally it is the retailer, not the honey producer, who profits from the differential. Nearly 50% of the roadside markets sell honey for at

University of Delaware apiary — mid-Atlantic beekeepers have local outlets for their honey and bee products

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least some of their operating season.

The region could sell more honey, especially as gift items, with increased promotional efforts. Recently Marriott Corp. has invested in a farm market on busy I-95 that sells Maryland honey to travellers. Such markets do not compete with local roadside stands since people don't leave the interstate to stop and shop. Large state and county fairs, local and regional events featuring natural or ethnic themes and farmers markets are strong outlets for locally produced and packaged honey, beeswax and other bee products. There is insufficient local production to meet this demand.

Unfortunately the increasingly urban nature of our region has resulted in decreased nectar opportunities for honey bees. There are fewer farmers each year and agriculture land preservation has become a significant legislative issue in each state. Smaller, diversified crop farmers have given way to larger producers who mostly grow less work-intensive crops like corn and soybeans. No new nectar yielding plants have been introduced to the area although Canola and sunflowers are being examined. Urbanization has reduced areas of native forage while the suburbs present a wider smorgasbord of nectar sources throughout the season. Bees do well but opportunities for honey crops are reduced. Land that must be fallow as in the USDA dairy buyout program could include honey yielding plants.

Tracheal mites have drastically reduced overwintering colony numbers in the region, especially the past two winters. The mites are widely distributed. Varroa mites are present but so far only in limited distribution in the region. Further distribution of both mites is expected although regulatory officials are actively attempting to limit the spread of *Varroa*. Foulbrood levels have increased in each state as state apiary inspection officials have become increasingly involved in mite survey and control efforts.

Bee mites and information on African bees has tended to discourage beekeepers. Beekeepers that lose their bees over winter may not restock their colonies. The day of putting one or a few bee hives in the backyard and letting them do their own thing seems to be over. Beekeepers need to treat for mites to successfully overwinter in the opinion of extension/regulatory personnel.

Bear damage is an issue in Pennsylvania and West Virginia and local anti-bee ordinances frequently crop up in the region. Working with legislative or state agency officials and getting extension/regulatory persons involved has produced favorable results. New beekeepers are starting but getting our beekeepers involved in beekeeping organizations is a challenge.

The mid-Atlantic region has a wide range of opportunities for new and long-time beekeepers. With more attention to mite control, mid-Atlantic beekeepers look forward to better yields to service the numerous honey consumers of the region. □

References:

Beekeeping in Pennsylvania 1974 (pg. 380), Maryland and Delaware 1975 (pg. 300) and *New Jersey 1976* (pg. 292).

PROFESSIONAL HOBBYIST

KIM FLOTTUM

It's an early Sunday morning in July, and an all black cat sits behind me on an east window sill, catching the first warmth of the sun which just cleared the tree line across the field.

Including the cat there's just three of us up this early this Sunday, all in the kitchen of a 180 year old farm house. The cat, unaware of anything but getting as much of her body exposed to the sun as possible, is sitting on the rough-hewn sill of the two foot thick stone wall, which surrounds the small, uncomplicated room.

The low ceiling, narrow doors and wide floor boards reinforce the ancient farm feeling, but the modern appliances and recessed lighting provides an interesting contrast. They seem to fit together well though, and there is no conflict between old and new.

Mark Haskins is poking around the cupboards and drawers, looking for the coffee pot, frying pans and griddles, sorting out in his mind what he needs, or may need, to prepare a breakfast for six.

There is no immunity to beekeeping, even when you're a Doctor.

Mark, or I should say Dr. Mark Haskins, is a 40 something Associate Professor of Pathology and Medical

Genetics at the University of Pennsylvania School of Veterinary Medicine. He teaches genetics and embryology at the post graduate level and his research includes studying animal models of human genetic diseases. Treating these disorders is his focus, and children are the primary beneficiaries of his work.

We had looked at his two colonies up by the garden yesterday, and as Mark was filling the coffee pot he asked about what we had seen. But, at least for the moment, I changed the subject just a bit.

"I was first intrigued by bees", he said in response to my question, "when I used to go over to a neighbors, who had an observation hive in his living room. I was just a teenager living in Philadelphia, and Rudy, he was the neighbor, kept bees because his wife had arthritis, and he used to sting her for treatment.

"I didn't do much about it for quite a few years though, until I ran into a friend in London in the 70's who was a beekeeper. We were both biologists of sorts, but she raised my consciousness about bees and beekeeping, I guess", he said.

Mark's two colonies, placed near his garden in a rural Pennsylvania setting.

I had some difficulty hearing him because he had nearly crawled into a cupboard looking for the other griddle, which, he knew, just had to be in there. It was, but all the way in the back.

"After that, I took Bob Berthold's class over in Doylestown, to get a bit of experience", he said, "and when I finished I bought some used equipment and set up a hive in my backyard in Philadelphia. It was hard getting bees or equipment because I didn't know anybody, or where to go for information", he added, as he searched in the refrigerator for eggs and butter.

"I did get some books to find out what I needed to know, though", he said. "I've always leaned toward the academic side of things, so I bought a honey plants book, *The ABC & XYZ of Bee Culture, The Beekeepers Handbook* and a couple more," he added. "I joined IBRA (International Bee Research Association) for the 'science' side of the craft", he said.

"Because of my background, I've always had a much better understanding of the theory, anatomy, physiology, pathology and genetics of honey bees than the practical application of beekeeping", he said.

His practical application of making breakfast and especially the coffee, had drawn Becky Craik, Mark's better half, from another part of the house down to the kitchen to sample the brew Mark was making. Becky poured a cup of coffee and headed outside, down towards the pond, to watch the resident ducks awhile before breakfast.

The third-acre pond sits on their 21 acre farm, along with a large garden, hay fields rented to a farming neighbor, a wooded section, a small orchard with apples, peaches, pears, cherries, plums and even blueberries. They purchased the farm, which is about 35 miles from Philadelphia, nearly 10 years ago, and have added nearly all the "attractions" since.

"Taking Berthold's course opened my eyes to pollination", said Mark, "which is why we have so many fruit trees. I mean we already had the bees!"

Mark currently has two hives, but occasionally may have as many as four. "Honey bees give me insight into a non-mammalian biological system that I find fascinating", he said. "Their interaction with other wildlife, like bears, keeps me really interested."

But Mark's management attitude tends to be pretty much *Laissez Faire*. "I create an environment where the bees are 'happy' enough to stay", he said. "I try and anticipate their needs, feeding in the spring and fall if needed, giving ample room, and keeping the colony in an 'attractive' location."

By now Becky had returned to the kitchen, and her parents, who share the huge farmhouse with them had made their way there too. The smell and sound of sausage frying had permeated the entire house. Two more cats and a dog had also appeared, looking for handouts.

Mark, while flipping pancakes on one of the griddles explained his management philosophy further.

"I don't open my hives often", he said, "it disturbs the bees, and I'm not confident I can help just by looking. I do go into a colony to feed, though" he added, "or when there seems to have been a dramatic population change. Swarming seems to be such an unpredictable behavior", he said. "I try to make

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Showing Mark chalkbrood mummies near the front of the hive, indicating attention is needed inside.

HOBBYIST . ***Cont. from Page 716***

sure they have room when they need it", he added, "but it's so unpredictable."

Becky's mom was setting the table, so I had to move for a bit and wandered over to the stove to watch closer this breakfast choreography.

Mark put down the spatula for a moment and using both hands to help explain, said, "It's easy for me to visualize a hive as a single organism. My mammalian training has taught me to think of an organism as a group of 'cells', each with its own function.

"It's really observation. I like to understand what the system is, but I'm not patient enough to learn it all. I'm a real generalist — I like knowing about birds and fish, plants and woodworking, how ice forms and all about cats and dogs ...", he trailed off, then quickly turned a plate size pancake at exactly the right, golden brown moment.

"I think I'm well informed about bees and beekeeping", he said, "but I'm just not skillful at it it. I don't do as well as I should be able to, and that's a challenge", he said.

Becky, sitting across the table sipping another cup of coffee, asked if I had heard of the 'extraction' experience.

"We have an eight-frame extractor", Mark said, "and it seemed appropriate to put it up on a hay wagon, so it could drain into bowls below. We shook bees off combs, brought them to the wagon (located outside but under a roof), uncapped them on the wagon and spun them out. It was hot, sticky and by the time we were done there were a billion bees around."

"We made lots of honey", Becky said, "in fact we're still using it. And we got lots of wax from the cappings, too."

"One of the visions I always have of beekeeping", said Mark, as he began stirring the eggs for the omelette, "was of making candles and putting together equipment on cold winter evenings. Well, we've made lots of candles, but I've never gotten around to taking time on cold nights to knock together some boxes", he added.

By now Mark had turned the omelet, and began dispersing the feast on individual plates — sausage, pancakes, omelets, juice and coffee. But even this activity didn't slow his patter.

"So", he said, "now that you know how I got started, what did we see yesterday?"

We discussed the chalkbrood mummies we'd seen and Diana, who had just returned from a walk in the woods, told Mark about the causal organism (a fungus), and how stress, especially poor foraging and cool weather, didn't help. Some European Foulbrood was evident too, which is caused by a bacteria, but is usually more prevalent during times of high stress in a colony.

"Both colonies need feeding", Diana said, "and they need it today. And, since you haven't requeened recently, I recommend you consider that, too."

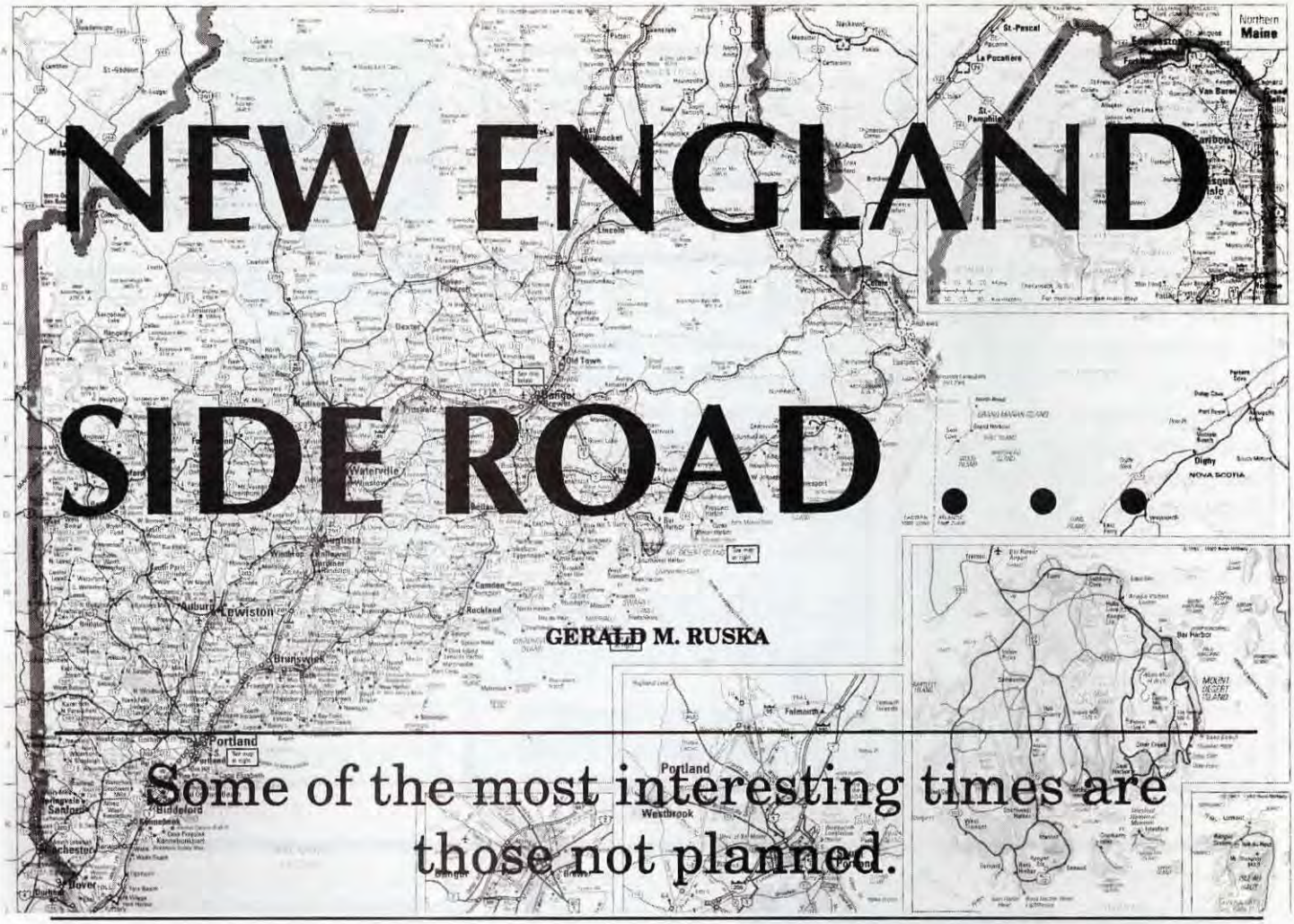
Everybody had sat down and there was the usual clatter of silverware and dishes. "But what about mites?", Mark asked. "I really enjoy studying the interdependency of the biological systems in a hive, how they all come together to make, or break, a colony. The bacterial systems of foulbrood, and wax moths are particularly interesting, but these mites are something I'm troubled with", he added.

"I don't know how long I'll keep bees", he said, "considering the problems. You know, I have to buy sugar every year and I always wonder, 'Why am I doing this?' But I buy cat and dog food every week and never give it a thought", he added and helped himself to a second stack of pancakes.

"But without a relatively easy way to take care of these new problems, I probably won't continue", he said. "Bees aren't an annual event, ("we don't harvest honey every year," Becky added), and if I can't do better, I'll have to think about it", he finished.

But after breakfast, we mixed up some feed and fed those two colonies, then looked at ads for several queen producers. And Mark Haskins, in his own way, is still keeping bees, and still enjoying the complicated and fascinating relationships between bees and all the other organisms that interact, both inside and outside his hives, and live on his Pennsylvania farm. □

> ‘I'm well informed about bees and beekeeping, I'm just not skillful at it.’



NEW ENGLAND SIDE ROAD . . .

GERALD M. RUSKA

Some of the most interesting times are those not planned.

We'd just left Mt. Blue State Park, my son and I, heading northeast for Mt. Katohdin and Baxter State Park in Maine. Though I knew a destination point the route inbetween was indefinite, to be filled in each day as chance and whims directed. I was recovering from a serious illness and though I now regarded each moment as precious, I refused to be concerned by precise schedules or distances to be traveled each day.

We'd stopped once that morning for spring water and were greeted with clouds of mosquitos, the most we'd yet encountered or would. The hand lettered sign had simply said "spring water" It was enough to pique my interest. A narrow path led to a small log enclosure, a protection for the spring. Lifting the lid the water could be dipped pure and true but not without a cost. Thousands of mosquitos engulfed us extracting bits of our essence for the price of the water.

A little further up the road I saw yet another sign "Honey" in large letters. It fired my imagination and teased my curiosity, for many times in past years I'd stopped, drawn by the magnetism of one beekeeper to another. Turning the car around I went back and entered the drive. Up between two houses was a small building housing yard sale material, but next to it, in

> "Being a New Englander *and* a Mainer, he was Economical of Time, Labor and Money."

a simple but prominent display was the honey. It was stored in various sizes common to the trade. My son wanted a honey bear and a small chunk of bees' wax, and I wanted a taste. After paying for the goods (it was an honor system — only a small open box containing some cash and change), I proceeded to cut the tip off the container and squeezed a bit into my mouth. The honey was light amber and delicious.

About that time a portly man came out of the second house, took a glance our way, but went about his business. "Are you the beekeeper?" I asked.

"I am" came the reply and a nod of the head.

"I keep a few colonies myself," I said as way of introduction. We then converged on each other — the topic of bees and honey our common bond. He never offered his name and I never asked but it wasn't a problem. He keeps about 90 colonies and has them scattered in a few areas. In the spring he rents some to the blueberry growers and receives $25 per colony. I suppose that beautiful light honey is a product of those rentals.

Being a New Englander and a Mainer he was naturally economical of time, labor and money. All his colonies are kept in intermediate depth supers. That enables him to waste no time since all frames are the same size, no wasted motion having to be expended searching for equipment to fit.

One unique aspect of his operation

is the supers are all equipped with eight frames. I thought that each standard intermediate super was housing eight equally spaced frames. When I asked him he was surprised. "Oh, no!" he said. "That would allow the bees to draw out big wide frames making the supers too heavy. I make all my own equipment and I make it to hold eight frames not ten. That way they're not too heavy and everything is interchangeable."

"What about your brood chambers? Are they eight frame, too?"

"Yep, everything is standardized to suit me. Anyways, the bees don't make a lot of surplus around here. Mostly about one super per colony. The smaller supers appear to be about right for this area and right for me," he said. "I make all my own equipment too. I use a table saw. It takes a lot of cuts but what's the difference? All the wood I use is scrap. The landfills are full of it and the bees don't mind. It doesn't matter if it's all polished and smooth either. The bees work it just the same," he added.

He handed me a frame to look at "Take it home with you," he said. "Use it for a model.

"Another reason I use all 6-7/8" supers is that you can't get wide boards anymore except at a high price. We've got one sawmill here that can't cut any tree over 12" on the butt side! Sold all their big saws. What that tells you is that the big timber has been used up. Another thing is they don't let it grow. Every 25 - 35 years everything is cut off. It's used for pulp. Spruce, fir, poplar, everything goes into pulp. Some they pay by the cord, but others is whole, chipped and bought by the ton. Even the small branches are used now. Very little is left in the woods," he said.

I looked at him and asked how he felt it would affect future forests with nothing rotting and returning to the soil. "I don't think it'll be any problem," he said, and reflecting a bit "we'll not know that for a while anyway will we."

We talked about diseases and the new mites. He didn't appear to be very concerned. "Take foulbrood for instance. It used to be a real problem, but not so much any more," he said. "I give my bees a good dose of drugs each fall and I don't seem to have any problem. Come up here. Let me show you something. Here's my little trick." He produced an ordinary garden sprayer. The kind you pump up to use.

"This is my secret. I mix up the antibiotics with sugar water. In the spring when I'm out in the bee yards if I see any sign of disease — chalkbrood, even dysentery I just hose them down real good. I mean I soak 'em with spray. Brood chamber, bees, everything and then I close her back up again. For three or four days you won't see any activity to speak of. The bees are busy cleaning up each other and the colony. When they're done I don't see anymore sign of trouble. As for that new mite. Well, no one can say for sure when, but time will bring something to help with that too." he added.

Going back to the car I took some honey out for him to taste. It was dark, and very thick. It's produced in my area of Ohio in the heat of July and August and I've been told it's from Queen Ann's Lace. I told him I didn't much care for it but some people had a liking for it. My uncle is one who likes to use it since he feels it will contain some qualities lacking in the light honeys.

The Mainer tasted it and being courteous said, "It's different isn't it?"

"If you like it, it's yours." I said.

"No", committing himself now, "I don't care for it."

I took another jar out. It was pure white and granulated. I'd put this super on late in the fall after goldenrod was about complete and the asters were still holding on in pockets, even after frosts had hit. This white honey was the result — lovely to look at and delicate to taste. "I think you'll find this more to your liking."

"Yes," he said his face lighting up in a smile, "that is of good flavor."

"It's yours then" I said.

Shaking hands I closed the trunk and headed up the road, contented. What new excitement lay ahead I wondered rounding a curve, for in the pleasures of travel it's the little unexpected stops that so frequently open avenues of friendship and joy. □

HOME HARMONY

ANN HARMAN
6511 Griffith Road • Laytonsville, MD 20882

Suddenly it's Christmas — and just as suddenly it's gone and we are looking into the next year. Our December days seem to be too full: Christmas preparations join our everyday activities and holiday meals join our everyday ones. Add a few parties and family gatherings and December 1st turns into December 25th before anyone realizes it.

Foods that can be made in advance are extremely helpful at this time of year. The following recipe for onions can be made up to three days in advance AND served at room temperature two definite pluses.

Onion Compote

4 onions left unpeeled
1 Tbls. minced fresh thyme leaves (1/2 tsp. dried)
1 Tbls. minced fresh parsley leaves
1 tsp. honey
1/4 cup red vermouth
1/3 cup olive oil
salt and freshly ground pepper to taste

Wrap onions in aluminum foil, place on baking sheet and roast in 375°F oven for about 1 hour or until soft. Remove from oven and set aside to cool completely. When cool, remove onions from foil pouch, peel and chop coarsely. Stir in thyme, parsley and honey. Place vermouth in small saucepan and boil until reduced to a little over half its original amount. Pour over onions. Stir in olive oil and season with salt and pepper. Let the compote stand for 30 minutes before using. Make ahead and refrigerate, covered, for up to three days. Serve at room temperature.

The Washington Post

Cranberry season is all too short. Fresh cranberries arrive on the scene in time for Thanksgiving and seem to disappear soon after our holiday needs. However, cranberry juice is with us all year around. The flavor and color of fresh cranberries are definitely appropriate for the holiday season. Cranberries mix well with other fruits, usually citrus. Try this sauce with cranberries in combination with dates for an unusual treat.

Candles are not edible but beeswax candles make excellent gifts at Christmas time. However, so many people accept the gift with delight but never burn the beeswax candles. "They are much too pretty to burn." You can solve this problem by giving TWO pair, or TWO bears or Christmas trees or whatever beeswax gift you make. Attach TWO tags: "This pair is to burn" and "This pair is to admire" In this way the recipient will be able to enjoy the special qualities of pure beeswax candles. By the way, have a pair or two in reserve for unexpected gift giving.

Crandate Sauce

4 cups cranberries
1 cup honey (or to taste)
1 cup snipped dates
1/2 cup golden raisins
2 cups water
1/4 cup vinegar
1/4 tsp. each ground ginger and cinnamon

Combine all ingredients in medium-sized pan. Bring to boil. Boil rapidly, stirring occasionally, uncovered, for 10 minutes. Chill.

The Cranberry Connection
Beatrice Ross Busek

Grapefruit sweetened with honey is quite popular. Here is a new twist in that combination. Since the holidays frequently mean house guests, try this combination for a special breakfast.

Amaretti and Honey-Broiled Grapefruit

4 grapefruit halves, room temperature
4 Tbls. flavorful honey
4 Tbls. crushed amaretti or other hard, dry macaroons

Loosen the sections with a grapefruit knife. Spoon 1 Tbls. honey over the top of each grapefruit. Broil the halves until the tops are glossy and bubbly, about 3 minutes. Sprinkle each half with 1 Tbls. of the crushed macaroons and return to the broiler for an additional 30 seconds to 1 minute, or until lightly browned. Serve immediately.

The Washington Post

Turkey and ham, turkey and ham. After making the rounds of holiday parties, dinners and open houses, you wish someone would have the courage to serve peanut butter sandwiches! At your festive gathering try this completely different pork dish. One taste and your guests will be back for more. Of course that might leave you some leftover turkey and ham. Don't worry — help is on the way for that.

Sesame Pork Appetizers

1-1/2 pounds pork tenderloin (not sliced)
1/2 cup dry sherry
1 Tbls. soy sauce
1/2 cup honey
1/2 cup sesame seeds
1/3 cup soy sauce
1 Tbls. sesame oil
1 Tbls. dry sherry
1 clove garlic, pressed
1/2 tsp. grated ginger
1 green onion, finely chopped
spinach leaves

In a dish large enough to hold the tenderloin, combine the 1/2 cup sherry and the tablespoon soy sauce. Add the pork and let marinate 1 to 2 hours, turning several times. Remove the tenderloin and pat a bit dry. Spread the honey on a plate. Roll the pork in honey, then in the sesame seeds. Place the tenderloin in a roasting

HOME . . Cont. From Page 720

pan, roast at 350°F for 20 minutes or to meat thermometer reading of 155°. Let stand 5 minutes, then slice thinly on the diagonal. Combine all remaining ingredients for dipping sauce. Place in a bowl in center of serving platter. Surround the bowl with spinach leaves. Arrange pork slices on top.

National Pork Producers Council

After those delicious tidbits, you will now have to deal with leftover turkey. Although cookbooks have been written about turkey, why not try this recipe. Serve it at lunchtime with hot cornbread (by this time hot biscuits have been overused with the ham. Remember?)

Turkey Coleslaw

2 cups shredded cabbage
2 cups cooked, diced turkey
1 cup unpeeled red-skinned apple
1 cup seedless red grapes
1/2 cup sliced celery
1/2 cup chopped walnuts

Dressing:
1/2 cup sour cream
3 Tbls. mayonnaise
3 Tbls. honey
1 Tbls. lime juice
1 tsp. grated lemon rind
1/8 tsp mace
dash pepper

Combine salad ingredients. In another bowl combine dressing. Blend well then mix with salad. Chill 1 to 2 hours.
For color variation: Substitute red cabbage, Golden Delicious apple and white grapes. However, do NOT use sour cream dressing since the cabbage will bleed into it. Use an oil-vinegar dressing instead.

Fill up your honey servers and keep them full and handy during the holidays so that your family and guests can partake and appreciate our honey bees' golden harvest. □

ROCKY MOUNTAIN BEE PLANT

B. A. STRINGER

Growing wild in Colorado and the Rocky Mountains, *Cleome serrulata* became of great interest to beekeepers in the early 1870's, when the plants were said to furnish large quantities of honey" The plants were popularly known as Rocky Mountain Bee Plant, or Bee Weed. One specimen sent to the American Bee Journal in 1882 was identified by an editor as Rocky Mountain Bee Plant, with the note that "as a honey plant, in our judgement, it ranks second only to sweet clover."

In the early 1870's interest in honey plants had developed to the point where many beekeepers were planting extensive acreage into anything which seemed promising. At the Michigan College of Agriculture, Professor A.J. Cook established experimental gardens specifically to study nectar yields. Professor Beal, who wrote about honey plants in the bee publications of the time, apparently assisted with the test garden. In 1878, at the National Beekeepers Association Convention held in Michigan, Mr. Fisk Bangs presented a paper detailing the work at the Michigan test gardens. The comments attracted a lot of beekeeper interest, and a wide variety of plants were cultivated.

On January 31, 1878, Mrs. Mollie O. Large of Pine Hill Apiary, Millersville, IL, sent some seeds of Spider Flower to A.I. Root. She described it as "a garden plant known as 'the spider', which secretes a large amount of nectar on the outside of the flower. Would it pay to sow it for the honey?" Mrs. large said she transplanted the seedlings in May to produce fully flowering plants by mid-August, when "the bees were at work on them; but, strange to say, the blossoms opened only about sunset; accordingly, after the time when the bees have usually stopped flying, they were seen hovering over this strange but beautiful plant."

The flowers described by Mrs. Large were closely related to the Rocky Mountain Bee Plant, and her *Cleome spinosa* also excited interest among beekeepers. Mrs. Large wrote "I used to think bees went home with the sun, but I have heard them on this plant when too dark to see them at any distance, and found them again in the morning as soon as it was light, and for a while after sunrise."

During the summer of 1879, both Rocky Mountain Bee Plant and Spider Plant were planted in the honey-garden of the A.I. Root Company in Ohio, where the Spider Plant produced far better than the other. In fact, the gardeners declined to save the seed of the Rocky Mountain Bee Plant, so disappointing were the specimens compared to the Spider Plant. Mr. Root recommended that "to have them do well in our gardens, that is, to give us a good yield of honey, the seeds would better be planted in a box indoors... set out when all danger of frost is past, and given good rich soil with about the same cultivation you would give your cabbages." The claims of the Rocky Mountain Bee Plant were fading.

On the other hand, the Spider Plant was still a hopeful candidate for *the* honey producing plant of the time. By the end of 1879, suggestions were made that "at nearly 5000 plants to the acre, they would yield every morning perhaps 5 gallons of nectar or one gallon of ripe honey" Mr. Root had tied a piece of lace over the flowers of one plant, at Mrs. Large's suggestions, to keep the bees off and to see the amount of nectar secreted in a few hours. The drop of nectar was "so large I had a fair

Continued on Page 724

John Kefuss

STEVE TABER of Honey Bee Genetics

Goudous • 82370 Villebrumier, France

"John's been around bees and beekeeping since he was 11."

Many years ago I met John Kefuss, then a student with Dr. Walter Rothenbuhler at Ohio State University. I have forgotten the exact date, but it was about 1963. Since then I've met many students, as well as beekeepers, most of whom I've forgotten names as well as faces. But both John's face and name kept coming up frequently so I couldn't forget him.

In fact something happened at the Maryland Apimondia Congress, during 1967 I think, that made John one of the highlights of the Congress and everybody who was there knew about it. John fell in love, and I mean in LOVE with a young French woman named Josette.

The French usually send the largest delegation to these meetings, and Maryland was no exception. I think about 200 French beekeepers, wives and dependants were there, and one was the daughter of a beekeeper from Toulouse. She could speak no English, John could speak no French. They each bought a dictionary and any time of the day or night you could see this young couple walking around the campus, not hand in hand, but thumbing through their respective dictionaries, trying to find the words to talk to each other.

Actually, I never saw them look at each other. It was the strangest courtship I had ever witnessed. In fact, while telling one of my French beekeeper friends about this, he interrupted and said he had heard the tale many times before, from French beekeepers who had been at the congress.

John and Josette were married in 1968 and they now have two teen-age children, a boy Cyril who is interested in bees and a girl, Mary Ellen, who wants to be a doctor.

John had been keeping bees since he was 11 years old on his farm near Canton, Ohio. There was no money to pay for higher education in his family, so he worked his way through the many schools he has attended. First he went to Ohio State for four years for a BS in Entomology. Then he went to Logan, Utah where he studied at Utah State and worked in the Bee Lab with Dr. Ned Bohart. While there he developed an appreciation of the many species of wild bees, the ground nesting and hole boring types that few people know anything about.

After Utah John worked at Weaver Apiaries, in Navasota, Texas, for a season to find out what it was like to raise packages and queens commercially. From there he went to Florida, where he worked a season with Genetic Systems Inc., learning artificial insemination from Bud Cale and Larry Conner.

In 1968 John went back to Europe to study beekeeping under Dr. F Ruttner. He received his PhD in Zoology in 1974. While attending the university at Frankfurt, he would frequently go to Josette's home in Tou-

Continued on Next Page

John Kefuss

KEFUSS . Cont. From Page 723

louse, France, to visit his in-laws. Since he had little to do while he was there he began nailing frames and boxes together. By the time he finished his PhD he had built enough equipment, and raised enough bees to start as a commercial beekeeper.

But John hasn't lost interest in the scientific side of bees. During the winter months he regularly goes to Grenoble, where he works at the Max-Planck Institut fur Festkorperforschung an institute devoted primarily to the study of magnetism. His study there is concerned with how magnetic fields affect bees. He also cooperates with scientists in Toulouse at the Universite Paul Sabatier with other research work on bees.

In fact, he was involved in the original work done in France on chemical control of varroa, done about five or six years ago. His bees were used in the test to determine whether varroa infested American Starline bees had the same response to Apistan® as the varroa infested native French bees. John did not do this work but only furnished the bees to the scientist, Dr. Duco de Lahitte, who did. The other part of this important work was done by Raymond Borneck using French bees.

John's primary commercial beekeeping work focuses on queen rearing, and producing stock useful to French beekeepers. To do this he operates about 300 colonies and 1,800 mating boxes. Each year he produces and sells approximately 3,000 mated queens, 1,000 queen cells and 1,000 virgins. He gets about twice as much for a mated queen as queen breeders in the U. S. The stock preferred by most of his customers is a cross between the caucasian (which comes from Russia) and the American Starline, made by artificial insemination. These queens, called "caucasites" are sold as breeders to be naturally mated to the French black bee for production queens. He also raises and sells daughter queens of the French black and carniolan stocks (carniolan breeders obtained from Germany).

Usually he leaves any honey produced on the hive in order to reduce his sugar bill, but this year he has taken off about a ton of surplus sunflower honey.

His queen rearing season is from April until September, and he employs two people part time. The main honey plants in this area of France are oilseed rape (or canola), black locust and sunflowers.

John treats his hives in the fall with Apistan® to control varroa, but he doesn't use any control for the internal parasitic mite, *Acarapis woodi.*

John has had a tremendous amount of experience with controlling varroa, and if he isn't successful, the varroa kills the colony.

I feel that he would be a worthwhile speaker at an American bee meeting to talk about varroa control or his other international experiences. He's also a nice fellow to get to know.

To contact John, write Le Rucher D'Oc, 49 rue Jonas, 31200 Toulouse, France. □

ROCKY MOUNTAIN Cont. from 722

taste of it" Mr. Root collected some drops and used his lamp"to evaporate the nectar down to thick honey" ending up with "only about a fifth as much as when I commenced." Each flower opened twice but, according to Mr. Root, "the honey is yielded only from the first blooming" Seedpods broke open, scattering their contents, so seed had to be gathered daily or it was lost.

Although the Spider Plant performed well, yielding, "by far the largest amount of honey of anything that we have ever come across, and its time of blossoming extends to an unusual length", Mr. Root noted "to yield honey enough to give it a fair test, acres are needed, instead of little patches."

The Rocky Mountain Bee Plant was first tested on a field scale when the Michigan Agricultural College, in 1891, grew "several acres of the plants for the sole purpose of testing their honey producing qualities" according to Mr. Root. The direct-seeding of the plants failed to produce a good stand. Mr. Root commented later, "I do not know how a perfect stand can be obtained without transplanting. of course the honey produced did not come anywhere near paying expenses." Neither the Rocky Mountain Bee Plant nor the Spider Plant yielded much honey unless they were growing in deep rich soil.

By 1901, these acclaimed plants had fallen from favor. Mr. Root said "Some of our seed catalogues have described it in glowing terms, and greatly exaggerated its honey producing qualities. Flaming colored prints of the flower covered with honey have also been given, and I suppose many people have been deluded into the belief that these plants coul be grown in small patches to produce honey profitably."

John Lovell wrote, in his 1926 *Honey Plants of North America*, "In Colorado the importance of Cleome has been greatly overestimated, although formerly it was much more important than today." He said the plants still yielded "considerable surplus" but only in "exceptionally favorable seasons" The honey was variously reported to be of light color and fair flavor, and as dark and strong.

Mr. Root summed up the final verdict on Cleome this way: "The seed has been offered for sale for several years as a plant to be cultivated for honey; even if it does not pay for honey, it will pay to have a bed on account of its beauty." □

BEE TALK

RICHARD TAYLOR

Box 352, Interlaken, NY 14847

"Next summer will be different. Every season is different, so far as beekeeping is concerned."

It's hard to believe that it will be nearly Christmas when you read this. I'm not going to write about Christmas. It's too far away, and besides, I don't celebrate Christmas; haven't for years. A great burden was lifted from my shoulders when I started letting that holiday go by without notice, and I have never regretted it. Everyone just sort of pretends I'm not around when Christmas comes, and that suits me fine. They know I love them, even if I am a bit strange.

So much for Christmas.

I think I should mention a good money-saving idea, even though it is perfectly obvious. The idea is to use recycled glass jars. They have to be the right kind preferably wide-mouth, and of uniform size. Lots of things come in wide-mouth quart jars, worth about fifty cents each to a beekeeper when washed clean. The regular 5-lb. cap fits a common quart jar, and so do mason jar lids. Where I live lots of people save these jars, for some reason, and then eventually boxes of them end up out in yard sales, and you can pick them up for practically nothing, put them through your dishwasher, and you're all set. I have two infant sons who go through a lot of jars of fruit juice, so this gives me another valuable source. I like to keep overhead down, get all the use I can out of things, always heeding my dear late mother's advice, "waste not, want not." Good words to live by.

Now, having already talked about two totally unrelated things, here is a third.

I got to wondering this summer about the great Taylor principle, the only beekeeping idea I ever had for which I can claim any originality. It has long been my hope that it will someday make me famous, but I have thus far not detected any encouraging signs. And this summer I had, for awhile, the sickening thought that it might not be such a great principle after all. The idea behind it is to keep your colonies very strong the year 'round, but especially in early spring. And here is how it is done.

Your colonies, which you have kept very strong though the winter, are discouraged from swarming in the spring by making sure there are some empty combs in the center of the brood nest, for the queen to lay in, at swarming time. You do this by removing combs of brood, with bees, and replacing with empty combs about every two weeks. This makes the colonies build up good and strong without much swarming. Then you get the honey all harvested, except for a few unfinished supers, by the first of August, letting the bees keep the entire late nectar flows for themselves. That way the colonies go into winter heavy as lead with stores, and without any supplementary feeding. And being strong and heavy in the fall, they come into spring that way, because the more honey there is in the hive, from February on, the faster the bees build up. That is the whole secret of the principle. Thus you get the earliest flows, including the fruit bloom, for harvesting. That is important for a comb honey beekeeper like me, because it is those early flows that make the best comb honey.

Continued on Next Page

These queenline-type jars aren't the only containers honey can be sold in.

BEETALK. Cont. From Page 725

And you get little swarming, because of the clear brood nest, as described above. And you get no pollen in the comb honey, because there is still honey in the hives, above the brood nest, and the bees tend to store their pollen below the areas of the combs containing honey.

Doing things that way has worked wonderfully well for me and, needless to say, it involves little work. But what happened this summer is that the early flows were poor. Too much rain early on, maybe; I don't know. So when it came time to harvest the honey, there were lots of half-filled supers, which had to be left on the hives. They got filled on the late flows, which were quite heavy, but the comb honey sections were not of the best quality. They were too waxy, and dark. That always happens when you get comb honey on late flows, even when the late flows are heavy. Then on top of that, the colonies from which I had harvested all the supers got very congested, from all the late honey coming into them, and there was a lot of swarming, in September! That almost never happens. I was pretty embarrassed when the bee inspector, checking one of my apiaries late in the summer, told me there were queen cells in seven hives.

So, nothing is perfect. I still believe in the principle, and cling to hopes of fame. Next summer will be different. Every season is different, so far as beekeeping is concerned, and nothing, however good, is going to work every single time. That principle has worked so well for me over the years that I am not going to let just one aberrant season cause me to give it up. □

(Questions and comments are welcomed. Enclose a stamped envelope if you desire a response.)

QUESTIONS?

Cool it!

Q. Does freezing frames, which are sealed in a plastic bag for several days, prevent wax moth damage when these frames are kept over the winter?

David H. Kesler
Memphis, TN

A. A temperature of 0°F kills the wax moth in every stage, including the eggs. Thus if extracted combs are sealed in plastic bags, reduced to this temperature, and kept sealed, they should remain free from wax worm damage.

Slippery Control?

Q. I have heard that giving bees vegetable oil prevents tracheal mites. Is this true? And how is it done?

Russell Peter
Kennewick, WA

A. I have not tried this, but it has been discovered that (perhaps) mites select their victims on the basis of their surface qualities. It has also been observed that colonies that are given terramycin in greasy patties, to control foulbrood, seem less susceptible to mites. There are now being marketed devices that will introduce vegetable oil into a colony, I believe as a spray, to coat the bees ever so slightly and render them more or less immune to mites. All this is, I believe, still experimental, but so far results appear encouraging. A good preliminary discussion of this whole approach to mite control can be found in Editor Kim Flottum's "Inner Cover" page of the May,1990 *Bee Culture.*

Wet or dry?

Q. What is the best way to store supers, wet or dry?

Roscoe M. Barnes
Icksburg, PA

A. It is usually easier to store them sticky, and in the spring the bees move up into sticky supers immediately. On the other hand, sticky supers are attractive to mice. Also, residual honey in the combs crystallizes, and this tends to make honey subsequently stored in them granulate in the combs. So to avoid having honey granulate in the combs, in case that is a problem, let the bees lick them dry in late summer or fall.

At the Heart of a good Candle

Q. I made hand-dipped beeswax candles last year but they didn't burn well. How can I get the right kind of wick?

Dwight Filer
Twisp, WA

A. Use a braided wick of the correct size. To get correct size advise the supplier of the thickness of the candles. Proper wick can be purchased from the A. I. Root Co. and elsewhere.

Elbow Room

Q. Does the number of combs in a brood chamber have anything to do with the ability of the bees to cluster and move about in winter? Some beekeepers use only eight frames in the supers. Is this to provide more space and less obstruction to the bees, or is it for the convenience of the beekeeper?

Walter Swartz
Montclair, NJ

A. The number of combs has nothing to do with the bees ability to move about and cluster. Most beekeepers, including me, use nine frames in the brood chamber and, for extracted honey, eight in the supers, but this is primarily to make the frames easy to remove.

Barely breathing

Q. Is top ventilation desirable for wintering?

G. Hartke
Middletown, CT

A. Yes, but not much, just enough to let moisture escape. If the inner cover hole is left just slightly open this is enough.

Questions are welcomed. Address: Dr. Richard Taylor, Box 352, Interlaken, NY 14847, enclosing stamped envelope for prompt response.

ANSWERS!

Richard Taylor

or $20.00 for a similar item that will last only two? Remember replacement costs in two years, resale costs of better equipment and cost of money invested in more expensive equipment. (You may only save $10.00, but if you don't want it, send it to me, I can use it!).

- Can you standardize your equipment? For instance, many commercial operations use only one size super. Is that possible for you? As old equipment is replaced, purchase only one size super. Medium depth is often chosen for this. Honey supers are lighter, and brood boxes can go from a deep and a medium to three mediums, or even two. Parts are interchangeable when making repairs (excluding brood and honey combs, of course), and storage is simplified.
- Even if fuel costs stabilize at a pre-insanity level, new gas taxes will still raise that cost. Reduce the number of trips to deliver your product and make each trip more efficient. If possible, combine delivery routes to shorten mileage traveled, and, make fewer trips if possible. Don't sacrifice quality (crystalized jars don't sell, and there's somebody who's ready and willing to take over your account and give better service), but if you can reduce travel even 5%, that's money in your pocket.
- Colony work always seems to get done, but planning can make sure it gets done most efficiently. Always carry more equipment (extra supers, excluders, covers and frames) than you think you'll need, so you don't have to make a second trip. Many beekeepers keep extra equipment in an outyard, either as an extra, empty colony or two, or more frequently in a storage facility. Losing honey because you can't get supers on in time is losing money, and making two trips instead of one is wasting money.

I think that's enough of this for another month. Like last time, there's nothing earth shattering here, just common sense and logic. Remember, the premise behind this isn't to make more honey (although you may), or to keep more bees (you may do that, too), but rather, to do exactly what you're doing now, but spend less money doing it. Of course, you may invest those savings in more bees, or more equipment to make more honey. With the price of honey *increasing* faster than inflation, that may be a wise choice.

•

We recently conducted a rather large, and fairly sophisticated reader's survey. Although we haven't had time to analyze all the data (there were over 180 questions) some interesting trends are already showing up. For instance, the age of our readers is getting younger, markedly so, over the last three years. More people are selling comb honey now than three years ago, and there is strong support for the Honey Board, across the board as it were, among our readers.

In the February issue we'll take a fairly detailed look at our readers, to give you a feeling of where you fit. In the meantime, if you received a survey and haven't returned it yet, we'd like to hear from you. The better participation we have the more accurate will be the results. If you did send one in, thanks.

•

Two sets of congratulations are in order this month. Our Production Coordinator, Cyndi Stephens and husband Jim welcomed their newest family member, Cody James, who joined his family on October 22. All are doing fine.

Another group needs mentioned too, regarding an arrival of a somewhat different sort. Those who handled the African Honey Bee arrival in Texas in October did a very professional job dealing with the press and public. Texas A&M, APHIS, USDA ARS and others were involved. Because of preparations before-hand, and their cool and easy manner during the incident, the arrival of the AHB was met, as the *New York Times* says — with a yawn. Good job folks, and thanks.

•

December signals the end of another calendar year. For beekeepers, it ends at the finish of extraction — usually somewhere between July and October. For the bees, it ends about Thanksgiving, and by the end of this month, they will have started building again, preparing for another round of 'can we make more than we spend'

This past year, 1990, has been eventful, there's no denying that. The first major effect of tracheal mites, changes in the Honey Board, the politicking for the new farm bill, the first documented case of pesticide residue found in honey, the first African Honey Bees discovered and the buy-back debacle — yes, an eventful year.

One wonders what could possibly be in store next year that could top these exciting times. Actually, after five years of mites and chemicals, politics and bad weather, Federal programs and African honey bees and all the rest, I wouldn't be too upset if 1991 was a bit slow. Figuring out how to make a bumper crop of honey should be the high point of the year, instead of somewhere down the priority list, below those other, crazy things.

Let's hope that's the case in 1991. A quiet, relatively uneventful, but productive year for bees, and beekeepers everywhere. So, from all of us here, may the Best of the season be with you and yours, and may 1991 border on boring for all of us.

Kim Flottum

CORRECTION

Tim Lawrence co-authored with Sue Cobey, the article entitled *The Cordovans*, published last month.

GLEANINGS GLOBE

DECEMBER, 1990 ALL THE NEWS THAT FITS

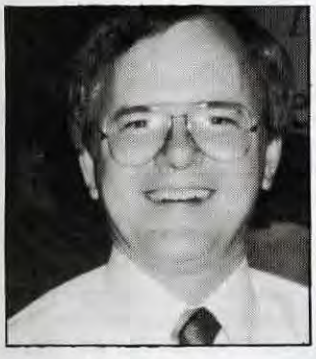
HONEY PRODUCERS MEET IN BATON ROUGE

The 22nd annual convention of the American Honey Producers Association will be held in Baton Rouge, LA, January 8-13, 1991, at the Holiday Inn Holidome South.

A tour of the Baton Rouge Bee Lab, and the Atchafalaya Basin Tour & Boat Ride, topped off with the best of Louisiana Style Cajun food served at Pat's Fisherman's Wharf is also planned.

For the chance to hear the latest in beekeeping related news, see old friends and make new ones, see the latest in beekeeping equipment and interesting items, and have a great time plan to be at the Holiday Inn South in Baton Rouge, January 8-13.

Fred Hoff



James E. Tew

Schedule

Tues. 1/8/91

Board of Directors Meeting

Reception

"Self-Defense for Men & Women"

Wed. 1/9/91

President's Address, Richard Adee; Dr. James E. Tew, Industry Perspective; Dr. Fred Hoff, Survey; Jane Phillips, Honey Loan; Dr. H. Shimanuki, AHB; KEYNOTE SPEECH-Gene Baily, GATT and Honey; Dr. Tom Rinderer, Baton Rouge Lab; Dr. Rich Hellmuch, managing AHB; Dr. John Harbo, varroa mites; Dr. Bob Danka, AHB & Pollination; John Williams, AHB; Dr. Allen Sylvester, molecular biology; Dr. Ben Oldroyd, Bee Breeding; Jose Villa, overwinter AHB.

Jane Phillips

Thurs. 1/10/91

Short Course-Pesticides & Federal Govt.

National Honey Board Session

Bob Smith, New Director; Dwight Stoller, Protecting honey's image; Sherry Jennings, Promotion; Dr. Roger Hoopingarner, Economics; Dr. Lois Willet, Industry Survey; Kim Flottum, Ecology & beekeeping;

Visit to Baton Rouge Lab

Dr. Harbo

Fri. 1/11/91

Viewpoints & Perspectives

Packers-E. Groeb; Inspectors-Box Cox; Suppliers-Tim Dadant; Industry Press-Kim Flottum; Researchers-Anita Collins; Beekeepers-Richard Blake; Media Relations, Sherry Jennings; Crisis Management, Dwight Stoller; Texas Plain, Dr. John Thomas; LA Plan, Jim Dunkley; Farm Bill, Mike McCann; controlling mites, Dr. Bill Wilson.

Sat. 1/12/91

Insurance, Roger Starks; Honey Bee Nutrition, Dr. Christine Peng; Working with AHB, Dr. Oscar Barraza.

Honey Board Referendum Panal

Business Meeting

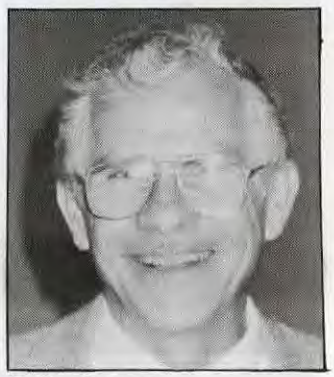
Room rates at the Holiday Inn Holidome will be $48.00 plus tax, with a buffett breakfast for two each day! Call or write the Holiday Inn to make your reservations before Dec. 15, 1990. After that these rates will apply only on a space available basis. Complimentary transportation to and from the airport will be provided on a pre-request basis. To make room reservations, call the Holiday Inn at 504-924-7021.

Sherry Jennings

American Airlines is the official carrier for the Convention in Baton Rouge. For an additional 5% off the lowest airfares, call 1-800-433-1790, and ask for:

STAR File #S-0111P1 (#S-zero, one, one, one, P, l)

For information concerning exhibit booth spaces or any additional meeting information, contact AHPA Secretary-Treasurer Ray Chancey at 409-258-3034, or write: AHPA Convention, P.O. Box 815, Dayton, TX.



Dr. Hoopingarner

FEDERATION MEETS IN MOBILE

The keynote speech at the American Beekeeping Federation's 1991 convention in Mobile, AL, will be presented by Jo Ann D. Smith, Assistant Secretary of Agriculture for Marketing and Inspection Services.

Following the keynote address, Mrs. Smith and the National Honey Board will be honored at a reception hosted by the Federation and the National Honey Packers and Dealers Association. The Honey Board operates under the authority and

Jo Ann Smith

oversight of the Agricultural Marketing Service (AMS), one of the areas of Smith's responsibility. She is responsible for the Animal and Plant Health Inspection Service (APHIS), which deals with beekeepers relative to Africanized bees and mites.

A Florida native with a background in farming andranching Mrs. Smith was named ASsistant Secretary of Agriculture in 1989. She has been chairman of the Cattlemen's Beef Promotion and Research Board, president of the National Cattlemen's Association, chairman of the board of the Federal Reserve Bank in Jacksonville, FL, a member of the Board of Governors of the Chicago Mercantile Exchange, and served on President Reagan's U.S. Advisory Committee for Trade Negotiations. In 1988 she was named Woman of the Year in American Agriculture by *Progressive Farmer* magazine.

Bob Smith

Dr. Shimanuki

"We are especially pleased to have Secretary Smith address our convention," said Troy Fore, ABF secretary. "She has already proven to be a friend of beekeeping, and we are sure she will continue to be. As we celebrate the success of the Honey Board, it is fitting that she be involved."

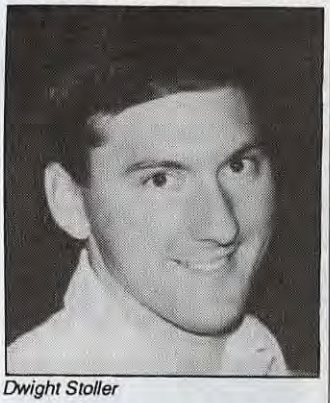
Other presentations on the Federation program relative to Honey Board include a series of

Dr. Dietz

reports presented by Dwight Stoller, NHB chairperson; Bob Smith, the new NHB executive director; and Sherry Jennings, NHB director of industry relations. A debate on the Honey Board refund issue is planned.

Panel presentations have proven popular with ABF members and three are scheduled in Mobile with mixtures of scientists and beekeepers discussions:

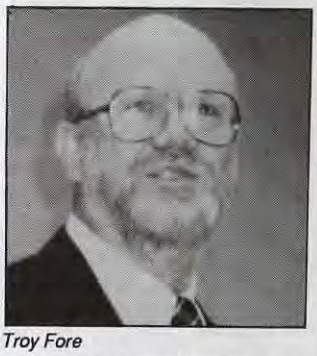
- "Is There a Future to Migratory Beekeeping" – Dr. Al Dietz, USDA-APHIS, moderator.
- "What's New with Varroa and Tracheal Mites" – Dr.



Dwight Stoller

Hachiro Shimanuki, USDA-ARS, moderator.

- "The Africanized Bees Have Arrived. Now What?" – Dr. Anita Collins, USDA-ARS, moderator.



Troy Fore

The ABF convention will open at noon, Wednesday, Jan. 23, at the Stouffer Riverview Plaza Hotel in Mobile. It will conclude with a banquet and coronation of the 1991 American Honey Queen and Princess on Saturday evening, Jan. 26.

Air travel arrangements for the convention are being handled by Caravelle Travel Management; call toll-free 800-222-6664. Fares 5% lower than published fares are available on the three convention airlines: Delta, American and Northwest.

Hotel reservations may be made at Stouffer Riverview Plaza, 64 Water St., Mobile, AL 36602, 205-438-4000, ext. 265.

For information on the convention in general, contact the American Beekeeping Federation, P.O. Box 1038, Jesup, GA 31545, ph. 912-427-8447.

Research You Can Use

QUEEN AGE?

Which is best — a one year old or two year old queen? In studies in Canada, it was found that overwintered one and two year old queens performed about equal in brood production, honey production, worker production and other factors. Although some differences showed up during the season, the end results were nearly identical.

HOW OFTEN HONEY REMOVAL?

Canadian researchers have found that, contrary to some opinions, frequent honey removal does not increase honey production. They found that when disturbing a colony for removal, an average per colony loss of 8.4 lbs. of honey occurred, when compared to colonies not disturbed. Although the presence of empty honey may increase honey production, harvesting several tons, and replacing harvested combs with empty combs, led to overall decreased production.

DO BIRDS EAT BEES? YES, SAY RESEARCHERS

Do birds eat bees? Yes, according to researchers in Tucson, AZ. During spring, Kingbirds were observed watching, catching and eating bees near a feral colony. Interestingly, Kingbirds regurgitate stomach 'pellets', much like owls, so their diets could be analyzed. The birds ate drones almost exclusively, and greatest bird activity was noted during times of drone activity.

Sparrows, too, were noted preying on drones, especially near or on the landing area. They also picked up dead and dying bees at the entrance.

It was concluded that Kingbirds could be an economic problem for queen breeders, especially where specific drones were needed.

HONEY BOARD HIGHLIGHTS

EXPERT EXPORT LOGO DESIGNED

The National Honey Board is promoting U.S. honey as a premium product around the world. Advertising and promotion help international buyers and consumers learn about the quality and purity of U.S. honey. The message is out, but how do buyers differentiate U.S. honey?

The National Honey Board has enlisted the domestic standard bearer, the lovable honey bear, as the ambassador for U.S. honey.

The familiar honey bear symbol has been incorporated in an

USA HONEY

AMERICA'S BEST

attractive new red, white and blue export logo, especially developed to appeal to international buyers and to carry the message that U.S. honey is pure and natural.

Pressure sensitive labels are available from the National Honey Board. You may order either 1" diameter stickers for retail packages of 8-1/2" x 11" labels for drums. For an order form/use agreement, contact the National Honey Board, 421 21st Avenue, Suite 203, Longmont, CO 80501, Attn: Export Director.

The National Honey Board export logo is approved for use on exports only and all honey must be 100% U.S. honey.

NEW AD CAMPAIGN HEATS UP

The honey industry's familiar, lovable squeeze bear will add a playful twist to an age-old tactic — smear campaigns. Featured in the National Honey Board's new advertising campaign, the bear asserts, "I was limited to English muffins for years but it was nothing but a giant smear campaign." Once confined to the back of the cupboard until tea time or dessert time, the squeeze bear and honey have moved to the forefront of the food world.

Squeeze bear is a well-known, friendly symbol for honey. In a nationwide survey, homemakers said "... the first thing I think of with honey is the bear . I know it's honey and that's what I know I want to reach for " The ad featuring the squeeze bear encourages consumers to reach for honey not only as a topping or sweetener for tea, but also as an ingredient in cooking and baking.

Traditional values are experiencing a renaissance and cooking with honey is one of those traditions. The new National Honey Board ad showcases traditional honey uses along with some new ways ... from honey glazed carrots to Korean Honey Marinade.

The advertisement will be complemented by releases sent to the food editors of the nation's major newspapers.

The National Honey Board is letting your customers know, "it's time for Honey."

RECIPE CONTEST NEWS

The February issue of *Woman's Day* magazine included a honey recipe contest announcement and entry rules. Deadline for entry was March 30, 1990. Recipes were reviewed; selection of 53 semi-finalists was made; 20 of the 53 were tested; and 14 finalist recommendations were sent to *Woman's Day* for final testing. The three top winners were chosen. Affidavits have gone out to those winners for signature. The remaining 50 of the 53 will receive awards of merit (stuffed honey bear) along with a congratulations letter after the three top winners have signed the affidavits. The February 1991 issue of *Woman's Day* will announce the three top winners and feature their recipes. After the magazine is on the stands, a press release will go out to the newspapers nationwide making the same announcement.

Total entries received by deadline: 3,598.

HOW DANGEROUS ARE HONEY BEES? NOT VERY!

Death Rates in the U.S. from Various Diseases, Accidents and Unusual Causes, including honey bees.

Cause	Number of Deaths/year	% of total deaths
All causes	2,086,440	100
Cardiovascular disease	977,700	46.9
Cancer	461,400	22.1
Smoking	**150,000**	**7.8**
Alcohol	100,000	5.2
Motor vehicle accidents	45,901	2.2
Suicide	29,453	1.4
Murder	19,628	.9
Radon gas	13,000	.62
Pedestrian-vehicle	7,641	.37
Drowning	4,407	.21
Home fires	3,964	.19
Asthma	3,880	.18
Poisonings	3,612	.17
Fire arm accidents	**1,649**	**.079**
Freezing	1,010	.48
Electrical accidents	802	.039
Slips & falls while walking	404	.019
Penicillin allergy	300	.016
Horse & other animal riding	108	.0051
Animal bites (dogs, etc.)	101	.0048
Lightning	85	.0041
Sports injuries	42	.0021
Insect stings (all)	41	.0019
Honey bees stings	**17**	**.0008**

Source: Vital Statistics of the United States, courtesy Dr. Justin Schmidt, USDA ARS Tucson, AZ.

IL Beekeepers Honor Local Hero

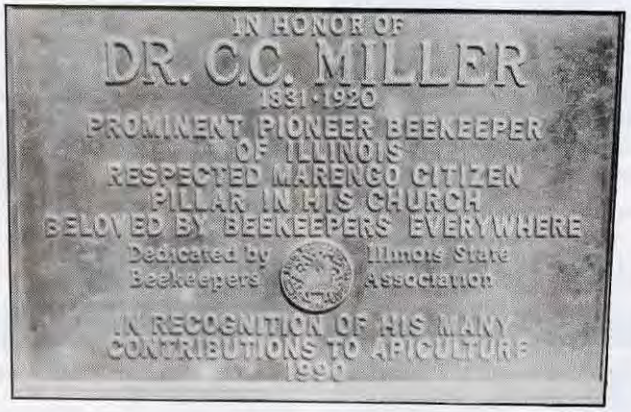
C.C. MILLER DEDICATION PLAQUE CEREMONY IN MARENGO, IL

Dedication of the Dr. C. C. Miller memorial took place on September 2, in Calvin Spencer Park, in Marengo, Illinois. The event marked the climax of a project that had been in progress for more than a year by the Illinois State Beekeepers' Association.

Lloyd A. Lindenfelser, president, Illinois State Beekeepers' Association, Tremont, Illinois gave the following address.

We are here today to dedicate a memorial to Dr. Charles C. Miller who, in his time, was well known among the beekeepers of Illinois, the U.S. and indeed the world over.

Dr. Miller lived the better part of his life here in Marengo. Although he has been gone from our midst now 70 years, his memory still lingers, not only among beekeepers who know of him through his



many helpful discoveries and inspiring writings, but among area residents as a citizen of gilt-edged reputation, and current members of his church for his abiding faith in God, and his untiring work in the Lord's vineyard.

Two years following Dr. Miller's death, a group of area beekeepers dedicated the Miller Memorial Library in Madison, Wisconsin. The next day the same group traveled to Marengo to unveil a bronze tablet to his honor in his church, the First Presbyterian Church. The memorial at the University of Wisconsin, of course, is outside of Illinois, and the one in the Marengo church is inside a building where it is normally seen by only a relatively small sector of the public. For these reasons, it seemed appropriate to erect an additional memorial in Illinois, in a place where it might be viewed by the lay public. We are pleased that the people of Marengo have provided a spot here in Calvin Spencer Park where the memorial might be erected as a tribute to this remarkable person.

We are glad for each of you has come to enjoy this occasion, and to be a part of the dedication of this memorial as a lasting tribute to Dr. Miller.

Charles Lorence, Jack Genot, Lloyrd Lindenfelser, Richard Baker

CANOLA PICKS UP IN S.E. WITH NEW CONTRACT

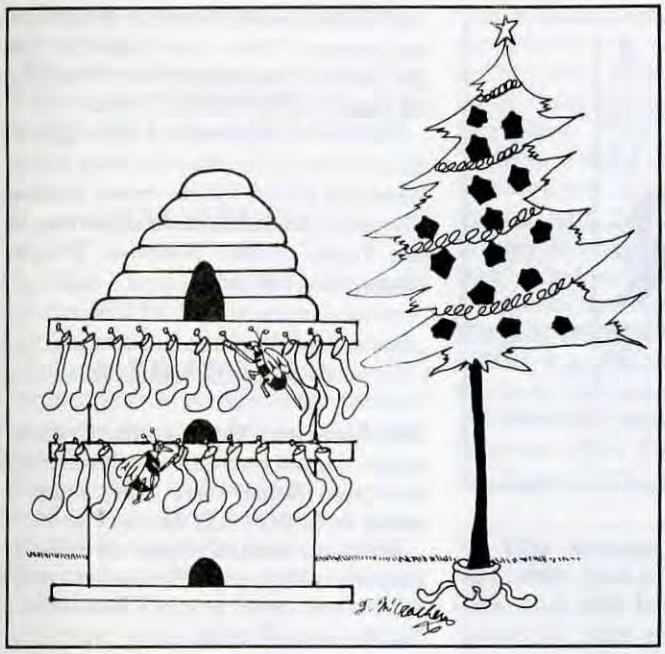
Southeast U.S. canola growers will reap big benefits this year from an exciting new canola marketing arrangement between Allelix Crop Technologies Inc., a leading biotech seed company, Frito-Lay, Inc., the snack food manufacturer and marketer, and ADM, a major worldwide oilseed crusher, refiner and supplier to the processed foods industry.

The agreement calls for growers to produce several thousand bushels of canola and will provide a guaranteed price for their canola until this contract is fulfilled. "We are bringing the market to the grower," says Bruce Magee, Vice President of Allelix Crop Technologies Inc. "We are offering a competitive contract that protects the grower from low market prices. In addition, we at Allelix will supply our experienced agronomic support and the best canola varieties in the business," said Magee.

The contracts will be tied to the use of Allelix seed varieties and the contracted canola will be crushed at ADM's facility in Augusta GA. Southeast growers can buy Allelix canola seed from Agra Tech Seeds Inc. and deliver their harvested canola to ADM and Gold Kist elevators. Frito-Lay Inc. will use this contracted canola in tests on some of its well known snack foods and on a new product scheduled to be nationally distributed early in 1991. Growers will be able to sign contracts at ADM elevators and Gold Kist elevators in the southeast that have been authorized to offer these contracts.

Mr. Bob Meismer, of ADM's Augusta facility, said that "this contract will encourage domestic production of canola which will reduce dependency on imported canola, which is in the best interest of U.S. growers."

Frito-Lay has been leading the way in the food industry in the research and development of new proprietary High Oleic Canola varieties with Allelix. "This contract will attract when we are ready to produce the new High Oleic Canolas," said Don Sullins, Manager of Raw Materials for Frito-Lay.



FARM BILL PASSES, BUT ASCS THROWS A NEW WRENCH IN THE WORKS

The 1990 Farm Bill has been approved by Congress, including a honey loan price support program substantially the same as the current program, except with lowered rates and limitations.

Under the conference-adopted program, honey will be supported at 53.8 cents per pound for the 1991-1995 crop years. However, a 1% assessment will be levied on the loans, reducing the effective loan rate to 53.262 cents per pound.

In addition, the current twin limitations of $250,000 on marketing loan (buy-back) gains and forfeitures will be reduced in stages: 1991 crop $200,000; 1992 crop — $175,000; 1993 crop — $150,000; and 1994 and subsequent crops — $125,000.

In late October, the ASCS office raised the buy-back price from $0.38 to $0.44 — a six cent increase. What this means is that when your honey is 'sold' to the government, you will receive the support amount dictated by the new farm bill. Now, if you wish to 'buy-back' your honey from the government, you must pay them $0.44/lb. rather than $0.38/lb.

Also included in the 1990 Farm Bill are several amendments to the National Honey Board's legislation, including a provision to allow a referendum in 1991 on the issue of assessment refunds.

3¢/LB. CANADIANS GET PAYMENT

Canadian beekeepers registered in a federal-provincial price stabilization program are to receive a payment of 1.78 cents a pound for honey produced between June 1, 1989 and May 31, 1990.

An interim payment of three cents a pound was made earlier this year on eligible honey marketed between the 1989 support price of 51.25 cents a pound and the market price of 46.47 cents a pound.

Some 692 honey producers in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Nova Scotia and New Brunswick will receive payment on 51.8 million pounds of honey totalling C$2.475 million from the two allocations.

The National Tripartite Stabilization Program, as it's known, was established by federal-provincial agreement to stabilize returns to producers during periods of low market prices. Producers and both levels of government contribute equally to the fund.

HOW SWEET IT IS

The 1991 Orange County Fair will salute bees and the honey industry under the guise of "How Sweet It Is!" The theme was approved by the board of directors during their August meeting.

Dates for the 1991 fair in Costa Mesa were also set at the monthly meeting and will be July 17-28. The 99th annual Orange County Fair will pay tribute to a good friend of California crops, the honey bee. Honey bees are responsible for the cross-pollination of several major U.S. crops such as almonds, avocados, prunes, kiwis and alfalfa seed.

In addition, the nectar gathered by the honey bee will be honored. California honey, including spun, comb and chunk will be showcased through exhibits, contests and educational demonstrations.

Serving as mascot next year will be "Buzz", a costumed yellow and black striped bee making pre-fair appearances at schools, community events, libraries and the fair's Centennial Farm. The mascot will also be a daily celebrity during the annual run.

SUGAR PICTURE CHANGES

Starting in October, a tariff-rate quota replaced the absolute import quota system that has regulated U.S. sugar imports since 1982. The tariff-rate quota will allow a fixed amount of sugar into the country at a relatively low duty (0.625 cents a pound), and additional imports at a much higher duty (an additional 16 cents a pound). The tariff-rate quota allows the U.S. to comply with GATT rules as interpreted by a GATT panel in 1989.

On September 14, USDA announced that 1.9 million short tons of sugar, raw value, could be imported at the lower duty level between October 1, 1990 and September 30, 1991. This represents an estimated 8% drop from sugar imports under the old system during the past 12 months.

USDA's current U.S. sugar production forecast for fiscal 1991 is 6.5 million short tons, raw value, down 115,000 tons from a year earlier. Production shortfalls in Louisiana and lower-than-expected beet sugar production in Minnesota and North Dakota are the reasons for the downturn.

U.S. sugar use is expected to rise 1.2% during fiscal 1991 due to population and income growth. Sugar use, which declined during the early 1980's, has generally risen since 1985.

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Winter Thoughts

RICHARD DALBY

Strange to stand here in my apiary on a winter afternoon. Sun far southward in the sky. The air cold and inhospitable. Fence posts throwing long shadows. My hives mere lumps in a landscape frozen in snow. No sweet singing of birds. No warmth from the distant sun. No bee, no single bee, to be seen. Just the white silence of winter.

It's hard to imagine now how this very spot looked just a few months ago, when the world was green and warm. When my hives were piled high with supers. When the air was alive with robins and doves and meadowlarks. And the wonderful hum of thousands of bees flying to and from field and orchard.

I'm glad I can look ahead. I know this cold, silent landscape is a sort of passing mirage. That under the frigid fields of snow, life lies protected and ready, needing only the warmth of spring to burgeon up out of the ground. Then what a sight there will be! Willows hung with catkins. Dandelions spreading like molten gold along the sides of roads. Apple trees an explosion of pink, all humming with bees on a warm afternoon.

My spirits are buoyed by such thoughts. And I am warmed, too, by the knowledge that already, in the heart of the winter cluster, the queen has begun to lay again. Just a few eggs to start with. No more than the bees, under adverse conditions, can now care for. But begun to lay she has. And, as winter wanes and the days become longer and warmer, she will steadily enlarge the brood area. By the time the first spring pollen becomes available (around the middle of March in my area) there will be a whole new contingent of bees to carry on the expanding activities of their hive. Brood rearing will shift into high gear as spring's familiar rhythms reassert themselves.

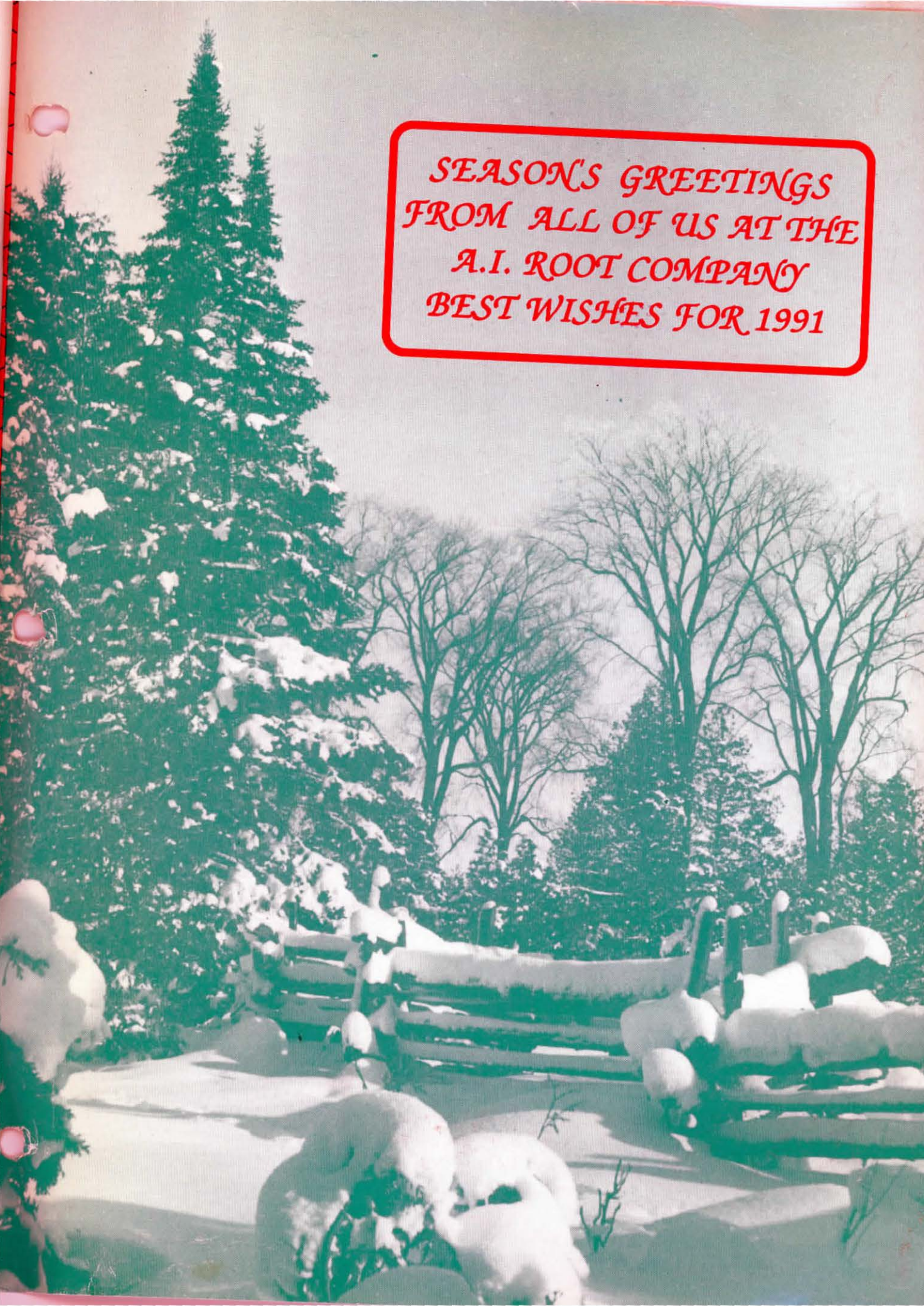
Spring. Then I can try out that new queen rearing scheme I just read about. Make some splits. Ready my supers. Maybe even start an outyard. Just thinking about such things makes winter seem the shorter.

But for now it is still winter. A fact made clear by the nip in the air as the sun drops swiftly and blue shadows lengthen. Well, no problem with that. My bees went into winter with two full-depth supers heavy with honey. They have plenty of provisions — to winter well and to raise lots of new bees next spring. I believe in the Taylor Principle. Leave the bees plenty of honey. They'll more than pay you back for the generosity. Leave the bees more than enough honey. That honey will — come spring — fly out of your hives in the form of new bees. It's one of the cornerstones of good beekeeping. I'd hate to have to worry, on a chill afternoon such as this, whether those hives buried under the snow have enough honey to make it till spring.

But I don't worry for I know they do. A good thing, too, since spring seems rather distant as the last rays of the setting sun fade away. Winter still has the stage. And it must play out its allotted part. But for all its bad weather, winter can't keep me from dreaming. Any more than it can keep my bees from steadily preparing for another certain spring.

So I'll leave my bees buried safely under the snow. I'll go home, stoke up the fire and settle in and read the bee journal that came this morning. And I'll look forward a few weeks, when spring will be at winter's heels. □

BOTTOM·BOARD


SEASON'S GREETINGS
FROM ALL OF US AT THE
A.I. ROOT COMPANY
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