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The starkness of autumn; yet life goes on within the old log bee gum, waiting to emerge again when the time is right.

NOTES FROM THE BEEYARD

by Mark Bruner

OCTOBER THOUGHTS ABOUT BEARDS, BEES AND WHATNOT

Well, let's get the less than pleasant stuff out of the way to begin with. As of press time, a fourth Africanized Bee colony was destroyed: the most recent colony being a commercial one voluntarily reported by beekeeper, Charles Brewer, 38, of Bakersfield, California. The hive, which was established from a wild colony, was 25 miles southeast of the quarantine zone and additional sampling is now being done in the vicinity. Interestingly, the aggressive colony produced a good surplus of honey. Hopes are still high that the spread of Africanized bees in California can be stopped and all existing colonies of that type eradicated.

In other news, it's nice to see another beekeeping publication on the market. *BETTER BEEKEEPING* edited and published by Pat Radloff, is a new bi-monthly newsletter that promises to offer some innovative approaches to providing beekeeping information. We've had many dealings with Pat in the past and know her to be a very creative person; gifted in the area of graphic design, and a very intensely involved, well-informed beekeeper. We hope you'll consider her newsletter as an addition to your ongoing libraries. For additional information please see her advertisement on page 530 of this issue.

Speaking of news, I'd like to echo an invitation voiced by editor, Joe Graham, in the most recent issue of *American Bee Journal,* in which he calls for readers to share successes and good news. Certainly, as he suggests, in these times of uncertainty we could all benefit from a reflection of the fact that, despite a handful of current difficulties, beekeeping remains an activity of boundless possibilities, rewarding experiences and successes of all varieties. I would like to add that all three journals, I'm sure, would be particularily interested in marketing successes. All of us have been running articles on this subject as of late, and it seems unlikely that we can ever overemphasize the fact that the solution to almost every problem we face as a domestic industry is related, in some way, to innventive promotion and marketing of hive products.

There seems to have been quite a bi-partisan backlash to President Reagan's unwillingness to grant protection relief to the domestic shoe industry which, as with the U.S. honey industry, has been greatly affected by inexpensive foreign imports. From what we understand, in both the Senate and House, sentiment is running high for protectionary measures. This could certainly help insure the future of the honey loan/price support system which is claimed by many U.S. producers as the sole reason they can remain in business. In the past we have suggested that, perhaps, government protection only inhibits our commercial producers from doing the creative marketing they should have been doing all along. Certainly, it makes sense that all businesspersons should be accountable for their own success or failure. Equally as certain, though, is the fact that many U.S. businesses have been competing, in a free market sense, against foreign business interests that are not playing with the same set of rules: many are protected by their governments through tariffs and subsidies. In part, our industry has suffered greatly this year from the uncertainty of politics. It would be nice to have that behind us, and although I still have serious reservations about how healthy, in the long term, government protection is, it's gratifying that domestic producers will probably not be dropped out into the cold and might benefit, instead, from a more gradual phase-out of government support -- thereby giving everyone time to adjust, readjust and prepare for a strong, prosperous future.

As I was extracting honey the other day, I began musing about a statement made, some time back, by our friend Steve Taber from Vacaville, California. Steve cast a few doubts on the wisdom of doing bee beards. That's a subject that's rolled around in my mind almost every month since taking this job with *GLEANINGS.* We certainly have published our share of bee beard photos and, in fact, carry an article this month about the new world's record holder. I guess I understand why beekeepers put on bee beards: it's a sure way of attracting public attention, and perhaps it does demonstrate that bees can be managed safely. Still, I've always had nagging doubts about all of this. As Steve points out, it only takes one sting for a person to lose eyesight or hearing. It's one thing, I suppose, to have a veteran beekeeper take such risks, but I've seen a good many novices and nonbeekeepers put on a bee beard just for the thrill of being able to say they did it. With all the adverse publicity about bees, I'd just as soon not hear about somebody being blinded while engaging in an activity that

really is outside the realm of standard beekeeping management. Furthermore, the whole concept of doing bee beards seems, to me, slightly outlandish. Does it actually perpetuate the notion that beekeeping and beekeepers are slightly odd and practice a bizarre craft that few can understand or appreciate? Do bee beards often encourage people to take up beekeeping, or do they just tend to gather crowds that say: *"Ick! Look at that! How can anybody do that?"* Perhaps, although not as startling, we'd be better served by taking our time with more mainstream educational promotion of our activities. I'd rather convert one person to the beauty of beekeeping by showing that beauty and value in a sensical way, than to do circus type routines to entertain a dozen folks, none of whom are likely to see enough normalacy in the act to become one of the faithful. Just a thought. Don't get all huffy at me. Do as many bee beards as you want, please just think of the potential liabilities.

The Monthly Honey Report

Wholesale Extracted — **Reporting Regions**

Sales of extracted, unprocessed honey to Packers, F.O.B. Producer. Containers Exchanged	1	2	3	4	5	6	7	8	9
60 lbs. (per can) White	45.00	42.00	52.00	34.50	42.00	40.00	38.00	36.00	42.50
60 lbs. (per can) Amber	42.00	40.00	42.00	32.40	33.00	35.00	30.30	34.50	37.80
55 gal. drum (per lb.) White	.52	.55	.52	.59	.64	.55	.55	.60	.58
55 gal. drum (per lb.) Amber		.52	.42	.54	.53	.52	.50	.57	.54
Case lots — Wholesale									
1 lb. jar (case of 24)	28.50	24.00	23.75	20.40	25.00	24.00	25.00	25.40	25.20
2 lb. jar (case of 12)	27.50	24.00	22.75	20.16	26.20	24.00	21.50	25.24	
5 lb. jar (case of 6)	30.00	28.50	23.95	24.90	28.50	24.00	21.50	25.24	24.60
Retail Honey Prices									
½ lb.	.90	.90	.75	.99	.90	.90	.85	.90	.89
12 oz. Squeeze Bottle	1.50	1.25	1.29	1.09	1.25	1.35	1.35	1.29	1.19
1 lb.	1.50	1.40	1.35	1.19	1.50	1.55	1.52	1.50	1.40
2 lb.	2.70	2.60	2.45	2.50	2.50	2.60	3.00	3.19	
2½ lb.	3.75				3.55	3.25	3.50	3.59	
3 lb.	4.00	3.75	3.15	3.44	4.60	3.85	4.00	4.00	3.40
4 lb.	5.00	4.95		4.40	4.98	4.90	5.00	5.00	
5 lb.	6.00	6.00	5.25	5.50	5.75	5.80	5.90	5.90	5.25
1 lb. Creamed		1.75	1.45	1.40		1.39	1.50	1.55	1.40
1 lb. Comb	2.25	2.25	2.25		2.00	1.85	2.00	1.80	
Round Plastic Comb	1.50	1.75	1.85				1.75	1.65	1.75
Beeswax (Light)	1.35	1.35	1.10	1.40	1.25	1.25	1.17	1.15	1.50
Beeswax (Dark)	1.20	1.15	1.05	1.25	1.12	1.10	1.10	1.10	1.25
Pollination Fee (Ave. Per Colony)	28.50	20.00	27.50	15.00	20.00	21.00	27.00	18.00	25.00

REGION 1

Good nectar flows in July and August were a big help this season. Average crops may go over 100-125 lbs. The best in many years. For the most part insecticide problems have been cut in half. It seems the new regulations have done some good after all. Applicators don't wish any further restrictions so they're being very careful. Beekeepers must be alert to make sure applicators don't go back to their old ways. Local beekeepers fear that some states are not checking for mites. The claim that, "NO MITES WERE FOUND" could mean that no samples have been checked. Some reports of chalkbrood, new to Connecticut. Hive ventilation seems to help.

REGION 2

A heavy honey flow in July — mostly honeydew. Dark and strong flavor — t bees in very good condition for fall low from goldenrod. (If we have good weather). Honey sales very poor in comparison to past years. Approximately 50% off.

Very dry in our immediate area. Goldenrod flow has not started as yet. No light honey in his immediate area.

Bees maintained their honey stores during August with little or no build-up of surplus honey. Slow build-up in June attributed to smaller honey crops this year. Comb honey continues to sell good.

REGION 3

Fair crops in Illinois. Honey good quality. Soybeans did not yield as well this year. Honey low in moisture. Beekeepers hoping for a fair fall flow to offset feeding.

Southern & Western Indiana crop spotty and generally poor. North Central and Northeastern Indiana has a good crop of quality honey. With agriculture in financial trouble some of us are having problems with collecting or rental of bees. Some seasonal increase in sales at lower prices. In our sales booth at the Indiana State Beekeepers Fair the number one question is about 'Killer Bees'.

Some parts of S.E.Wisconsin are having very good crops. We hear the best in 20 years.

REGION 4

Unusually wet for this time of year. Summer flow very light. Good moisture for fall plants. Retail sales slow. Government commodities affecting local sales. Bees in good shape.

Parts of Missouri have been very dry with a poor nectar flow and other parts have had excessive rainfall all summer with many days unsatisfactory for bee flight. Both conditions have reduced honey production. High moisture areas should be able to supply adequate winter stores from abundant fall flowers if the weather permits foraging flights. Cheap imports are probably affecting domestic grocery sales, but sales of local honey are nearly normal for late summer with customers giving a strong preference to local honey. Customers seem more concerned with adulteration of grocery store honey than the fact that it may be imported honey. **Continued on next page**

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Region 4 Continued

Honey flow has been nearly over since August 20. The bees have been picking up a little from 3rd crop of alfalfa. We're having rain, clouds, cool weather the last week or so. Most beekeepers are pleased with their yields — having 100 lb. averages. Producer/packers are finding it harder to compete with bottlers who are using Canadian honey which is good quality and cheap.

Missouri has had an excellent honey crop in most areas. Rainfall came in late July and August so the bees are foraging well. Late soybeans in southeastern Missouri is helping. Sweet clover is still in bloom, looks real good for the fall flow. Honey sales average.

We are witnessing the growing use of synthetic methyl-pyrethroids such as pydrin to control seed weevil in sunflowers which is where we get popped the worst usually. This is encouraging. Methyl Parathion is still the chemical of choice however, and we have the heavy field force losses to prove it.

Our honey crops could have been average if we had some decent weather in late August, after these good rains, but daytime highs have not met averages for two weeks. Most beekeepers have not begun cleanup yet. . . a lot are holding out for a late flow. My experience has been that we only end up later getting cleaned up with no more honey produced.

REGION 5

The tulip poplar flow was a complete failure in our area. Some areas of the state made some while the Piedmont and Eastern part just didn't bloom due to cold weather. The sourwoods in Virginia did produce some light honey, however, it's only a small crop, compared to the last few years. Honey at retail store very slow.

Very unusual year in Wake Forest, NC. Some hives have honey stores, other require heavy feeding. None have any surplus. Recent rains have been good and fall aster flow is predicted to be above average.

REGION 6

August temperatures have been cooler than normal. First half of month was very dry followed by sufficient rains. Surplus flow ended by mid-month. Beekeeepers are reporting crops averages in the 50-70 lb. range. Fall honey plants should be helped by recent rains and some surplus is expected over a limited area. Honey sales are unchanged but fewer beekeepers will use the CCC program.

REGION 7

Heavy honey crop this year. Very dry and hot temperatures around 100°F. No rain since June. Broom weed starting to bloom for fall honey flow. Heavy comb built up through middle of August. Honey sales slow due to government give-away program.

Texas beekeepers have harvested excellent crop of honey this year. Conditions are currently very dry throughout most of the state. Movement of domestic honey is seasonally very slow. Prices paid for domestic honey is approximately .5 cents per lb., less than last years prices. Excellent quality white honey is being offered delivered from Mexico at .38 cents per pound. Commercial beekeepers are extremely pessimistic. Recent conversation with migratory beekeepers in North Dakota and Kansas reflect crop failure there and the prospect of many beekeepers going broke this year. Texas Health Dept. has raised annual fees for food processors and producers to $100 per year. This will significantly impact any hobbyist in the state. They must either pay the $100 or sell their honey in violation of the law. There sure seems to be a lot of discouraging words where the deer and the antelope play!

REGION 8

A very good honey flow in this area. Honey light and mild flavored. Sales have been a little slow but expect them to pick up when we get a little cooler weather. Bees are in good condition. With prospects of a fair to good fall honey flow. We are above average on rainfall in this area at this time. Honey prices range from $2.95 a quart to $6.00 a quart. Some are afraid they can't sell their product and are practically giving it away.

Honey sales remain steady. Sporadic rains may affect flows in September and October.
Rain came to parched Montana in early August. It helped revive fields and nectar plants. Extreme drought areas need five inches more rain, severe areas need three inches more and moderate areas need two inches more. Montana's central and northeastern areas are still in extreme drought conditions. Lack of enough rain will cause honey production to fall way below average. Recent rains brought some smiles and fall nectar plants may help provide food for winter. Spraying for grasshoppers kept beekeepers moving colonies.

REGION 9

Rainfall has been so short, we did not get a blackberry flow in our area and honey crops will be less than I'd hoped for, considering how well the spring went! Honey sales seem fairly steady (as far as my personal honey is concerned). Some large producers have run honey specials at retail that is nearly wholesale for us small operators (producers, packers). I am fairly sure some of it contains imports although it is rarely listed.

The worst honey crop in Washington in a long time. In north central Washington, the bees just barely made enough for winter stores. There were lots of hives that didn't even make winter stores. Lots of feeding will need to be done this fall. Very dry. Honey sales good. Demand for honey is high because nobody in this area has any this year. Lots of beekeepers concerned about moving there bees to California this winter for almonds because of mite quarantine and the recently discovered swarms of African bees.

Africanized bee find in Lost Hills, California has gotten many beekeepers upset. Beekeepers in adjacent areas believe all bees in quarantined areas should be destroyed to prevent spreading of Africans. Beekeepers in Santa Cruz report heavy flow this spring from eucalyptus. Some swarms still occuring in Central Coastal California by August 20. Central Coast bees are low in stores. Feeding will be necessary. Buckwheat, toyon berry, and blue curl were flops.

The Solitary Beekeeper — Part II

Beekeeping Technology

By DR. JAMES TEW
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Last month (Gleanings, September, 1985) I breifly discussed some of the factors that a beekeeper working alone would face. I stated then that nothing was intended to be new ideas — just some beekeeping thoughts.

I'm not a macho man, but I'm not particularly "spooky" either. I prefer the term "sensibly nervous". At 2:00 a.m. on several occasions I have been sensibly nervous. I know that many beekeepers prefer to move colonies early in the morning. I don't. I suppose my subconscious thoughts are that if I have problems, I still have all night to correct them. On some occasions, I've needed all night to correct things, too. A yard always has a look of wholesomeness during the day. The colonies are all up on blocks, the grass is neatly cut. Everything seems to be in harmony.

Often it becomes necessary to move colonies. That same scenic yard takes on the weirdness of distorted shadows and unseen obstacles at night. I become sensibly nervous. "What if I get stuck here?" "Are the lights weakening my truck battery too much?" "Do I really care if these colonies get moved?" All manner of questions race across my mind as I work alone. At least in most of Ohio I don't have to worry about poisonous snakes. In my home state of Alabama I had more than a passing concern about what was in and around those bee hives besides bees. I have walked into places in Alabama and Florida at night that I would never walk into during the day and simply because I could see that I was being stupid.

A parting thought — beekeepers working alone at night can, on a moment's notice, develop super-human strength. At times when I've been stuck or had hives tip over or whatever, there's no one there but you. There's no one to send for help or no one to help you for that matter. You're on your own. Observation: A solitary beekeeper working colonies can expect loneliness to occur at times.

Some Thoughts On Protective Equipment

I don't misuse protective equipment, but I don't try to develop a long-lasting personal relationship with it either. It probably took several thousand stings to formulate this bit of experience. If something needs repairing, then repair it. If something is really in need of repair, then throw it away. I want to have total confidence in my veil, gloves and bee suit. I feel that I've wasted more Saturday mornings with a hive totally open while I was some distance away, desperately beating myself about my shins or trying to chase a bee that had gotten inside my veil. As a sideline solitary beekeeper, I don't have time to invest in such adventures. I suppose that one should try to go to a bee yard well protected, do what needs to be done, and leave.

In other articles in this column, I've referred to the uncanny ability of smokers to burn just long enough to get me into serious trouble and then to find that my smoker has gone out. I've decided that this systematic occurance justifies an over-reaction on my part. When I fire off my smoker, I allow a blaze to flame up that if I'm not careful, could easily take off my eye brows. This is not as important if the fuel is straw, grass clippings or something that readily burns, but it's burlap, wood shavings, peanut shells, cow dung or anything that is hard to start, the coals that develop in the bottom of the smoker seem to make it more dependable once the going gets rough.

Bees in flight have only limited response, if any, to smoke that is applied away from the hive. Once the bees leave the hive to attack, there is little merit in trying to smoke them as they attack. By most beekeeping standards, I use too much smoke on the average hive. Once again, I'm usually pushed for time. I've got other yards to work. I try to hit colonies hard with smoke, do what I have to do, and close them up. I don't have gentle bees. I don't dislike gentle bees; I just don't own any.

(Continued on next page)

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My Truck — the only true beekeeping friend I have

My pick-up and I are growing old together. A heavy duty 3/4 ton and few luxuries probably describe it well enough. I have a cap for it that I rarely use. In the past, I've tried to climb all over bee blowers, hive parts, "Igloo" coolers, smoker fuel containers, and other such important stuff all the while wearing a bee suit, veil, gloves and accompanied by an angry escort of bees only to find that whatever I was searching for was not there. I was doing all this in a 3½ foot crawl space. I took the cap off the back of my truck. Now everything gets rained on but it's easily available from three sides of the truck. I suppose I should admit that, as convenient as it is, my truck, loaded with all my "important stuff" is not really a pretty sight outside a "McDonalds" Restaurant somewhere. (At least that's what my wife tells me.)

Productive Ways To Talk To Yourself

I don't think I talk to myself when I'm in the middle of a colony manipulation. But there's no reason why I couldn't I suppose. After all, with angry bees everywhere, you can be assured that I'm the only one around. I use a hand-held cassette recorder contained in a plastic bag to record the more sane comments I may have as I work alone. Equipment I should bring next time, a note to myself about a particularly good queen, disease problems and whatever can easily be recorded for review at a more convenient time.

I almost feel a need to end with a disclaimer. I know all beekeepers have particular habits and procedures that are unique to them. That's fine. It's one of the characteristics of beekeepers. Nothing I've written should be necessarily considered as the most correct procedure. It's just a assemblage of procedures and thoughts I've evolved while trying to work too many colonies alone on Saturday mornings. □

Bee Talk

By RICHARD TAYLOR
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I've had a lot of dumb ideas in the 50 or so years since I started keeping bees. For several years, back in the fifties, when I was getting really serious about bees, I kept records of all my ideas as they occurred to me, to make sure I wouldn't forget them before trying them out. These records eventually filled two note books, and most of the ideas turned out to be useless brainstorms. This year I suddenly got, and tried out, another new idea, and it proved to be one of the stupidest ever. But I also confirmed one of those rare ideas of mine that turns out to be really good. So what I want to do is talk about this brilliant idea, that actually turned out to be provably good. Like any other beekeeper, I do not mind boasting. But in order not to jeopardize my great reputation for modesty, which I so thoroughly deserve, I'm also going to describe my latest dumb idea. And I'll do that first.

The idea was this. My colonies are all one and a half stories, that is, one full-depth hive body plus a shallow super. My comb honey supers go on top of that one-and-a-half story hive. So my idea was to put the shallow story on the bottom with the queen, a queen excluder on that, then two or three comb honey supers, then a double screen with entrance to the rear, then the full depth story on top of that. All the field bees would go to the shallow story on the bottom and start filling the comb honey supers. I would requeen the full-depth story on top. And after about three weeks I would re-unite the two parts of the original hive, re-establishing the original story-and-a-half colony, with the supers over that, having the customary arrangement. By doing all this, I thought, my colony would probably get requeened, the younger of the two queens being the likely survivor, the colony would be terribly strong, having been a few weeks a two-queen colony, and it would not be likely to swarm. This idea seemed to me so brilliant that I practically leaped from my chair contemplating its many advantages. I sent off at once for six queens, and, when they came, put the idea into practice with six colonies.

What happened? The bees became demoralized by all my fooling around. The bottom shallow part of the divided colony did not become nearly as populous as I had anticipated. But worst of all, I ended up the season with several supers of comb honey that were loaded with pollen! Those sections are practically worthless. I've been offering them to my customers for their great nutritional value, but at half price. They are a real headache. I had not taken into account the fact that, if there is not a good layer of honey between the brood nest and supers, then pollen is apt to get into the supers. The problem was exacerbated by the fact that the brood nest was in this case so shallow. So I concluded, once again, that sometimes the less you meddle with the bees, letting them do things more or less their own way, the better off they will be, and the better off the beekeeper will be too.

Now, what about my good idea? I've boasted of it before, but it was strikingly confirmed this year. It is a very simple idea. Namely, do not harvest the late summer and fall honey, but leave it for the bees, so the hives will be heavy as lead in the fall, and still heavy in the spring and, most important, absolutely bursting with bees in the spring. That simple idea is now everywhere (?) referred to as "the Taylor Principle," and I fear some readers may feel that they have long since heard enough about it from me.

How was it confirmed this year? Well, the August *American Bee Journal*, in its regular "World Honey Market," quoted a New York reporter thus: "Over the past 30 years I have seen years when the main flow started late. However, I have never had a spring where I fed all colonies after April 15. We are **still** feeding the average colony 10 pounds every two weeks."

That was part of the generally gloomy assessment of conditions this spring in the part of the country where I live. And *Gleanings*, the same month, in its "Monthly Honey Report," carried a similar description of conditions around here. Their New York reporter was quoted as saying: "Not much of a nectar flow during the month of June. Bees seem to be maintaining with little or no surplus noted." And as I talked with my beekeeper friends, I got the same picture. Not much honey coming in even into July. Quite a bit of winter loss. Lots of feeding of sugar syrup in the spring. And so on.

And my bees? No winter loss at all. Every colony still heavy with honey and (more important) packed with bees in April, bees ready and eager to gather nectar from the earliest spring sources. No feeding whatsoever — I regard the routine feeding of sugar syrup to be the mark of an incompetent beekeeper.

And what was the result of this simple principle? I got quite a good crop of comb honey from the **fruit bloom**, while other beekeepers were struggling to get their colonies built up. I was harvesting honey in May. And then when the regular summer flows began, I got the largest crop of comb honey that I have ever had and am still, in August, having a hard time keeping up with the bees.

Now I go to my yards and I am beginning to smell the first hints of goldenrod. In previous years this would have sent me scurrying to get supers on the hives, to catch the fall flow. But instead, I look at my hives, most of them with all the supers off now, only a story and a half high. The honey that is still to come will stay with the bees. It is my investment against next year's crop. And if this year proves anything— and it seems to me that it has proved a lot— that honey left in the hives is about as good an investment as I could possibly make. Already I am dreaming of spring, and of hives that are heavy and bursting with bees and with energy, ready, perhaps, to make me a crop of honey even greater than this year's.□

[Questions are welcomed. Please be brief, and enclose a stamped addressed envelope].

Research Review

By DR. ROGER A. MORSE
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Changes In Apple Orchard Management

In recent years several beekeepers with apiaries in the fruit belt along the southern edge of Lake Ontario in New York State have been experiencing severe losses because of pesticides. The losses have been taking place in July, and to a lesser extent in August. A decade or more ago losses at that time of the year were unheard of.

Recently I had a talk with Richard Norton, Senior Extension Specialist in Horticultural Sciences at the Cornell University Agricultural Experiment Station in Geneva, NY. He has had over 30 years of experience working with apple and other fruit growers in New York State. Most of his time has been spent in the Lake Ontario fruit belt where much fresh market and processing fruit is grown.

It has been learned in recent years that mowing orchards, and keeping the grass in them short, increases the size of the fruit tree. The reason is simply that more water and nutrients are available for the trees when the grass is short. Unfortunately, mowing orchards, at least in the northeastern states, encourages the growth of clovers. The results is that when the apple trees are sprayed with insecticides the clover on the orchard floor is contaminated and bees foraging on the clover are killed. At present apple growers are applying about 12 sprays a year to control insects and diseases.

We have had considerable experience with pesticides and honeybees in the United States and are aware that bees are killed only when their food sources are contaminated. This usually means the nectar and pollen plants on which they are foraging but contaminated water sources can also give difficulty. It is an interesting fact that one can apply an airspray or ground spray directly over colonies and unless some enters the hive through the entrance none of the bees are killed or harmed.

I also learned from Norton that the ideal ground cover for orchards is not clover. What is preferred is a mixture of fescue and perennial ryegrass. Red fescue is rapidly becoming a favorite orchard ground cover especially among growers in western New York State. It is low and slow growing and does not root deeply; it therefore does not rob the trees of water and nutrients. Growers that mow their orchard but do not use the proper plants for ground cover do not gain maximum benefit from this new practice. Last year when I visited some orchards in the fruit belt I found bees working on five different nectar and pollen plants under trees in mowed orchards on about the first of August. This included three clovers. Obviously these growers were not following the recommendations fully.

It is hoped that in the future the pesticide losses that beekeepers have been suffering can be reduced or eliminated by the use of proper insecticides and/or by the proper ground cover.

Is The Tracheal Mite A Serious Problem?

The tracheal mite, *Acarapis woodi*, has caused great anxiety among beekeepers and regulatory agencies probably without good cause says Dr Leslie Bailey, retired pathologist from the Bee Department at the Rothamsted Experiment Station in England. I am inclined to agree. Bailey has more research experience with the tracheal mite than anyone in the world. One of his early papers, in 1958, was concerned with the morality of bees infested with mites. One of his more "famous" papers was entitled "The Isle of Wight Disease: the Origin and Significance of the Myth": this is the common name often given the "disease"

The problem started, according to Bailey, in the early part of this century in England where there were some serious losses of bees, often referred to as paralysis, especially on and in the vicinity of the Isle of Wight. When the tracheal mite was discovered in 1919 it became the scapegoat. Bailey hastened to point out that letters in the English bee journals at the time "do not suggest a national catastrophe" Success in beekeeping was being reported at the same time. Bailey still doubts that the tracheal mite had anything to do with the real problem; he is certainly correct in pointing out that there are no data.

Bailey's research shows that infestation of mites will reduce an adult bee's foraging life by as much as 20%. It is important to point out that this concerns the foraging life, not the whole life of the bee. Also, heavily infested colonies in England may have a slightly higher winter morality. However, "in Britain today this applies to about 5% of colonies" only. Thus, concludes Bailey, at most the honey crop is reduced overall by one per cent or less. Winter losses are smaller still. Bailey firmly believes we can live with the mite. No one, of course, is happy with mites but our job is to put them in proper perspective.

It is suggested by Bailey that the tracheal mite may have been in North America for a great number of years, even "as long as the honeybee has been there". He states that in Europe, where the density of colonies is high and the honey yields quite low, the infestations are highest. "The lowest infestation can be expected among bees kept in circumstances where

they collect most nectar." It is suggested that the earlier searches for the mite in the U.S. and Canada have been too limited. I'm not so sure about that point or the thought that mites have been here as long as bees have been in North America. I think it is generally agreed by a number of persons in the U.S. today that the mites were here for probably at least three to five years before they were discovered. Bailey continues by saying that in accordance with the "myth" we in North America had the mistaken belief that a great catastrophe would take place once the mite arrived here and with that I can agree.

The records that have been kept in England show that mite infestations have declined since about 1925. Bailey believes that the most reasonable explanation for this is the decline in the number of colonies in Britain in that same period of time. A high density of colonies, he says, encourages mites and other contagious pathogens. This thought is certainly in agreement with generally held theories about the transmission and frequency of diseases of men and other animals. In brief, good nectar flows encourage colony development and it is in areas where we have good honey flows that we have the least amount of trouble with disease of all kinds. This observation is not new and has been substanciated by many beekeepers. On average, there is no question that North American honey flows are better than those in Europe; however, some of our areas where bees are kept are marginal insofar as colony survival is concerned.

Bailey points out a disturbing fact. Far more people have spent time seeking a chemical cure for the disease than have spent time studying the biology and pathology of the mite. We are not likely to discover a cure unless we understand the biology of animal thoroughly. No doubt strains of bees resistant to the tracheal mite exist. The obvious, though clearly difficult research that should be undertaken, is to find such genetic strains of bees. Of course, it is also obvious that we need much more study and selection of honeybees for resistance to all diseases.

A copy of Bailey's paper, that is cited below, is available postpaid for $1.10 by writing the International Bee Research Association, Hill House, Gerrards Cross, Bucks, SL9 ONR, U.K.

Reference

Bailey, L.
Acarapis woodi: a modern appraisal.
Bee World 66:99-104, 1985.

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Testing Your Beekeeping Knowledge

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

Even though man has kept and robbed from the labors of the honey bee colony for several thousand years; the honey bee is far from being domesticated. Like all other living organisms, the activities of the colony are regulated by their environment, natural laws, and interactions of the individuals making up the society or species. Insects are a very successful group of animals. Part of their success is due to their ability to quickly adapt to new situations and the tremendous amount of variability present within the various species.

As scientists attempt to learn more about honey bee behavior, it is difficult to determine what influence man has had on their natural instinctive behaviors. As a result, in recent years several studies have shown that honey bees often do things quite differently in the natural setting than what we observe in man's artificial hives. Jokingly, we often say "honey bees survive in spite of us."

In the May 1985 issue of *Gleanings*, question number 5 is an example of how the bee's natural behavior was influenced by man.

Questions: Worker and drone-size cells slope slightly downward toward the mid-rib of the comb.

Answer: True — workers and drone cells slope slightly upward, at 9° to 14° angles. This slope undoubtedly helps to keep material from falling out of the cells.

While this is true when colonies build comb from wax foundation provided by man, research by Steve Taber and others have shown that this is not true in nature. When bees are allowed to build comb naturally, the first cells will have an upward slant and this will continue until the comb is about 8 inches long and 8 inches wide. The cells on the outer edges of the comb will have no slant at all and by the time the comb is about 12 inches deep and 12 inches wide, new cells on the bottom edge will actually slope downward.

Take a few minutes and answer the following questions to find out how well you understand bee behavior and general beekeeping. The first 7 questions are true and false. Place a T in front of the statement if entirely true and an F if any part of the statement is incorrect. (Each question is worth 1 point).

1._____ Having colonies headed up by queens with their wings clipped will prevent swarming.

2._____ Any fertilized egg laid by the queen is capable of becoming a queen.

3._____ Foragers collecting nectar usually complete their foraging trip much more quickly than those collecting pollen.

4._____ Sugars found in honey have greater sweetening power than cane sugar.

5._____ Brand melters are used to reliquify containers of crystallized honey.

6._____ Honey fermentation is caused by osmophilic yeasts that occur naturally in honey.

7._____ The proventriculus or honey stopper is capable of straining American foulbrood spores from the honey stomach of adult bees.

Multiple Choice (1 point each)

8._____ The amount of honey produced annually in the United States is approximately _____ million pounds.

A) 100-150 B) 700-750 C) 400-450 D) 200-250 E) 500-550

9._____ Africanized bees were first introduced into Brazil in:

A) 1950 B) 1956 C) 1962 D) 1967 E) 1970

10. What is implied by the phrase "raw honey" on the honey label? (2 points)

11. Name the four developmental stages in the life cycle of a honey bee. (4 points)

12. What two factors determine "division of labor" within the honey bee colony? (2 points)

13. What does the presence of new, white beeswax at the edge of the opening of a "queen cup mean? (1 point)

14. "Bee space" is defined as an opening that is between 1/4 and 3/8 of an inch wide. Please explain what bees do if an opening is less than 1/4 inch or greater than 3/8 inch. (Question is worth 2 points).

Answers on next page

1. False Clipping the queen's wings is done to prevent her from leaving the colony with a swarm. This practice, however, does not prevent a colony from swarming. Since the clipped queen is unable to fly, the swarm cluster quickly senses her absence and returns to the hives. As soon as a new virgin queen emerges, the colony swarms.

2.True Any fertilized egg laid by a queen is capable of becoming a queen; whether an egg develops into a queen or a worker depends upon the food received during its larval life.

3. False The time necessary for collecting either a load of nectar or pollen is highly variable. Pollen-collecting trips are usually completed much more quickly than nectar collecting trips.

4.True Honey sugars have approximately 25% greater sweetening power than cane sugar. One pound of honey containing approximately 17% water is equivalent to about 0.95 lb. (15.25 oz.) granulated sugar. A tablespoon of honey contains approximately 62 calories and a tablespoon of sugar 50 calories.

5. False Brand melters are used for the purpose of separating cappings and honey during the extraction process. The honey cappings fall onto coils heated with hot water or steam. As they melt, they slip into the tank below the coils. Since beeswax is lighter than honey, it rises and the melted wax remains in contact with the heating coils.

When the melting unit is full, honey is continuously baffled off the bottom and beeswax runs from the top into forms where it hardens.

6.True All unheated honey contains a group of osmophilic yeasts that cause fermentation when conditions allow them to grow and reproduce. These yeasts occur naturally in nectar, on the bodies of bees, in apiary soil, in honey houses, and on honey-extracting equipment.

7.True The proventriculus or honey stopper is a valve located between the honey stomach and true stomach of the honey bee. This valve regulates the flow of food into the stomach, filters out particulate matter (pollen grains, American foulbrood spores, etc.) while retaining the nectar in the honey stomach. It also prevents any substances from entering the honey stomach from the midgut. This insures the continued purity of the nectar.

8. D (200-250 million pounds)

9. B (1956)

10. Liquid honey that has not been filtered (limited straining) or heated above 95° to 100°F.

11. Egg, larva, pupa, adult or imago

12. Age of the worker bee/Needs of the colony

13. The presence of fresh white beeswax at the edge of the queen cup is an indication of crowding and the colony is close to making preparations for swarming.

14. Openings less than 1/4 inch are filled with propolis. Those greater than 3/8 inch are filled with burr comb.

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

Number of points Correct

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

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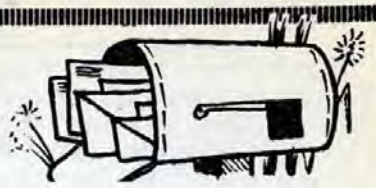

Dear Editor:

The article on allergic reactions and primatene mist by Charles Abramson (Gleanings, August 1985, p. 402) helps to generate an awareness of the problem of allergy to bee stings and provides food for thought relating to its treatment. The author in making his point concerning the potential usefulness of epinephrine nebulizers (e.g. Primatene) did not stress the importance of injected epinephrine in serious cases. Although epinephrine nebulizers may be of some benefit in the progression to serious life-threatening reactions sufficiently well to be recommended.

Ever since 1925 when an insect sting reaction was controlled with epinephrine, the only recommended and confirmed method of stopping severe analpylactic reactions is injection of aqueous epinephrine (Barclay, 1978; Gottlieb, 1979; Golden and Valentine, 1981; Valentine, 1982; Riches, 1982; Yunginger, 1985). Inhalation of epinephrine "may afford some of the systemic effects to persons unwillingor unable to use a syringe and needle" (Valentine, 1978) and for "those who suffer mild symptoms such as a minor chest wheeze or an irritating skin rach, an inhalation of adrenaline [=epinephrine] acid tartrate by aerosol should be given by subcutaneous injectins. . . " (Riches, 1982). As illustrated above, inhaled epinephrine can be of some help, but it is by no mens the method of choice. It may alleviate upper airway edema, but inhaled epinephrine is not absorbed in sufficient quantity to abort systemic reactions (Reisman, 1983).

Allergic reactions should be viewed from two perspectives: 1) the risk of actual death occurring, and 2) the psychological aspects — fear, morbidity, etc. (see Schmidt, 1983 for more discussion). If one is concerned about the profound physical effects of the reactions and the potential threat to actual life, the use of injectable epinephrine (Epi Pen, Ana-Kit) is definitely indicated; inhalation of ephinephrine is not recommended in its place. If the main concerns are not preservation of "life-and-limb", but rather are personal comfort, economy, and alleviation of fear, then epinephrine mists could be helpful (especially if the person feels better possessing the inhaler). But remember, one should see an allergist if hypersensitivity is suspected and do not count on epinephrine mist to save your life, for that injection is preferable.

Jacob L. Pinnas, MD
Allergy and Immunology
Dept. of Internal Medicine
Arizona Health Sciences Center
University of Arizona
Tucson, A 85721

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Dear Editor:

I would like to establish correspondence with anyone who has information, research or useful application of propolis.

At this time I have Murat's book, *Propolis.* All other published research I could find is written in Russian.

It appears that propolis is a powerful antiseptic and antifungal agent.

The possible applications of this are endless. I am open for any comments and suggestions as well as above.

Stephen Dieringer
RT 1, Box 125-C
Montrose, W.V. 26283

Dear Editor:

J.E. Carter's concern about spreading disease in a club extractor on page 352 of the July issue should not be dismissed casually. Mr. Hornitzky in the *Australian Beekeeper* for October 1984 claims this is one of the best methods to spread AFB with 24,300,000 spores per gram in honey from infected hives. It would be useful to reprint this excellent comprehensive article.

Toge S.K. Johansson
R.D. 1, Box 256A
East Berne, NY 12059

Dear Editor:

Since the appearance of "Allergic Reactions and Primatene Mist" I have received several letters one of which from Mr. S.L. Kagan M.D. is especially important. The following is a sample of Mr. Kagen's letter:

> *"The uninformed reader of your article might conclude that the use of Primatene Mist might save someone's life during a major allergic reaction to an insect sting . . . "*

It was not my intention to advocate the "overthrow" of the traditional and laboratory tested methods of alleviating symptoms of major allergic reactions produced by bee stings. Rather (and I should have made this clear in the original note) I advocate the use of Primatene Mist as a supplement to traditional methods. I am an individual who works with bees and who recently went into shock so quickly that I did not have the "presence of mind" to use the available shot-it. After being taken to the local clinic it was suggested that I could use Primatene Mist in such a situation. I found this information important enough, at least in my case, that it warranted dissemination. Mr. Kagen further pointed out in his letter that,

> *. . . as a consequence of your article published in "Gleanings In Bee Culture", someone may experience premature death."*

It is not my purpose of course, to pass along information which would cause someone's death. On the contrary, as an individual who considers himself to have been close to death I feel somewhat more confident that the next time I suffer the debilitating symptoms associated with bee stings that I would have a least the "presence of mind" to use Primatene Mist, and therefore buy time which will enable me to reach a shot-kit. Furthermore, what is one to do morally when faced with seeing a systemic reaction of an individual who a) is without a shot-kit or b) did not know that he or she was allergic to bee venom? Personally I would not inject someone with my shot-kit. I would however, consider using non-prescription Primatene Mist and then hope that professional help would arrive in time.

Obviously it is not my intention to kill anybody. It is my opinion that each individual consult his or her physician bout the advantages and disadvantages of Primatene Mist. I would like to thank Mr. Kagen for considering "Primatene Mist . . . ." important enough to add to his contribution and pass along his suggestion that interested readers can acquire the brochure, available from the Asthema and Allergy Foundation of America, entitled "Insect Stings". I would also like to note that H.R.C. Riches excellent article which I referred to in "Primatene Mist . . . " was published in 1982 not 1983.

Charles I. Abramson
University of Hawaii
1993 East-West Road
Honolulu, Hawaii 96822

Dear Editor:

In carefully reading your September issue of *Gleanings* I note on page 491 a picture of a familiar hive and a request for information regarding it. I do not have access to any bee libraries or other sources of information except my memory. In the very early twenties or late teens of this century, I was working for Dadant & Sons, Inc., and ran across some hives that fit this description. I was told that these were the American hive. My thought was that these were fashioned to resemble the brood next of the bee in nature, being as near spherical as possible. As it would not be practical to have a spherical hive, the nearet approach would be a cube which this hive provides. This is nearest approach to the natural brood nest.

I remember putting foundation in these hives but they were used only a short time. The comb size of this hive is only slightly smaller than the ten frame Langstroth hive. The advantage of the sphere is lost when another brood chamber is added.

Carroll Swanson
P.O. Box 8
Polson, Montana 59860-0008

HIVE COSMETICS

by CONNIE KROCHMAL 119 Bell Rd. Asheville, NC 28805

Most beekeepers have noticed that honey softens their skin, especially when they are extracting honey from the frames. This may well be how it first became known that honey and bee pollen soften and moisture the skin. The first recorded use of beeswax for cosmetics we know of was by the ancient Egyptians and Romans who used it as a hair dressing by adding plant perfume to the wax, shaping it into tiny balls and placing them in the hair during styling; then as the day grew warmer the wax melted and conditioned the hair. Hive cosmetics have become widely popular in Europe in the past several years. We first noticed this growing interest in Romania in 1979.

Honey is used to soften and moisturize the skin; and also as a cleanser. It is also believed by some people that honey has a healing effect on skin infections, such as blackheads and pimples. It can be used to treat these by applying to the spot, allowing it to set for several minutes, and then rinsing off with witch-hazel or alcohol. Bee pollen is also believed to play a role in the healing of skin infections and blemishes. It has been claimed that the use of bee pollen and honey on the hair and scalp may actually promote the growth of new, healthy hair.

Honey contains a number of nutrients, including vitamins, minerals, and amino acids, which are beneficial to the skin and hair; bee pollen also contains these same nutrients but in different quantities and ratios.

Although pure honey is sticky by itself, it loses this quality when it is mixed with other ingredients.

As these hive cosmetics do not contain preservatives they will often need to be refrigerated just as you would any other perishable natural substance.

Beeswax is flammable so be careful when melting it over a double boiler, using the same caution as when melting paraffin wax for jelly-making.

By making your own hive cosmetics you can eliminate any ingredients present in the commercial ones which you are allergic too, and use only natural materials. They make wonderful gifts, and are relatively inexpensive.

Honey Hand Lotion

½ cup Vaseline petroleum jelly

2 tablespoons honey

3 tablespoons glycerin

1 tablespoon liquid lecithin

Melt the petroleum jelly over a double boiler. Add the remaining ingredients and heat for several minutes until the mixture is smooth and well mixed. Makes about 3/4 cup.

Honey-Rosewater Hand Lotion

1 tablespoon Irish moss

1/4 cup rosewater

1/4 cup honey

1/2 cup water

1/3 cup glycerin

Combine the water and Irish moss, and simmer over low heat until the mixture is thick about 10 minutes. Strain the mixture to remove the Irish moss. Combine the strained liquid with the remaing ingredients. Makes about one cup.

Beeswax Hand Cream

1/4 cup beeswax

1/4 cup almond oil

1/4 cup honey

1 tablespoon bee pollen

1/4 cup Vaseline petroleum jelly

1/4 cup glycerin

2 tablespoons liquid lecithin

Melt the beeswax and petroleum jelly together over a double boiler. Add the remaing ingredients and heat for 4 to 5 mintues until the mixture is smooth and heated. Pour into a container while still hot since it will harden as it cools. Makes about 1¼ cups.

Materials needed, other than hive products, are readily available at drug stores and health stores.

Beeswax-Coconut Hand Cream

1/4 cup beeswax

3 tablespoons baby oil

1/4 cup coconut oil

1/3 cup glycerin

Melt the beeswax and coconut oil over a double boiler. Add the remaining ingredients and heat until mixture is smooth, for about 4 to 5 minutes. Pour into a container while still hot since it will harden as it cools. Makes about 1 cup.

Bee Pollen Hand Cream

1/2 cup petroleum jelly

1/2 cup glycerin

1/3 cup beeswax

2 tablespoons bee pollen

Melt the petroleum jelly and beeswax over a double boiler. Add the glycerin and heat for several minutes until the mixture is smooth and well heated. Add the bee pollen and pour into a container while still hot since the mixture does harden as it cools. Makes about 1¼ cups.

(Continued on next page)

Materials used are inexpensive: a double boiler can be made using two old kitchen pots.

Beeswax-Almond Hand Cream

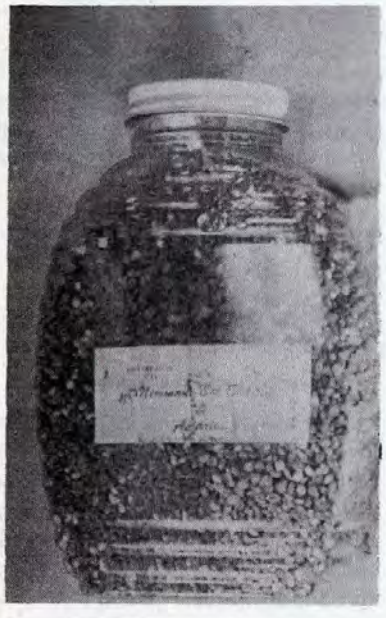
1/4 cup beeswax

1/2 cup almond oil

1/2 cup coconut oil

1/4 cup rosewater

Melt the beeswax and coconut oil over a double boiler. Add the remaining ingredients and heat until well mixed, several minutes. Pour into a container while still hot since it does harden as it cools. Makes about 1½ cups.



One of the basic hive products in cosmetics: pollen.

Beeswax Cold Cream

1/3 cup beeswax

1/4 cup glycerin

1 tablespoon liquid lecithin

1/4 cup baby oil

1/4 cup almond oil

1 tablespoon bee pollen

Melt the beeswax over a double boiler. Add the remaining ingredients and heat for several minutes until well mixed. Pour into containers while still hot since it will harden as it cools. Makes about 1½ cups.

Honey Cold Cream for Dry Skin

1/4 cup honey

1/4 cup vegetable shortening

1 tablespoon ground almonds

1 teaspoon liquid lecithin

2 tablespoons bee pollen

1 egg yolk, at room temperature

1 teaspoon rosewater or cologne water

Combine all ingredients and mix well. This cream has a slightly grainy and oily texture, and in addition to using as a cold cream, it can be used for sunburn and for applying as a conditioner to the hands before doing outside work, such as gardening. Makes about 3/4 cup.

Honey Cleansing Cream

1/4 cup honey

1 tablespoon liquid soap

1/2 cup glycerin

Place the ingredients in a screw-top jar, cover and shake well. Makes about 3/4 cup.

Honey Cleansing Lotion

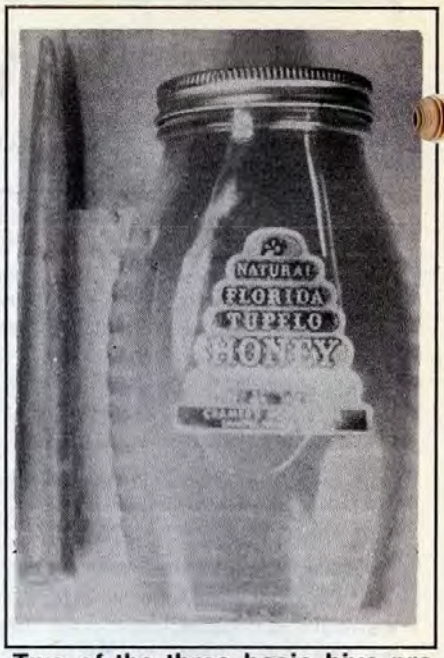
1/2 cup hot water

1 tablespoon bee pollen

1½ teaspoons unflavored gelatin

1/4 cup honey

Soften the gelatin in the water for several minutes. Then dissolve the gelatin mixture over low heat for 5 to 7 minutes, until the mixture is clear. Add the remaining ingredients. Makes about 1 cup.



Two of the three basic hive products is cosmetics: wax and honey.

Honey-Rosewater Cleansing Lotion

1/4 cup honey

1 tablespoon bee pollen

1/4 cup rosewater

2 teaspoons liquid soap

Combine the ingredients in a screw-top jar. Cover and shake well. Makes about 1/2 cup.

Honey-Oatmeal Face Mask

3 tablespoons honey

1/4 cup oatmeal, ground fine

1 tablespoon bee pollen

1 tablespoon beaten egg, buttermilk, heavy cream or sour cream, optional

Combine the ingredients and mix until smooth. Apply to the freshly washed face, and let set on the skin for 10 to 15 minutes. Rinse off. Makes enough for 1 application.

Honey-Avocado Face Mask

2 tablespoons honey

2 tablespoons dry buttermilk powder

1/4 avocado, medium size, mashed

Combine the ingredients and stir until smooth. Cucumber puree may be substituted for the avocado, using 1/4 cup puree. Avocado is good for dry skin, while cucumber is better for oily skin. Makes enough for 1 application.

Honey Protein Face Mask

1 tablespoon honey

1/2 teaspooon lemon juice or cider vinegar

1 tablespoon bee pollen

1/2 teaspoon wheat germ oil or glycerin

1 egg white, at room temperature (1 small whole egg may be substituted)

Combine the honey, pollen, and lemon juice. Mix well until the honey softens. Add the remaining ingredients. Makes enough for 1 application.

Honey Face Mask for Oily Skin

4 tablespoons honey

1/4 cup finey chopped parsley

Combine the ingredients and stir until smooth. Makes enough for 1 application.

Honey Face Scrub

2 tablespoons bee pollen

1/2 cup honey

1 tablespoon liquid lecithin

1/4 cup ech of almonds, walnuts, oatmeal, whole wheat flour, corn meal

1 tablespoon rose water

1/4 cup water

Combine all the dry ingredients. Add the honey, rose water, and liquid lecithin. Stir until smooth, and add in enough of the water to make a smooth paste. Makes about 2 cups.

Honey Hand Cleanser

2 tablespoons honey

1 tablespoon liquid soap

1/4 cup almond or walnut oil

Combine the ingredients and mix until smooth. Makes about 1/3 cup.

Soapless Hand Cleanser

2 tablespoons honey

2 tablespoons vegetable oil

1 tablespoon oatmeal or ground almonds

1 tablespoon glycerin

2 tablespoons witch hazel

Combine the ingredients and mix until smooth. This may be used to remove dirt from the hands and fingernails, and is less drying on the skin than soap and water. Makes enough for 1 application.

Beeswax Lip Balm

2 tablespoons beeswax

1 tablespoon coconut oil

Melt the ingredients over a double boiler. Pour into a container while still hot since it will harden as it cools. Makes about 1/4 cup.

Honey Egg Shampoo

1/4 cup honey

2 tablespoons liquid soap

2 tablespoons water

1 tablespoon witch hazel

1 large egg, at room temperature

1 tablespoon wheat germ oil or almond oil

1 tablespoon rosewater or cologne

Place all the ingredients in a screw-top jar, cover and shake well. Makes about 2/3 cup.

Honey-Pollen Shampoo

1/4 cup honey

1/2 cup glycerin

1 tablespoon witch hazel

1/4 cup orange flower water or cologne

2 tablespoons bee pollen

1 teaspoon liquid soap

1 tablespoon alcohol

Place the ingredients in a screw-top jar, cover and shake well. Makes about 1¼ cups.

Honey-Milk Conditioner For Oily Hair

1/3 cup hot water

1/4 cup glycerin

2 tablespoons liquid lecithin

1/4 cup sage

1/4 cup honey

2 tablespoons dry buttermilk powder

Combine the hot water and sage, and let set for 10 minutes. Strain the liquid, and discard the sage. Add the remaining ingredients to the strained liquid, and mix well. Apply to freshly shampooed hair, let set on hair for about 2 minutes and rinse off with warm water. Makes about 1/2 cup.

Honey-Herbal Hair Conditioner

1/4 cup honey

1/4 cup glycerin

1/4 cup sage, and 1/2 cup dried chamomile flowers

OR

1/2 cup nettle leaves and 1/4 cup rosemary leaves

1/2 cup witch hazel

1 tablespoon liquid lecithin

Place all the ingredients in a screw-top jar. Shake well and let set for 1 hour. Strain to remove herbs, discard the herbs and pour the liquid back into the jar. Makes about 1/2 cup.

Honey Treatment for Very Dry Damaged Hair

3 tablespoons honey

1 tablespoon olive oil

Stir for a minute or so until the mixture is smooth. Apply to freshly shampooed hair, and let soak in for 10-12 minutes. Rinse off with warm water. Makes enough for 1 application.

Blond Hair Highlighter

1/2 cup water

1/4 cup honey

1 tablespoon Irish moss

1/4 cup molasses

Soak the Irish moss in the water for 5 minutes. Then simmer for several minutes over low heat unitl the mixture is thick. Add the remaining ingredients. Apply to freshly shampooed hair and let soak for 3-5 minutes. Then rinse off with warm water. Makes about 1 cup, enough for two applications.□

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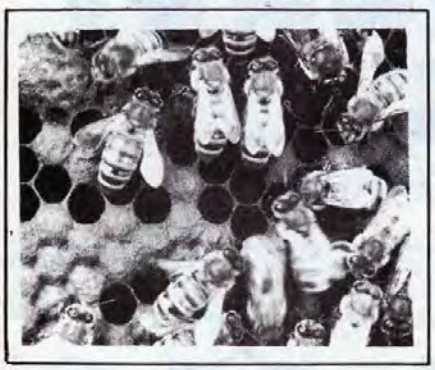

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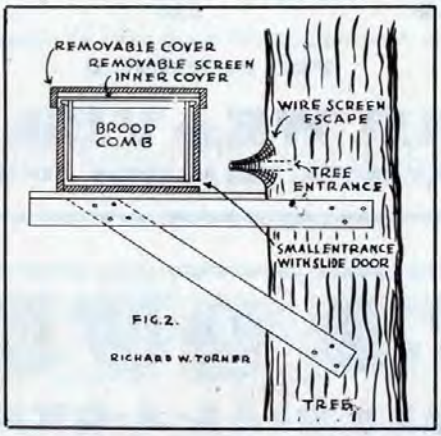

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BOOK REVIEW

The Illustrated Encyclopedia of Beekeeping, ed. by Roger Morse and Ted Hooper. New York: E.P. Dutton, Inc. 432 pp., $35.00

This large and comprehensive volume is a monumental contribution to the literature of apiculture. It is profusely illustrated with black and white photographs and drawings and, in addition, with color photographs of a quality and beauty seldom matched. Most of the articles are written by the two editors themselves. The other forty-six contributors are identified by their initials and separately listed. There is a good index and glossary, and the extensive list of picture credits is an indication of the thoroughness with which the editors have done their job.

The orientation of this book is in the broad sense scientific and factual, without being technical. It sets forth what is known about honey bees and the basic facts concerning their husbandry, rather than being a practical manual of beekeeping. The separate articles are for the most part fairly brief. Thus, while there is much information about honey, for example, rather little is said about how to extract, strain and bottle it. The article on comb honey is brief, and virtually nothing is said about the methods of producing it. The articles on wax moths are similarly adequate to the basic knowledge of this universal pest of beekeepers, but not much is said about the various methods of coping with it. Honey extractors and the history of the development of this machine are dealt with, but not much is said about the problems a practical beekeeper encounters in the honey house when he undertakes to produce extracted honey. These things are noted here, not to suggest shortcoming, but rather to illustrate the factual rather than practical emphasis that the editors have sought. It is an encyclopedia, not a manual. It is also not mere compilation or reference work. It is a source of delightful, even casual reading.

It seems certain that this work, with many editors yet to come, will be with us for a long time, to be a reliable and comprehensive source of knowledge for anyone interested in honey bees. Most of the articles, especially those by the editors themselves, are clear and well-written. There are some oversights in the book, and a few strange inclusions and exclusions. For example, there is no entry for Francois Huber, the Swiss naturalist who probably contributed more to the scientific understanding of honey bees than any other single person before him or since, while a few extremely obscure representatives of the craft are at least briefly dealt with.

In these days of sometimes staggering prices one cannot fail to note, finally, and to appreciate, the very reasonable price the publisher has put upon this magnificent book.

— *Richard Taylor*

QUEEN REARING — BIOLOGICAL BASIS AND TECHNICAL INSTRUCTION
Dr. F. Ruttner, Ed.
Apimondia Monographs (under the direction of Dr. Eng. V. Harnaj)
Apimondia Publishing House, Bucharest, 1983. 358 pp.

"QUEEN REARING — BIOLOGICAL BASIS AND TECHNICAL INSTRUCTION" is being distributed by the International Bee Research Association. The book was originally published in German as "Koniginnensucht Biologische Grundlagen und Technische Anleitungen" and was distributed by Dela!Verlag for Deutsche Imkerbund. The foreward is by Dr. Engl. V. Harnaj while the Preface is by Dr. F. Ruttner.

The text is divided into eleven chapters each authored by an eminent European authority. A summary of results or a bibliography follows most of the chapters.

CHAPTER I — The Events Which Take Place During the Natural Replacement of the Queen in a Colony of Bees — *F. Ruttner.*

CHAPTER II — Royal Jelly — *H. Rembold.*

CHAPTER III — Female Caste Development in the Bee Colony — *K. Weiss.*

CHAPTER IV — Rearing Queens in the Laboratory — *Gisela Hanser.*

CHAPTER V — The Influence of Rearing Conditions on Queen Development — *K. Weiss.*

CHAPTER VI — Preparing the Graft — *K. Weiss.*

CHAPTER VII — Reliable Rearing Methods — *H. and F. Ruttner.*

CHAPTER VIII — Maintaining Queens During the Mating Period — *H. Ruttner.*

CHAPTER IX — Transport and Introduction (Eggs, Cells, and Queens) — *H. Ruttner.*

CHAPTER X — Rearing and Care of Drones — *F. Ruttner.*

CHAPTER XI — Diseases and Abnormalities of Queens Bees — *W. Fyg.*

As indicated by the chapter topics, the book is a complete treatise ont he procedures used to produce queen bees. I found the information to be interesting and forthright. Statements such as "Transferring eggs from worker cells into queen cups will always remain a hopeless undertaking. Eggs are so delicate and fragile, that very high losses must be expected even when the greatest care is exercised" give and indication of the directness of the information presented. Many other topics are discussed in detail such as appropriate larval ages, the practicality of double grafting and cell cup requirements to name a few.

I liked the book. I found it's physical size, the paper quality, and the author and subject indices; when combined with the direct and practical information culminated in an excellent source of information on queen production. Some of the Photographic reproductions are somewhat lacking, but that's a minor point. This text would be an excellent addition to the library of a beekeeper that had an advanced interest in honey bee queen production.

— Jim Tew

BEE BOASTING

by MAUREEN D. SUTTON 1020 W. Morgantown Rd. Southern Pines, NC 28387

I have a resume which I'll use when the kids get a little older. Under hobbies are listed writing, pastel and oil artwork, and beekeeping. Why beekeeping?

I've examined my motives toward this pastime, one that many consider dangerous and not just a bit bizarre. I love honey, I hate the supermarket prices, I like to cook with it and sell it and give it to friends, and I genuinely admire the little critters who make it. Foremost, though, it is my inexplicable need to do something that most women and many men won't do, feeling somehow that beekeeping expands my identity.

I started with a night course at a technical college and, for $45, bought my first hive, filled with a second-hand mild-mannered colony of three-banded Italians right off the slopes near Asheville. I say mild-mannered, for my husband, Bob, and I robbed them that June without a single sting, most probably a case of blind, beginners' luck. Based upon such a fluke, I told everyone who would listen, "Oh yes, we know all about beekeeping."

We have friends in Reidsville who, at the time, had bought some acreage which had two colonies living on it. Roger and Kay helped complete our social circle when my first husband and I were still together and, with admirable aplomb, have remained friendly with all parties. Knowing Roger to be a beer-swilling, swarthy, muscular dude who is nevertheless quite frightened of bees, I let fly my mouth, and out came, "Oh yes, WE know all about it" blah-blah-blah, thereby involving Bob in the ensuing fiasco.

So the next hot, July weekend we drove to Reidsville, armed with maximal naivete and minimal equipment. Leaving Kay at the house with two toddlers, one theirs, the other ours, at high noon Roger drove us in his battered pick-up to the beeyard where I donned my new, white, JC Penny coveralls, my bee veil, my white tennies, my gloves and, to be on the safe side, pulled my tube socks up over the coverall bottoms. At this point, I was overheated but quite confident and grinned at Roger, roasting in the cab of his truck with every window airtight. Bob, with even more bravado, wore just a white shirt with his jeans, gloves, and veil. Since we hadn't yet purchased one, we didn't figure we'd need a smoker.

Roger carefully drove us behind a hedgerow about the height and width of the Queen Mary where we calmly approached the hives. These bees hadn't seen nor smelled a human since God knows when and were quite "hot". They immediately started ramming into our veils, wondering who the hell we were. Raw fear began to trickle in my veins, but there watching from behind the vapored glass, was Roger, who would report my bravery and expertise to my ex. And here, even more vulnerable than I, was my husband, willing to help in the cock-eye venture.

I pried the lid off the first colony and began pulling out frames, checking for honey. My clumsy attempts were met with a deafening buzz of anger, and within seconds, our cloth gloves were covered with avanging beasties, one of them popping Bob about an inch northeast of his Texas belt buckle. He sensibly backed off, shouting, "They're all yours, Babe." In the meantime the hellions had zeroed in on the navy blue bands around the tops of my socks. About 45 electrode-equippped jackhammers sat down on these bands, and now my brain was lathered over with a sickening ooze of sweat, pain and fear.

But was there ever a driving force much stronger than false pride? I hung in there, performing what I called beekeeping and came away with both honey supers. Bob, muttering about Hell-fires and fuzzy bears' asses, helped me load them, about 40 pounds each, onto the pick-up bed. I slapped the lids back on the hives at a crazy angle, and Roger, looking like a hosed-down spaniel, started the truck up the tricky dirt path.

Since our equipment included neither blower nor fume board, each honey super was loaded with bees, so we yelled at Roger to "git on it!" while we , still fully costumed, tried to steady the up-ended supers and ourselves the six miles back to his house, hoping the wind would blow the critters out. Bees terrorized a good fraction of Rockingham County motorists that afternoon, and we still arrived in Kay's backyard with a gracious-plenty crazed insects.

The sticky hand-squeezing of eighteen sticky quarts of honey while two sticky babies howled for more sticky licks, the return of the ravaged supers to the infuriated, abused colonies, the rest of the day becomes blurry to me. That night I chilled and fevered my way through crawly dreams and awoke with swollen jaw and knuckles and a temporary case of elephantitis from the knee down.

Through trial and error and the assistance of several of the area's fine beekeepers, we've learned a little in the past few years and now keep four hives which I treat with a gigantic respect. I own boots, a smoker, cowhide gloves, fume boards, several books on beekeeping and a negligible amount of scar tissue. That episode was perhaps the classic on how NOT to rob bees; I say perhaps, because Roger now does his own. He and a couple of other zanies get thoroughly liquored and, sometime after midnight, arrive at the hives, looking and smelling like Klansmen. The next day they somehow have honey, but no one remembers where the truck is. I'm sorry to leave the noble insects to such tender ministrations, but I've got my own trigger-tempered babies to look after!□

Wintering The Honeybee Colony: Part V Factors and Strategies for Survival

by T.S.K. JOHANSSON and M.P. JOHANSSON
R.D. 1 Box 256A East Berne, NY 12059

Package Bees

Many commercial beekepers in the Northcentral states and Western Canada avoided winter problems by killing their colonies in the fall, and establishing packages trucked in from California and Texas in the spring. An enthusiastic case for package bees, besides enjoying a pleasant holiday in California, was made by K.E. Baines[133]. Research published between 1935-1950, however, showed overwintered colonies had advantages over packages: increased honey production, faster buildup for pollination and avoidance of the 20%-30% failure of package queens[134].

In Alberta, Maurice Cliche and his father had experimented sufficiently by 1957 to decide that overwintering was a less costly alternative to using packages[135]. From less than 1,000 colonies in 1969, 65% of the beekeepers in Saskatchewan overwintered their colonies in 1984/85. The return per hive in 1982 was $29.62 compared to $16.48 for packages, a difference of $13.14. Including depreciation costs, the difference was $9.81 ($15.52/$5.71)[136].

This trend toward self-reliance in Canada is further encouraged by investigations in British Columbia showing a profit of $45-$50 per colony when 2-4 pound packages were shaken compared to $28-$36 for colonies used for honey production alone[137]. Although queens cannot be produced in the early spring for lack of sufficient drones, it is possible to do so in late spring and summer[138]. Queens can also be imported from New Zealand[139].

Apiary Check

Anyone with hives located in their yard can easily keep alert to what is going on without opening the hive:

(1) Make certain that roofs aren't blown or pushed off. Hives that are not near enough to visit, and have roofs taken off or hives pushed over under mysterious circumstances, are a special problem. An Australian beekeeper suggests using pieces of pipe, joints, flanges, and elbows to secure hive covers firmly from the ground[140].

(2) Check that entrance blocks have not been pushed in (or out) permitting mice to enter.

(3) Record occasions when bees have defecation flights, and when they are able to collect water.

(4) Watch for dirty exit holes as evidence of dysentery.

(5) One quick rap on the hive, preferably at night to avoid bees flying out to chill, can provide useful information. A buzzing signals the colony is alive, and a roar might indicate that it is short of stores. It if is very cold, there may be no audible response.

(6) Where there is a top super of straw, a hand placed below the upper layer should detect warmth; especially if brood rearing is under way.

(7) A sheet of aluminum on the floor board can be pulled out to check the state of the colony by taking note of dead bees, cappings, etc. This is not easy to arrange when there is an entance reducer nailed down, or sealed with propolis[141].

(8) If bees carry pollen on the first day of flight, they probably have brood to feed and it can be assumed the queen is functional. Water collection prior to this is another indication that all is probably well.

(9) Hives of dead colonies should be closed to prevent bees from other colonies robbing the honey. It is better to distribute such honey to colonies who may need it. If the apiary cannot be visited, the colonies will all get some of the spoils with the stronger disproportionately more. But if diseased colonies are likely, it is preferable that the beekeeper prevent robbing and check colonies carefully before distributing the honey amongst other colonies.

Essentials for Success

Location. The prime factor should probably be location even though amateurs and hobbyists bitten by "bee fever" usually do not have many options about where to place their hives. Houses in the old sections of cities, towns, villages have relatively large lots, but in newer housing developments finding a place for even once hive can be a puzzle. Those who live in rural areas may have many choices of locations, but of little benefit if they are vulnerable to vandalism. Probably no location will combine all the ideal specifications listed below:

(1) Protect from prevailing winds using natural or contrived windbreaks, even if the hive is packed or wrapped. Colonies on the windward side of quadruple cases were dead or weak.

(2) Avoid drafts (note the pattern of snow drifts).

(3) Face hives south in sunny exposures.

(4) Provide water to avert hostility to bees collecting from neighbor's leaking faucets, swimming pools, etc.

(5) Avoid locations where bees are disturbed by water dripping on the hive, livestock, etc.

(6) Avoid sites continuously wet or lacking air drainage.

Given free choice to move to another state in which to start beekeeping, one could pick from a map showing average honey production in pounds per colony (1962-66 data) as listed below. The United States average between 1913 and 1961 remained approximately 64+ pounds.

Continued on next page

Continued from previous page

0-24 lb. — CT, KY, MA, ME, NC, RI, SC, TN, VA, WV

25-44 — AL, AR, DE, GA, LA, MD, MS, NH, NJ, OK, OR, PA, WA

45-64 — CA, ID, IL, IN, KS, MO, NY, OH, TX, UT, VT, WY

65-84 AZ, CO, FL, MI, MT, NM, NV

84-105 — IA, MN, ND, NE, SD, WI

It is interesting that the highest yielding states also have severe winters. North Dakotan's quip that the cold "keeps the riffraff out". The states in which it seems conditions would be idea, the bees can fly most of the year and potential honey production is invested in producing brood to replace themselves? Bees in the cold northern states put their metabolism on hold during the time that they cluster. There are no free lunches!

While fantasizing optimal locations, a prime requirement is for at least two strategically spaced moderations of winter temperatures that give the bees an opportunity for defecation flights. Then it doesn't matter if they are shut in for five months with -35°F temperatures outside.

Hive size. From our review of literature and 35 years of experience, we would place an appropriate sized hive equal in importance to location. the hive microenvironement is where the colony undertakes to meet the challenges of survival dictated by the external environment. There must be an excess of space to avoid any restraints on the bees' strategy of succeeding by overdoing: Enough combs for sudden floods of nectar and pollen at a time when brood production is also at a peak. Remember that incoming nectar is first placed in cells in and around the brood nest. Field bees must have a fast turn around for efficiency, 1500 or more cells in spit and polished condition are required every day for the queen to lay eggs in, and if there are not masses of pollen around the periphery of the brood nest the eggs cannot be turned into solid slabs of developing brood timed in anticipation of the major nectar flow. A beekeeper who thinks he is able to predict when to give additional space just when bees need it, may require a main frame computer and more information about bee behavior than now available.

Bees. Nobody is going to weigh out 10 pounds of bees to be sure there are 30,000 to last out the winter. We are glad for however many bees are in our colonies, but we have learned from experience that it really does pay "to take winter losses in the fall" as preached by Farrar and his progenitors. At the last inspection in August or early September, any colonies with fewer than 4-5 combs of brood should be united to a medium sized colony. The sooner the union is arranged the better to give bees maximum time to reorganize. Although not preferable, we have united small colonies together. One such "triple merger" is now a large successful colony. The bees decide on the royal succession.

Stores. The single most important cause of loss is the failure to provide colonies with a maximum of 90+ pounds of honey for food during winter confinement, and brood rearing in the spring, until nectar is available. An excess of honey is also important as a sink for heat to buffer temperature swings. A standard 2-story hive with 60-80 pounds of honey weighs 130-150 pounds. A 3-story hive weighing 175-180 pounds would contain 90 pounds of honey. Smaller quantities of honey may require feeding in the spring when poor weather conditions can make this difficult. It is preferable to feed syrup in the fall, as rapidly as possible to avoid stimulating brood rearing. Robbing may necessitate feeding at night. Bees do not collect sugar syrup when nectar is available in appreciable quantities. Sugar, whether syrup or candy, cannot be fed during the winter when bees cannot fly to collect water.

The equivalent of two frames (4-5 comb faces) or 500 square inches of pollen surrounding the brood next is recommended. Adequate pollen, and usually excesses, are collected by colonies in most areas. A shortage can result from shifting frames in the brood nest, or by reducing the brood chambers from three to two hive bodies. If adequate pollen is not available for collection by bees in autumn, 25% trapped disease-free pollen diluted with soybean flour, yeatst, dry milk, etc. can be fed in the spring after their first defectation flight. Such feed is taken if the colony has some pollen in the nest and brood to feed, but they will reduce pollen collection from flowers in proportion to the amount fed. Mechanisms selected for survival are difficult to disrupt.

Colonies build up rapidly on the pollen from early spring flowers, but this may not be an option for commercial operators who require colonies at at optimum population for early nectar flows, or contracted pollination services.

Reduced entrance. Anyone who has had the experience of clearing out a mouse nest from a hive will not forget to reduce hive entrances. An elegant bee entrance guard along the lines of a German device is placed in front of a regular entrance reducer (3 x 1/8" opening) and held in place with two nails. It shuts out direct sunlight, wind, and robbers, but bees can come and go as they please through two right-angle turns[142].

Upper entrance. In outyards or wherever there is danger that the lower entrance can become blocked with dead bees, ice, or packed snow (loose snow is no danger) and go unnoticed, beekeepers usually provide an auger hole midway down, and to one side, of the upper hive body. This serves as a safety valve to prevent suffocation, and ensure an exit for critical defecation flights. It is closed after the first spring check, or after making top nuclei[143].

Even when there is not danger of blocked entrances, beekeepers have considered an upper, or top entrance, important as an outlet for moisture released by the colony. J. Dzierzon was concerned that such moisture was a critical source of water for bees during the winter, and his views seem to be gaining support recently. Stanley seals the top hive body, and uses a ¼ x 1½" middle entrance (between upper and lower hive bodies), which he originally adopted because "the top entrance... doesn't handle the moisture problem"[145]. A mining engineer believes that in mines and hives, a tightly sealed cavity can be ventilated more efficiently and with less energy through a single opening than if air leaks out from other openings[146]. It is possible to "have your cake and it it too" with the automatic ventilator devised by Emil Wundram in 1939, using strips of thermostatic metal set to open an upper entrance at 60°F and it below 60°F[147].

Contradictory theories on the subject of ventilation are not surprising since, unlike temperature, there has not been a method for recording relative humidity in the hive on a continuous basis. This is now possible, but the $1,000 price tag for a single unit is more than most of us care to invest. Research institutions now collecting data will hopefully be able to publish their findings in the near future.

The cluster is able to regulate the relative humidity of the air within its boundaries with precision. If the entrance is reduced to a single bee-space as in Dutch skeps, the bees can fan to exchange sufficient air to reduce the concentrations of carbon dioxide and moisture to required levels. Left to their own proclivities some races of bees do reduce entrances to a bee-space, even stealing propolis from other colonies to do so[148]. Phillips in North Dakota closed the bottom entrance of his hives completely, and used a 1" auger hole in the center of the hive as in Dutch skeps[149]. Whether a small sized opening requires more vigorous fanning and therefore the greater investment of energy is a question raised but not answered[150]. Dzierzon declared that bees in winter needed "devilish little air". Given a choice bees chose to leave their hives through holes at a level between brood combs and honeycombs, and by autumn they closed all other holes[151].

The higher temperature within the atmosphere of the cluster will permit a higher relative humidity than the colder air outside the cluster. The cluster has the possibility of precise control by admitting sufficient cooler air from outside its periphery to adjust both moisture content and excess heat. When the cluster is above a single entrance, the air under the cluster is warmer than above it because the bees' fanning forces warmer air from within the cluster down to the entrance below.

The "life styles" of Eskimos and honey bees share a basic adaptation for survival in a cold climate: making the problem one of keeping cool rather than warm! Try chopping wood in a tightly closed Eskimo style parka on a cold day to see how soon you start opening up vents to cool off. The igloo is a virtual "hot box" with controlled ventilation analogous to the honey bee cluster.

Queen. All of our colonies came through this winter successfully as they did the previous two winters. Should we put the blame on their superior genetics, our method of wintering, or, as in our opinion, we have had three ideal winters with opportune defecation flights? We can probably assume that if our queens had poor genes for wintering, at least some of the colonies should have died even in the best winters. Wintering is apparently a dominant genetic trait. On the other hand, the previous three years were as difficult for bees as any we have experienced with losses of 30-40%. Was it good genetics that kept losses from being worse after months of confinement with no opportunity for a flight? Or was it coincidence that some colonies clustered on combs with sufficient honey to last until there was a break in the weather permitting reclustering on other combs? In those poor years the summers were also less than idea, and the colonies, including replacement nuclei, collected minimum amounts of honey for wintering.

Our bees have been selected out by good, bad, or indifferent winters for the 20 years since we ceased adding any new bees. We started with 10 packages each of Italians and Caucasians, and several swarms of unknown origins. If the amount of propolis our colonies use is a measure, there is a good deal of Caucasian in the genetic mix. Two Midnite packages that we acquired one summer swarmed several times in spite of excess space and stores, but their progeny were good colonies. Until recently, our apiary was 15 miles from other bees, and additions to the gene pool would have come from distant drones mating with our queens. That we permit our colonies to rear as many drones as they please, increases the chances that our drones dominate the local area. Especially if beekeepers around us are diligent about culling out the drone combs that colonies build on worker foundation.

Last year we asked breeders promoting queens with superior wintering qualities to provide data on which such assertions are based. None of the breeders had any specific information on which to make a decision, and only by trying them could we make comparisons. We were not prepared to kill queens in our own colonies in favor of others perhaps selected with different criteria than we require. One superhybrid is selected for honey production of over 500 pounds per colony. In New York 100 pounds is a good crop, and the state average is half that in good years. The Italian queen we purchased one year never quit laying, and the colony was out of stores even before winter started! The 4,000 packages sent to Britain by southern U.S. breeders illustrate the problem. After the difficult winter of 1962/63, beekeepers had losses of 75-90%; those with the 30% were considered light. The spring was perfect for the packages to develop, but after mid-June a wet, cool summer made the large brood nests a liability requiring extensive feeding. The strains of bees selected for a continental climate with long hot spells proved unsuitable for Britain[152].

Commercial beekeepers in Saskatchewan experienced a 30% loss the first year they overwinter bees started as packages in the spring and unsuited to the locale[153]. In the U.S.S.R. local bees performed more satisfactorily, and were less susceptible to Nosema[154]. Piana, an Italian queen breeder, characterized unselected bees as having the greatest capacity of adapting to different types of climates compared to selected strains[155]. When we acquire our first bees, should we try to get as ordinary, plain, garden variety strains as possible? Our local environment will sort out the gene combinations that are most suitable.

Most beekeepers in New England (86%) do not requeen their colonies[156]. The supersedure queens are probably equal or possibly even better than can be purchased[157]. That is a viable premise until we have objective criteria for judging potential contributions of new stocks to an apiary. Unlike other livestock, bringing undocumented queens into the apiary affects all the colonies within a flying range of their drones (4-10 miles). That

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our practice in regard to queens is a standard rule of Master beekeeper Charles Mraz gives us courage to repeat it here: "Never kill a good queen, no matter how old she is[158].

Conclusions

Expect losses if:

(1) Winters are mild, or hard, and stores of honey are minimal;

(2) Hives are unprotected of winds

(3) There are no opportunities for defecation flights during clustering;

(4) Bees are incompatible with the environment or management;

(5) Inclement weather interferes with manipulations, such as fall or spring feeding.

Heavy losses are serious for hobbyists or sideliners, but an economic disaster for commercial operators. The unpredictability of wintering can be eliminated by:

(1) Depopulating hives in the fall, and introducing package bees in the spring;

(2) Moving colonies to Florida, Texas or California and returning with nuclei in the spring;

(3) Making nuclei in the fall to winter in an environmentally controlled building, or colonies in 1-2 story hives.

— The End —

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THIRD PLACE WINNER IN THE PROGRESSIVE BEEKEEPERS ASSOCIATION OF LOUISIANA'S PHOTO CONTEST: A BARREL OF BEES BY DANA AUSTEN

Bee Breeding And Haying In The Oklahoma Territory (A Tall Tale)

by GLENN GIBSON Minco, Oklahoma 73059

My great Uncle Ben E. Ficial lived in Central Oklahoma about 20 miles Southeast of the present city of Shawnee. He was known as the largest supplier of prairie hay in the Territory. Also, he ran some cattle, "messed" with 300 swarms of bees (mostly in box hives or gums) and with the help of the younguns raised a few chickens and a nice garden. His spare time was spent among the bees. Some of Unk's land (which was all leased from the Indians) bordered the South Canadian River where thousands of acres of sweetclover yeilded tons of honey most every year.

Uncle Ben was Grand Pa's favorite in-law. Since travel was done by horseback or wagon in those days, families had little chance to visit. Pa was 14 years old (1902) when Gramps told him he could visit Uncle Ben for the summer if he would assist with the haying and bee work. Pa was delighted. Uncle Ben needed the help because all of his younguns were girls.

Pa soon learned that Unk loved the bees and was anxious to learn how things should be done. "Your main job this summer is to super the bees, catch the swarms and keep records of my special bred super bees." (Unk had learned all he could about bee genetics from the experts of the time. He claimed to have a bee that had extra length wings.) The work was hard, but Pa enjoyed the summer. All hay was finally baled and the honey canned by October 1. The market was tricky so Unk decided to hold off selling.

In those days for some reason or other the hay meadows were burned after the last cutting. This was a hot disagreeable job and Pa wasn't looking forward to anything but a few days of hard work. Burning vast acreages of grass entailed some great risks. Unk had to leave for a few days, but he left definite instructions about how the burning should be done. Pa was the youngest of the burning crew and was well-liked. He suggested that a new labor-saving method could be used. This involved using a tom-cat to spread the fire instead of having to walk all over creation with a burning torch. They reasoned that burning oily rags tied to the cat's tail would do the trick. A careful study of the wind (Special attention was given to keeping the bee hives from burning.), the starting place for the cat and the number of rags all figured the discussions. Finally, Pa placed the cat in the right place at the end of the field and lit the rags. The cat was scared but the load was a bity heavy so the beginning quarter of mile was slow, but as the load lightened old tom picked up speed and ran all over the place. He ran among the bee hives at the home place apiary and after that he ran from hay barn to hay barn until he had fired all 16 of them,. and very little of the meadows had burned. None of Pa's careful calculations worked.

What to do? Most of the crew had business eleswhere — like in another state. Pa told me he wanted to run with them, but he stayed until Unk returned. Unk was mad. He hardly knew what to say or do. Finally, he said nothing just sent Pa back home. At home Pa got his britches busted and Unk and Grand Pa learned a bit about supervising youngsters.

How did the home apiary fare in the fire? The loss was minimal. The extra length of the bee wings served them well. According to Unk the bees generated enough wind with their extra length wings to keep the fire at least one foot from the hive. Over the years Unk continued his experiments with a bigger, better and stronger bee, but something went wrong with his work in later years. Somehow the bee developed in size to a point that even the longer wings proved inadequate for flights more than 1/4 mile. So — the line dwindled away and finally disappeared entirely.

Maybe the longer bee wing would be a good research project? Should we contact Dr. Terry B. Kinney, Administrator, Agricultural Research Service, USDA and ask for his Blessing on Funding? Senator David Boren might be interested in the project since Unk's haying operations was near his birthplace.

Footnote: *(I talked with one of the hay-burning crew, N.D. Cysive, this past week. He must be at least one-hundred years old. His version of the tom cat caper agreed with Pa. An interesting sequel to all of this is that one of the hay crew was a member of Congress for thirty years and was one of our strongest champions of beekeeping in several sessions. Unk refused to lend his support during our friend's several successful campaigns for a seat in Congress. However, he called the congressman a close friend.)*

Trapping Bees The Hard Way

by DONALD COX 1623 W. Wayne Lima, OH 45805

Grandpa Zakery, Zak for short, told Dad and I this story about trapping bees out of an old house. In "Tall Tale," *Gleanings In Bee Culture,* July 1985, I told you about Grandpa from Li'l Pinch in southern Illinois visiting us in northwest Illinois. It took Grandpa three weeks to drive that old model "T" from Li'l Pinch to Freeport. Well, part of the problem was whenever he stopped to gas up or otherwise, he saw a sign at the filling station which read, "Clean Restrooms," so he did. I don't remember how many he did clean and you might say he was a little shy of some of the necessary smarts. We'll, he wasn't exactly a college grad, but enough of that, that's not what this tale is about.

As I think back about his telling the story, I believe it should have been called "Murphy's Law Takes Over." If anything could go worng it will. We'll—, it certainly did. Now for the tale.

A friend of Grandpa's name of Titegirdle, from up in Olive Branch knew of some wild bees in an old abandoned farmhouse. He asked Grandpa to help him remove the bees and hive them. He should never have asked Zak, but he was on the outs with the Ugli's. Remember I told you about Ugli and his twin boys in Tall Tale. The first time Ugli saw the twin babies he looked hard at them and said, "You Are" and "You Will Be" and the twins grew up with those names. Grandpa Zak thought he knew all about bees, but isn't that the way it is today even with some beekeepers? Well, Gramp agreed to help Tite remove the bees.

They took a good good look at the bees and saw that they were entering the house at the top of a first floor window casting. There were several holes where the siding boards butt against the casing. From the position of the holes they could not decide whether the bees were in the window weight chamber or in the space between the studs. Grandpa decide to nail a platform to the side of the house so that a hive could be set close to the opening in the house. A wire cone trap was placed over the largest opening in the house and the other openings were closed up with window glass puddy. So far so good, they were batting 500 which isn't bad.

The next day they went back to see how things were going. They found a lot of bees clustering and crawling around the side of the house but no action at the hive. They could not figure that one out. So that evening Zak went over to Ugli's place and started talking to him about the problem. Ugli explained to him that he would need to have a few bees and a queen in the hive or fame of brood with either eggs or queen cells in the hive. This would lure the house bees to start working the hive. Now to get a frame of brood. Ugli told Zak to cut the comb from the house and use it in the hives as a lure.

Day three, Zak and Tite decided to first try to drive more of the bees out of the house. They drilled a hole through the inside wall right up next to the celing. Then they blew smoke into the hole to drive the bees down and out of the trap on the outside of the house. Not many bees came out of the house so they figured most of the bees were already trapped out. Next the plaster was knocked off the wall and they found that wood laths were nailed to a full one inch thick by 6 and 8 inch wide sheeting boards. The old sheeting boards were of oak and as hard as nails. It took them most of the day, using a keyhole saw to cut out about a sixteen by twenty-four opening. By this time there were bees all over the room and window. They tried to open the window but found that it had been nailed shut so they just busted out the glass to let the bees get outside. With a butcher knife they cut out the comb starting flush with the celing plaster. Tite tied these four inch wide combs into frames using binder twine and wrapped it round and round the frame as Zak held the comb in the frame. They put the frames in the hive. It appeared to be a small colony as there wasn't much comb. They didn't know how wrong they were. If they would have had a light in the room with them they would have seen otherwise.

Day six, time to take the hive down to take it home, so they thought. There were a few bees working the hive but now they noticed a lot of bees working an opening around the window in the second story of the house. This window was directly above the first story window. They went back into the house and with a lantern started to look at the opening they had made in the wall. Can you guess what they found? The house was balloon construction. The 2 x 4 studs were one piece from the foundation still plate to the roof joists. Now to get at the rest of the original brood chamber it was necessary for them to cut into the wall of the second floor room. They did this and it was a long hot day with plenty of plaster dust in a closed room. With an opening in the wall from floor to ceiling, they could see that on the first day the smoke had driven the bees upward. The queen and many of the bees were at celing level of the upper room, with some white comb being built. The original brood nest was from the first floor ceiling level to approximately two feet above the second floor level.

The brood comb was cut and tied into frames and then into a second hive. What a mess — dripped honey and plaster dust and bees all over everything. The queen was found and also put into the second hive. The window opened so the flying bees could get out of the room.

Day seven, Tite took down the platform and took both hives home. Tite lived only three quarters of a miles away from the old house and when he took a look at his two hives on day eight, he noticed that not many bees were working the entrance. Of course not, the field bees had all flown back to the old house. He called Grandpa to come and help him again, but Grandpa refused as he now realized that he did not have all of the necessary beekeeper smarts to help someone who was not a beekeeper. □

Aristotle, The Philospher, Scientist, Beekeeper

by JOHN T. AMBROSE N.C. State University

Aristotle, the name of the Greek philosopher-scientist, has survived and he has had a tremendous impact on the western world for more than 2,300 years. He was truly a universal man. His research and writings involved a magnitude and a diversity of subjects that would form the basis of modern university's course catalog. A sample of his subject expertise would include logic, biology, meteorology, philosphy, phisics and beekeeping.

For almost 2,000 years, western philosophy and scientific development was greatly influenced, if not dominated, by Aristotle. The ancient Greek was the undisputed authority figure on many scientific and philosophical questions until the age of the European Renaissance. His writings on beekeeping were generally the basis for most beekeeping books until modern times.

Born in 384 BC in Stagira (northern Greece) Aristotle spent his life "in search of knowledge". He began one of his books on metaphysics with the following quote: "All men possess by nature the desire to know". Most of Aristotle's life was devoted to learning; first as a student of Plato at the famous Academy and later as a teacher in his own right. Fortunately, he committed much of his research to writing and large portions of those writings are still available.

Aristotle differed from many of his contemporaries in that he was more interested in understanding things as they were, rather than in attempting to develop ideal systems of government, theology, etc. Another difference was his unwillingness to accept material at face value. He was quite willing to investigate things for himself or verify or refute "accepted" concepts and findings. In his writings, Aristotle distinguished between his findings and the findings of others so that the reader could evaluate what he was reading.

Many people identify Aristotle as a philosopher and he was, but he was also much more. He was also a scientist who applied observation, experimentation, and deductive reasoning to his work. Much of his scientific work was in natural sciences and bees and beekeeping were a major area of interest to him.

Two multi-volume books, "Generation of Animals" and History of Animals", are among the famous of his biological treatises; and honey bees are prominently featured in both books. During a time when bees were kept in clay pots and straw skeps, Aristotle learned many of the secrets

A recently discovered photograph of Aristotle taken in his later years. There is some controversy as to the authenticity of the picture.

of the honey bee's life and activities. Of course, we now realize that some of his findings were in error but his successes are definitely more impressive than his failures.

Many facts which we now take for granted were first explained in Aristotle's writings. For example, he was aware that there are three types of bees in the bee colony: the queen, the worker, and the drone. He also knew that they had different tasks in the colony, but he was never able to really solve the mystery as to the sex of each type of bee. However, he was observant enough to know that queens were necessary to produce queens, workers, and drones; that workers were capable of producing drones; and that drones seemed to produce nothing.

Aristotle also examined the production of honey bees. He observed that bees flew to flowers and sucked up nectar using their tongues, and that the bees then carried the nectar back to the hive. He also observed bees regurgitating nectar into storage cells in the hive, and he said that it took approximately 20 days for the nectar to ripen into honey. However, Aristotle did have a problem in determining how the nectar got into the flowers in the first place.

Based on his observations, Aristotle knew that most of the honey accumulated in the hive during certain periods of the year. In his locality, that period was from the "rising of the Pleiades" until Fall. The Pleiades are a group of stars in the constallation of Taurus. Based on the timing of the honey flow, Aristotle assumed that the honey actually fell from the stars (primarily the Pleiades) and the honey accumulated in the open flower blossoms. We can laugh at this hypothesis today, but it was an attempt to understand the world in which Aristotle lived.

Now that we have had an additional 2,300 years or so to figure things out, we can smugly point out a number of errors made by Aristotle, such as honey falling from the stars. But we should be balanced in our criticisms and also point out those findings of Aristotle which are thought to be modern scientific discmore thanies. Included in this positive category are statements by Aristotle that bees located flowers based on the flower's odor and that a swarm of bees could find a lost queen by searching for her odor. These findings by Aristotle have been verified only in recent times, yet

Continued on next page

he described them over 2,300 years ago. Another noteworthy achievement by Aristotle, which we generally assume to be a modern development, is his probable use of an observation hive.

It is difficult to understand how Aristotle could have made some of the in-hive observations which he recorded if he were dealing with clay pot or straw skep hives. Based on his observations and some written records, it seems likley that Aristotle did use an observation hive. This hive is described as having sides made from shaved bone. The bone was shaved to a thinness where it would be transparent. In any case, Aristotle must have had some method of access for observing the bees in the hive, and some form of an observation hive is the most reasonable answer.

At the age of 60, Aristotle decided to retire from public life and left his school in Athens to live out his remaining years on the Greek island of Chalcis. His remaining years amounted to only one and he died of "chronic indigestion" at the age of 61 in the year 323 B.C. However, his work has lived on long after his death and he has had a significant effect on the development of western civilization.

For over 2,300 years, philosophers, scientists and beekeepers have been denied the opportunity of hearing Aristotle expound on various subjects of interests to each of those groups. However, that is soon to change. The philosophers and non-beekeeping scientists will still have to wait, but beekeepers will have a chance to hear Aristotle speak at the upcoming Southern States Beekeepers Federation's meeting in Savannah, Georgia on November 10-13, 1985. At the reqest of the SSBF, Aristotle has agreed to make a brief visit from the great beyond to attend the beekeepers meeting in Savannah. If you would like more details on that meeting, please write to Dr. John T. Ambrose; N.C. State University, Box 7626, Raleigh, NC 27695-7626.

Guinness Apian Record Fractured

by J. IANNUZZI
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Max Beck, Arcola, Pa. (suburb of Philadelphia) has broken the record for the largest beard of honeybees — with 20 pounds, ten more than listed in the 1985 *Guinness* (page 301) carrying the name of James Huie Johnson, Terra Alta, W.Va. Beck, however, does not realize that the record people in England are no longer accepting challenges since "this category has now been retired."

The 21-year-old Pennsylvania State University junior achieved fame on Friday, August 9, 1985 at 5:15 P.M., at Franklin & Marshall College, Lancaster, Pa., where the Eastern Apicultural Society (EAS) was holding its annual three-day meet.

Twelve shipping cages of honeybees, weighing between 2½ and 5½ pounds (averaging at least three pounds), each with its own royal lady, were used. They were shaken off the faces of the 12 contestants who had just completed their own contest (surely a record in itself! — and won by Stephen A. Conlon from appropriately named Bebee, W.Va. — assisted by Bardwell Montgomery, the state apiary inspector). The sterling stunt had begun just 37 minutes before at 4:38 P.M. when a panel of three judges— Arthur Rodrigues, Colts Neck, N.J.; John J. Sullivan, Madison, Conn.; and Dr. John Iannuzzi, the political-scientist nectar-collector from Ellicott City, Md.,—verified the new champion's body weight at 134 pounds without the "beard" and then later found the final reading of 154 pounds of the sweetest ladies around, six of whom committed hari-kari in the process.

Assisted by Robert Harvey, Elmer, N.J., the beebeard contest supervisor and his uncle, as the applicator, Beck was literally blanketed with the buzzing insects: a hatful covered his head; they smothered his face, revealing only his nose and mouth and hardly his eyes; and stretched all the way down, almost to the tips of his shoes. Five other queens — plus the usual one attached to his chin in a little screened cage — were drafted into service, three clinging to his right calf and two to his left.

Among the more than 100 witnesses was John Root, Medina, Ohio, a former EAS president and current head of the bee-supply company bearing his family name. Surely he must have recalled a similar beard, but not as lengthy, when one of his own ancestors "sprouted" one in 1937 in front of the old Treasury building in Washington, D.C. with the assistance fo James M. Marsh, Hyattsville, Md., formerly president of the Maryland State Beekeepers Association.

Honey In America's Schools: Part I

by ALAN L. KING 607 S. Fuller Dr. Indianapolis, IN 46241

Pessimism and negativism seem to abound among us Americans who are engaged in the business of marketing honey. You know all the reasons why. We all see the obvious dark cloud, but what about the silver lining? Sure, ever increasing imports of honey, combined with a basically good government program and our government's unwillingness to impose fair trade rules on our honey trading partners have brought about government takeovers of CCC honey that exceed 100 million pounds per year. So there's the proverbial dark cloud. But before we all run for shelter let's take a closer look. There's opportunity in that cloud! We need only recognize it and captitalize on it. Honey is now available and present in most school lunch rooms across our nation — something that never could have come about so easily if it weren't for our marketing problems that have brought it about. In the midst of troubled times, U.S. beekeepers can use something positive to think about. This series of articles: "Honey in America's Schools", will be just that — a refreshing look at a bit of good news.

Taking advantage of a unique promotional opportunity is what our efforts at the American School Food Service Association conference are all about. That's why the American Beekeeping Federation has maintained a booth at the conference for the past three years — to encourage the use of honey in America's schools by dispensing information and gathering information concerning our product and its's uses.

We want to do all we can to see that the school food service personal are 1) aware of our product; 2) aware that it is available as a bonus commodity; 3) aware of the wide variety of uses for honey in both cooking and table use, and 4) aware of the ease and benefits of using honey. Those of us who have worked closely in developing and continuing this promotion have an increasing awarenes of just how important it is and how imperative it is that the effort be sustained and strengthened. Along the way, many beekeepers have captured a glimpse of what is going on and what the potential might be for promoting honey through this channel. But as the story has unfolded over the past three years, I've come to realize how much more dynamic this promotion could be if beekeepers were educated more fully of the developments and the potential.

With that in mind, perhaps you will understand why this summer's American School Food Service Association conference in Philadelphia won't be treated merely as just another

1985 American Honey Queen, Kelly Duffin poses with counted crosstitch art work entitled "Eat Thou Honey Because It Is Good". The piece features the recipe for "Honeybee Bread", a loaf of which is situated below. (Artwork compliments of Judy Tutterow).

news event in the beekeeping industry. Rather, we'll take a more in-depth look at the background of the ASFSA and our industry's relationship with that group and why our industry has little choice but to persevere in this effort. In this first installment, we'll begin at square one, and proceed to the Philly conference and in subsequent issues go far beyond Philly.

Our involvement with the school food service began with a comment made by then American Honey Queen, Melissa Hart in 1983. Melissa had remarked about one of her goals being that of increasing institutional use of honey. She and all the rest of us in turn, are fortunate that she made that remark at just the right time and in front of just the right people. Shortly, Melissa found herself, along with JoAnne Weber and Drs. Barbara and Erik Erickson in an ABF booth at the Phoenix ASFSA conference doing just what she had requested. They were handing out thousands of quality honey recipes to people who desperately needed them — people who had only a short time ago found themselves with lots of honey on their hands and not knowing just what to do with it. They had little or no experience in using honey and few, if any recipes in which to use it. Thus it was at Phoenix that the need and the solution first met. And ever since, those with the needs and those wth the solutions have grown closer. But in the meantime, some curious things have happened. We've been learning a lot of things too. The end result? We've by no means reached it yet, but millions of pounds of honey are now being routinely used in our schools with plenty of latent potential consumption remaining.

The ASFSA was founded in 1946 to function in much the same role as it does yet today. The aim of the Association is to maintain and improve the health, and nutrition education of school children through nonprofit school food service programs. Simply put, the nutritional need of school children is the primary concern. ASFSA has about 54,000 members in all 50 states and the District of Columbia, as well as other U.S. Possessions. Each year ASFSA holds a national

Continued on next page

Continued from previous page

conference to conduct business and to provide a forum of education and communication. An integral part of that is the exhibition hall where more than 250 companies and industry groups show off their products — everything from walk-in freezers to bagels, from hot dogs to computers. Food service personnel literally flock into the exhibit hall for three days to see and sample the latest in foods and equipment that are available and to discuss their needs with the various exhibitors. About 5,100 people attended the Philadelphia conference in late July, including 3,000 + ASFSA members and 2,000 + people associated with various exhibits. The ASFSA personnel include school food service directors and supervisors, cafeteria managers, food service assistants and nutritional educators. The school food service is responsible for feeding about 24,000,000 per day. The enormity of this task should certainly suggest that we are not talking about any small-time Mom and Pop operation. Serving 24 millions students a day, makes our school food service the largest food service of any kind in the world!

As in the past two years Opal Blake, school food service manager in Caddo Parrish, Louisiana, developed and tested the quantity honey recipes that we distributed from the Federation booth. In addition, we handed out quantity recipes supplied by the Wisconsin Department of Agriculture as well as American Honey Queen recipe folders from current titleholder, Kelly Duffin. We also passed out a few thousand "Honey I Love You" buttons and numerous door prizes at random.

The theme of this year's conference centered around colonial Philadelphia, and there was a contest held for exhibitors to decorate their booths to fit the theme. So JoAnne and Kelly wore colonial period attire. Kelly's procurement of her colonial dress was rather interesting. Weeks before, Kelly was eating dinner in a restaurant in Madison, Wisconsin and noticed tht the waitresses were wearing the kind of dresses that she wanted for the booth in Philadelphia. So what does Kelly do? She works out a deal with the waitress and the manager to borrow a dress, along with the apron and matching bonnet! Add to that our hand painted, eye catching, beeswax theme candles (the liberty bells were a sensation). banner with our slogan, crosstitched art displaying the recipe for "Honeybee Bread", and all the rest and we ended up placing 2nd in the contest among 52 competitors in our category! Not bad, we thought. Not first, but not bad. The point is that all this helped draw attention to our booth and also means that it will be shown in the October issue of the American School Food Service Journal.

We were most fortunate this year to have Mr. Joe Duffy to Glenside, Pennsylvania in the role of local contact person — the same role that had gotten me involved in the ASFSA conference in Indianapolis last year. Joe did a fine job and also spent a day working in the booth with us. David Hackenburg of Lewisburg, PA joined us for a day in the booth as well. David represents Pennsylvania on the ABF board of directors and enjoyed the opportuntiy to see first hand just what goes on at an ASFSA conference. Our efforts were organized by American Honey Queen Program Chairperson, JoAnne Weber. We also had the services of an excellent honey promoter, in 1985 American Honey Queen, Kelly Duffin of Clearwater, Wisconsin.

As I said at the outset, our purpose at the ASFSA conference was not only to dispense information, but to gather information. Next month we'll look at some information gathered from food service people and others during 40 plus interviews and hundreds of conversations with the folks who are using our product. No doubt you'll be surprised and encouraged by some of the things you read. We'll also consider developments in the use of honey by food vendors in products for the school food service. You'll be amazed at the scope of efforts being made to encourage the use of commodity honey in the schools — and by a variety of entities — not just beekeepers.

Moreover, by the time this series is complete, I hope that many more beekeepers will realize that the opportunity to promote honey in the school food service is one that seems almost too good to be true — and certainly one that is too good to pass up. In closing, we wish to thank the following companies, groups and individuals who helped make this year's honey booth a success.

Hackenberg Apiaries; Tutterow Apiaries; Weber Apiaries; King Apiaries; Mr. Joe Duffy; Inntowner Hotel, Madison, WI; Steenbock Library, Univ. of Wisconsin; Drs. Barbara and Erik Erickson; Dick and Donna Ruby; Souix Honey Association; Wisconsin Dept. of Ag. Marketing Division; Mrs. Opal Blake and staff; Dadant & Sons; ABF Ladies Auxillary; Kelly Duffin; Mrs. B. Blanche King; Wisconsin Honey Producers Association; Minnesota Honey Producers Association.

The Washington Scene

By GLENN GIBSON
Minco, Oklahoma

WASHINGTON, August 2. This trip was not scheduled. the need to go arose when the Senate Committee on Agriculture commenced to work on our part of the Farm Bill. Also, I was anxious to learn if the report from the General Accounting Office would have any measurable effect on the future of our price support legislation. The information I needed could not be gotten by mail or phone.

As indicated in previous reports, a majority of the Senate Agricultural Committee supported our request for the continuation of the honey loan as is; but deliberations last week took another turn. Our supporters were not given an opportunity to vote on this clearcut recommendation. Instead they voted for the best proposal. The list of the committee's proposal follows:

Non-Recourse Protected Plan

1. For 1986, the loan rate will be 65.3 cents per pound. For 1987-1989, the loan rate will be the higher of 85 percent of the most recent five year average market price, excluding the high and low values, or 50 cents per pound. In any year the loan rate will not be less than 95 percent of the previous year's rate.

2. Repayment of loans will be allowed at such levels as determined by the Secretary. In determining the loan repayment rate, the Secretary shall take into consideration the relation between U.S. and world prices, CCC honey stock levels, and the value of the U.S. dollar in relation to other countries to assure levels necessary to: (a) minimize potential loan forfeitures, (b) minimize accumulation of government stocks, (c) reduce government cost of storing honey, and (d) allow U.S. produced honey to be marketed.

3. A loan deficiency payment, equal to the difference between the original loan rate and the loan repayment rate, may be made to eligible participants who do not obtain a loan.

4. Anyone found to have forfeited adulterated or foreign honey shall be subject to criminal penalties and be prohibited from participating in the loan program for three years.

Please be advised that this proposal is no more than that. The Senate Agricultural Committee did not approve a bill before the recess. It is conceivable that some work will be done on the farm bill during the recess, but not likely since so much confusion abounds in the farming community. Until the committee approves a bill, the above proposal may be changed. Also, please bear in mind that basic law may apply to our program without being specifically mentioned in our section. For instance, payment and loan limitations were included in some of the proposals this year.

A majority of the House Agricultural Committee again assured me that they support a continuation of the honey loan program as is.

Let's assume that the House and Senate proposals are approved on the floors. A Conference Committee composed of members from each Agricultural Committee will be named to iron out the difference. None can guess when this might develop. In the meantime we will continue to recommend import protection and retention of the program as is. During the final deliberations of the conference committee we will consider compromises, but not before. In the coming weeks we will continue our close contact with key members and relay their thinking to constituent beekeepers.

The GAO Report

Action by the Agriculture Committees in both houses indicate that the Congress will ignore the GAO's recommendation for termination of the honey loan program. Conversations with members echo the same.

Congressional Hearing In Sioux Falls, South Dakota

The House Agriculture Subcommittee on Dairy and Poultry heard testimony from a number of plains-state farmers and beekeepers in Sioux Falls, South Dakota, on July 26, relative to what should be in the new farm bill. Chairman Tony Coehlo, California; Tom Daschle, South Dakota and Berkely Bedell, Iowa, made up the panel.

Richard Adee and Jack Meyer, Jr. gave oral testimony as well as filing statements. On behalf of the AHPA, Richard Adee initiated the request for the hearing last February during one of our trips to Washington. Beekeepers made up the bulk of the audience with about 75 in attendance. The committee was receptive and asked a number of questions. Chairman Coehlo stated that he planned to hold more hearings on the honey problem after hearing beekeepers' testimony. Thanks to the efforts of Richard Adee the hearing could be called successful from our side. Coehlo told the groups that he would commence immediately to work harder on our whole program — especially imports.

What We Will Do

We will continue to bird-dog the Washington scene which will include some travel. When the Conference Committee commences its deliberations in ironing out the differences of the Senate and House versions, we will most likely need some extra bodies in the halls of Congress from the states that have members on the committee. Please advise us if you will be willing to help.

What You Need To Do

First, please keep in touch with your congressional delegation. Ask them to give you an update on our legislation from time to time. Also, send the resolutions from organized groups on the matter of our pending problems. And write us for information.

HONEYBEE CROSSWORD PUZZLE

By SHERRON M. BULL

Across:

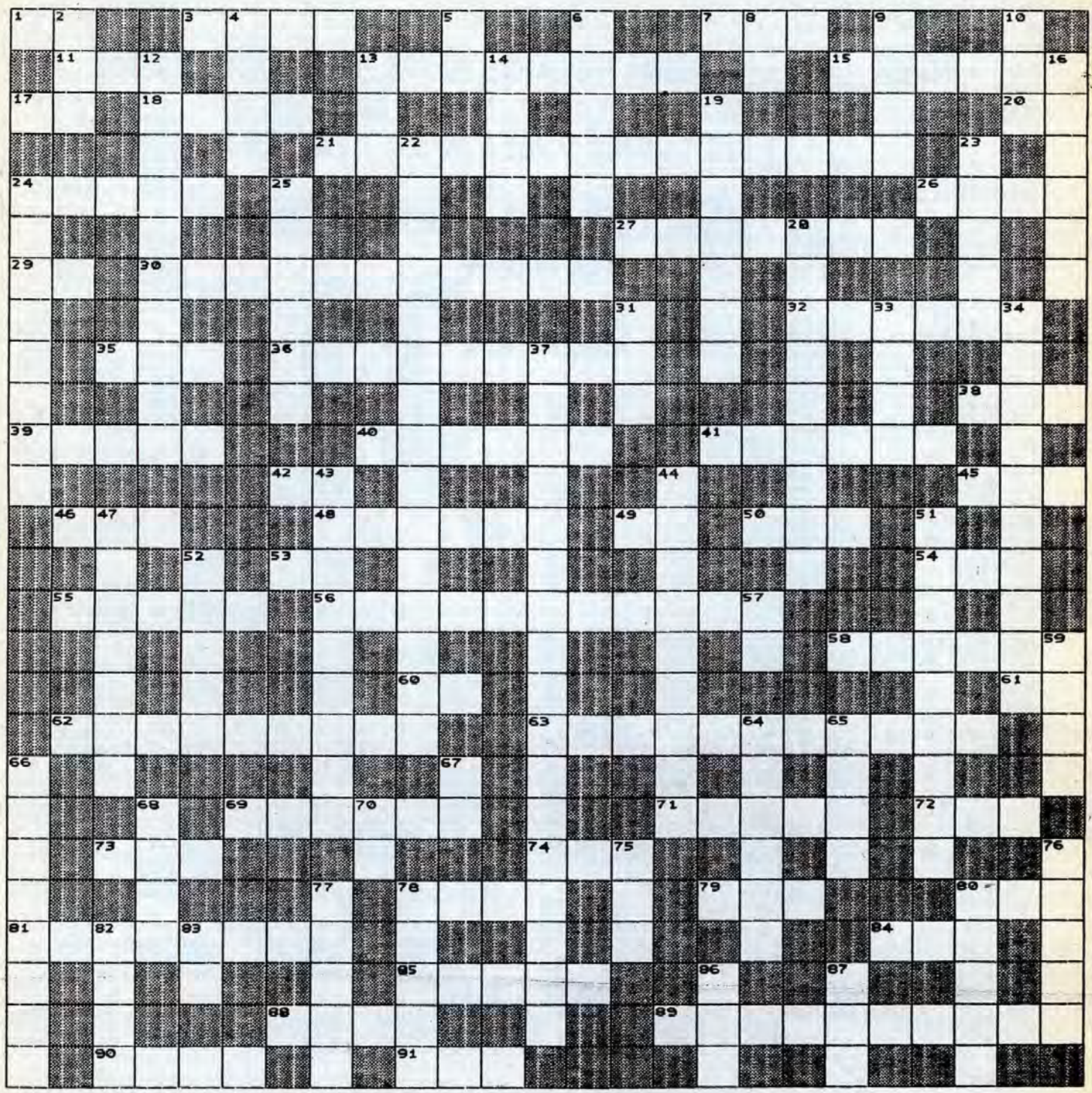
1 state known for sage honey (abbr.)
3 scientific name for joy dance (abbr.)
7 first 3 days of life
11 baby hive
13 'before the city'
15 solution of sugars in water
17 non-harmful organic insecticide (abbr.)
18 genus
20 are bees domesticated?
21 food gland
24 communicate
26 holds sting in
27 contain olfactory sense
29 Ligustica origin (abbr.)
30 drone reproductive cells
32 organized communal life
35 foundation
36 converts sucrose to dexrose and levulose
38 queens in hive
39 brood feeder
40 guard
41 forces sting deeper (scientific name)
42 comb dance orientation, food towards sun
45 component of honey
46 anti-apiotherapy organization (abbr.)
48 simple eyes (scientific name)
49 chemical symbol for 'yellow' bees
50 most serious brood disease (abbr.)
53 bee paradise state (abbr.)
54 drawn through spiracles
55 baby bees
56 sperm receptacle
58 when bees stop dancing
60 Lloyd Watson's technique, 1927 (abbr.)
61 bee from unfertilized egg
62 bee's foot (scientific name)
63 play flight
69 made of silk
71 finds new nectar sources
72 oldest American bee magazine (abbr.)
73 extracted super
74 white man's fly
78 what bees can't do
79 seal cell
80 crowd in beehive (idiom, abbr.)
81 keeps queen in her place
84 what a bee is to some people (like me)
85 bee's revenge
88 The bee's _____ (old idiom, singular)
89 bee odors
90 unwanted comb
91 determined by fertilization

Down:

2 hive nuisance
4 protects face
5 Bee _____ repels bees
6 housebee duty
8 Speedy Bee state (abbr.)
9 what you do with honey
10 regulate temperature
12 longest tongues
13 customers _____ for honey
14 'teenager' (pre-adult)
16 thief
19 stages of larval growth (scientific name)
22 'virgin birth'
23 pearly white
24 transferring to another colony
25 unfecundated
28 scent gland
31 honey that's not
33 what we give our bees
34 discovered bee space
37 caused by Bacillus larvae (2 words)
43 venom dispenser
44 not queenright
47 polished ovals under wax glands
51 quietest and most gentle
52 attendants
57 controlled mating (abbr.)
59 contains brood-food glands
64 legs attached to
65 reportedly causes purple brood
66 non-forager
67 bees dance _____ the comb
68 bee's bed
70 1985 WAS convention state (abbr.)
75 characterized by odor of rotting fish
76 connect wings in flight
77 fatherless
78 bees' homes
80 modified ovipositor
82 city walls
83 bees can see but we can't (abbr.)
86 bee from unfertilized egg
87 queen emergence dance

HONEYBEES

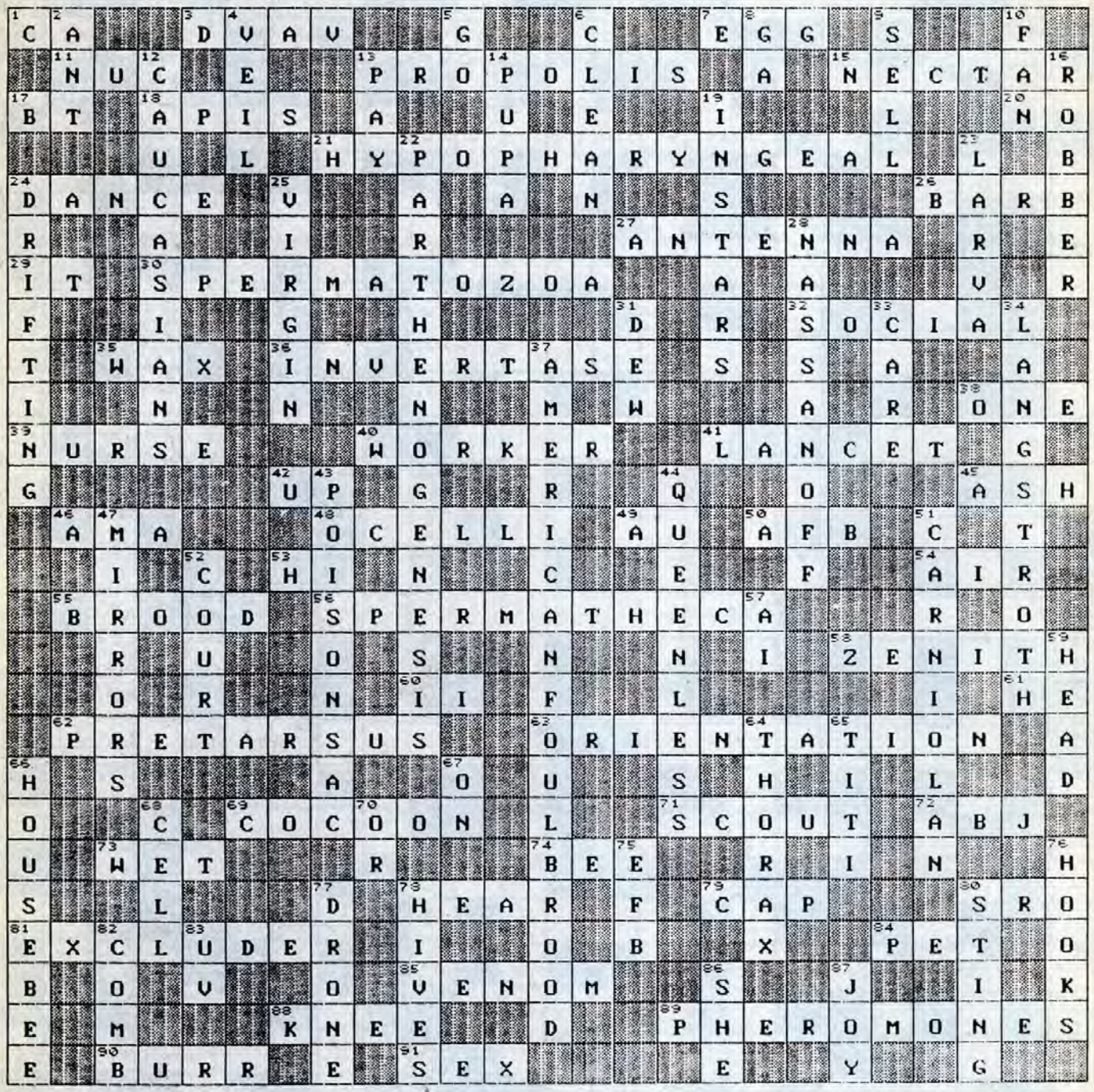
BY SHERRON M. BULL



ANSWERS ON NEXT PAGE

ANSWERS TO CROSSWORD PUZZLE

H O N E Y B E E S SOLUTION BY SHERRON M. BULL



NEWS and EVENTS

TENNESSEE BEEKEEPERS ASSOCIATION

1985 Tenn. Association Convention — Oct. 3,4,5 Kingsport, Tennesse at the Ramada Inn at Junction of 11W and State 93 North.

The Tennessee Beekeepers Association Convention will be October 4 & 5, in East Tennessee at the RAMADA Inn in Kingsport, Tennessee. Host clubs are the Washington County Bee Club, Hawkins County Bee Club and the Tri-City Bee Club. These three clubs have promised to make the event this year the biggest and best convention ever! Be sure and mark your calendar now!

SPEAKERS:
Dr. Alfred Dietz — University of Georgia
Dr. Rick Fell — Virginia Polytechnic Institute
Dr. James Tew — Agriculture Institute — Wooster
Mr. Dwight Tew — American Bee Supply
Mr. George Kelly — Dadant's — Lynchburg
Mr. Mike Cooper — Tennessee Department of Forestry

WORKSHOPS:
Bee Diseases and Pests — Diagnostic and Treatment
Equipment and Design — Assembly and Use
Extracting and Packing Honey
Pollen Trapping, Cleaning, Marketing

WORKSHOPS:
Honey Queen Reception, White Elephant Sale
Tennesse State Beekeepers Honey Show
State Championship Smoker Lighting Contest
Banquet, Awards, Drawing for Prizes
Crowning of 1986 Tennessee Honey Queen
Tours of Historic Sites, "Tennessee History was made in East Tenn."

HOTEL:
RAMADA INN on LaMesa Drive, Kingsport, TN 37660, Phone 615/245-0271 (Located at Junction of State 93, Wilcox Drive, and U.S. 11W, East Stone Dr.)

Rates — Single $38.00; Multiple (To 4 persons) $49.00

There is swimming at the Inn and shopping nearby at choice department stores and fast food joining the Inn with one of Kingsport's largest malls also joining this complex.

For those that like to camp, there is a K.O.A. Campground within 6 or 7 miles of the Inn, near Tri-Cities Airport.

We would like to extend our adjoining states a VERY SPECIAL invitation to join us in this convention and welcome any input you might have.

For any additional information, contact:

Mr. Fred H. Green, Host Committee Chairman
Route 14, Box 336
Gray, TN 37615
Phone: 615/282-3629

OHIO — Rothenbuhler Honored

Under the sponsorship of Ohio State Representative Mike Stinziano, the Ohio House of Representatives recently organized Dr. Wlater C. Rothenbuhler on the occasion of his retirement as Professor of Entomology, Genetics and Zoology at The Ohio State University. The commendation, signed by Stinziano and House Speaker Vern Riffe, reads in part as follows:

"Throughout your distinguished career in the field of apiculture, you have demonstrated your dedication to scientific investigation. Your research into disease resistance and genetics of honey bees has earned you the respect and admiration of your academic colleagues, and your accomplishments have led The Ohio State Beekeepers' Association to dedicate their summer meeting to you.

As you retire, you have the satisfaction of knowing that your career will stand as a hallmark to others to emulate, for, it is because of you and those like you that we continue to unravel the fascinating mysteries of the natural world. We applaud your superb record of scholarship and research.

Thus, it is with a great deal of pleasure that we congratulate you on your retirement and salute you as one of Ohio's finest citizens and educators."

Announcement of scholarship, established at O.S.U. in honor of Dr. Rothenbuhler, was made at a retirement banquet held on July 20. Former graduate and post-doctoral students, colleagues, friends and relatives were in attendance.

UTAH
Beehive of Activity
by ROLLIN MOSELEY

Entomologist Terry Griswold is abuzz with activity. He is attempting to include the estimated 21,000 species of bees in the world in his new bee catalog.

No one knows just how many varieties of bees there are, says Griswold, who works at the U.S. Department of Agriculture's bee laboratory at Utah State University. The United States and Canada have catalogued 3,500 species.

Because bees play a vital role in the pollination of many crops, it's important to know if there are more efficient pollinators or if there are some species that can protect against the killer bees. Bees can be as small as lice or as big as hummingbirds, and some don't even sting.

PENNSYLVANIA

The Pennsylvania Bureau of State Parks is constructing exhibits for the interior of an old farmhouse located in a state park near Collegeville in Montgomery County. Since one of the owners listed bees and hives in an 1849 inventory, we plan to interpret beekeeping for the time period

Continued from previous page

1800 to 1850. We are searching for historical illustrations or photographs that show straw skeps in an orchard, bee hunting, skeps with comb, a beekeeper's outfit, and any honey or beeswax products. Could you send Xerox copies of any illustrations or photographs you have that may be useful, along with the cost of purchasing them?

Send To:

Commonwealth of Pennsylvania
Dept. of Environmental Resources
Bureau of State Parks
Environmental Education and Interpretive Section
Nolde Forest Environmental Education Center
R.D. 1, Box 392
Reading, PA 19607
(215) 775-1411

FLORIDA

A short course on "Beekeeping" will be held at Hillsborough Community College, Dale Mabry Campus, Tampa, Florida, beginning September 21 through October 26. Saturdays from 9 until 1:00 p.m.

This course is designed to introduce the beginner to the basic principles and procedures of handling the honeybee colony. Topics will include: installing package bees, management for honey production, dividing colonies, pollen trapping, queen rearing for the hobbyist, bee diseases and honey extraction.

The enrollment fee for this course is $13.

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

Dr. Tew to Speak to Illinois Beekeepers

Dr. James Tew, from the Wooster Institute, will speak twice to Chicagoland beekeepers on Saturday, October 19, 1985. There will be a two hour seminar on the Queen — Who she is; How workers react to various queen traits; and How to tell good queens from average ones. This seminar will be from 1 til 3 P.M. A nominal $2.00 fee will be charged.

Then, Dr. Tew will speak on "His experiences moving bees" at the 50th Anniversary Banquet of the Cook-DuPage Beekeepers' Association. The Banquet will be held at the Bohemian Restaurant, Klas's, in Cicero, Illinois. The Social Hour will be from 5:30 til 6:30. Seating is limited so please get your tickets early. The cost is $11.00 per person. Make checks payable to the Cook-DuPage Beekeepers Association, and mail to William Shages, Secretary, 530 Slingerland Drive, Schaumburg, Illinois 60193 (312) 351-9563.

DELAWARE

University of Delware entomologist Dr. Dewey M. Caron was elected president of the Eastern Apicultural Society (E.A.S.) at its annual meeting at Franklin Marshall College, Lancaster, Pa., August 7'10. Caron will serve through August, 1986 when he will organize and preside over the society's annual meeting at the University of Delaware's Clayton Hall. Caron is an apiculture specialist in the Department of Entomology and applied ecology.

University of Delaware entomologist Dr. Dewey M. Caron has been elected president of the Eastern Apiculture Society, a regional organization of 2,500 beekeepers in the U.S. and Canada.

The 2,500 members of E.A.S. include commercial beekeepers, academics in the field, part-time professionals and hobbyists from the eastern U.S. and Canada. Attendance at their four-day annual meetings averages more than 700. Each conference is preceded by a three-day short course in beekeeping wh Caron helps teach.

The Franklin Marshall conference featured talks on beekeeping and bee products, competitive shows of honey, beeswax and other bee products, and workshops on a variety of topics including bee diseases and batik. Members from over 20 states and provinces and several foreign countries attended.

Another University of Delaware entomologist, Dr. Charles Mason, will serve the society this year as program chair. Professor Dr. Dale Bray is a past president. Other Delawareans currently in office are Robert McIntire (Lewes), vice president, and Michael Brown (Fredrical), honey show chair.

South Florida Beekeepers Association

The Florida State Beekeepers will convene at the Holiday Inn/Holidome-Riverfront, 2066 West First Street, Fort Myers, Florida 33901, October 24-26, 1985.

We look forward to having you participate in our advertising convention program book. Our rates are:

Full page	$100.00
Half Page	65.00
One Fourth Page	35.00
One Eighth Page	20.00

If possible, we would appreciate a black and white copy of your advertisement. If you don't have one, send the material and we will work with it.

We have limited merchandise advertising sapce available in the lobby of the Holiday Inn. The cost of this will be **$50.00 per Table for 3 days.**

Tables will be assigned as your requests are received so, if you're interested, act PROMPTLY! The tables are 8 feet by 32 inches.

Make checks payable to South Florida Beekeepers Association, please.

Please let us hear from you as soon as possible. The writer will be on vacation for a month beginning July 15 so you can see there will be a dormant period as far as correspondence is concerned.

We look forward to working with you and hope you will come to the Sixty-Fifth Annual Convention. It will give you new insights into beekeeping, provide an opportunity for you to visit with old friends and make new ones and will let you see another area of God's beautiful world.

LOUISIANA

Honeybee Puppets Convey Info

A unique event took place at the "Spring Garden Show," sponsored by the Louisiana Extension Service, in New Orleans recently where 4,313 people attended. A worker (straw hat), queen (silver crown), and drone (silver band) honeybee puppets, manned by beekeepers, sang songs and talked on unusual bee facts. It was the first time, I believe this media was used for this purpose.

Song lyrics sung by the puppets were changed in the melody "Dixie" to "I wish I was in the land of clover; Sweet times there are not forgotten; Look away! Look away! Look away! Cloverland," etc. Other song lyrics changed were as "I've been working on the flowers; All the live-long day"; and "When the bees come flying in," etc. Above to the "Working on the Railroad" and "Saints Come Marching In" melodies.

Unusual bee facts like "We fly 80,000 trips to make one pound of honey" and "I'm the Queen and lay my own weight in eggs daily," etc., were given by the puppets to the amazement of all, especially the children. I believe they will remember this better than reading it in a book. The expressions on the children and adult's faces and the comments they made will long be remembered by our members.

Also, on display there were an observation hive, beekeeping equipment, tools, outfits, pictures, and literature.

We gave free samples of honey-butter nutmeg on crackers, honey comb to chew, and pollen to taste. Recipes were also given out. Believe me, we were busy as a bee all two days.

I believe this was an excellent promotion of honeybee products. We secured many names of potential customers, which were distributed among our members for follow-up leads.

The plaque proudly displayed above the queen puppet is the first place award in the "Insects, Animals, and Birds" Division which we won.

Any club interested in this type of promotion, drop us a line for further information. Please send a self-addressed stamped envelope for reply. **Philip G. Lemoine, Pres., 801 Little Farms Ave., Metairie, LA 70003**

Pennsylvania Short Course Successful

DOYLESTOWN—Delaware Valley College, Doylestown, PA again held its three day summer beekeeping short course. The course was well attended and favored by three fine days of weather which allowed the class to visit the College's apiary, bee house, and queen rearing operation each day.

Although the course has been attended by people from all over the United States and a number of foreign countries, this year's participants came mainly from the Eastern part of the United States. The class was very diverse as to age, occupation, and beekeeping experience. By the time the course was over, a number of participants with no prior beekeeping experience had already purchased their beekeeping equipment and their bees to get started.

Topics covered in the course ranged from sources of honey bees, beekeeping equipment, seasonal management, honey plants, mead making, beeswax uses, and many others. Discussion in the classroom was coupled with practical hands-on experience in the field. The course was taught by Mr. Jack Matthenius, the NJ Supervisor of Bee Culture, Mr. Bob Berthold, the Delaware Valley College's Beekeeping Specialist, and Mr. Frank Makowski, a commercial beekeeper from New Jersey.

Due to the favorable response to both the summer course and spring course, Delaware Valley College is planning again to offer these two three-day beekeeping short courses in 1986. Further information may be obtained by writing Mr. Bob Berthold, Delaware Valley College, Doylestown, PA 18901.

CALIFORNIA

The 96th Annual Convention of the California State Beekeepers Association will be held November 11-14th, 1985 at the Sacramento Inn, Sacramento, California.

We plant to print and have available to all attendees a Convention Program 700 copies 8½ x 11", with 24 pages plus front and back covers. Fifteen pages

(Continued on next page)

plus the inside and outside back cover will be devoted to advertisements by companies associated with the beekeeping industry. We would greatly appreciate your participation in our 1985 Convention Program and Buyers Guide. Advertising rates are the following:

Outside Back cover	**$250.00**	**Full Page Ad**	**$175.00**
Inside Front Cover	**$225.00**	**One-Half Page Ad**	**$100.00**
Inside Back Cover	**$200.00**	**One-Quarter Page Ad**	**$50.00**

Previous advertisers: If you wish to use the same basic ad as before, send the enclosed copy of last year's ad back to me with any minor changes you may want. NOTE: Although we strive for perfection, 100% accuracy can only be guaranteed if you send camera ready copy of your ad.

Please send your check (payable to California State Beekeepers Association) and the layout for your advertisement to: *Gene Brandi, 1511 Hawthorne Drive, Los Banos, California 93635. Ph: (209) 826-2881.*

Due to our limited advertising space in the Convention Program, committments for ads will be on a "first come first served basis". Deadline for the program to go to the printer is September 30, 1985.

THANK YOU for your support of the 1985 Convention Program!

ILLINOIS

Left to Right: Director Larry A. Werries, Illinois Department of Agriculture; Kathy Forgas, Miss Illinois County Fair Queen; Miss Joy Taylor; The Bill Williams family owner of 12 IGA stores in Illinois and Missouri who purchased the 3-2½ lb. jars of Blue Ribbon Chunk Honey, exhibited by Miss Joy Taylor, Rt. #2, Box 249, Pleasant Plains, Illinois 62677 for a record of $800.00

North American Apiotherapy Society Annual Symposium

The North American Apiotherapy Society will definitely hold its annual symposium on Saturday, November 9, 1985, at the Holiday Inn, Baltimore-Washington International Airport, near Baltimore, MD. For registration forms and information, contact Ann W. Harman, President, 15621 Aitcheson Lane, Laurel, MD 20707 phone 301-253-5313.

NATIONAL HONEY WEEK — October 13-19, 1985

We would like to remind everyone about National Honey Week which will be celebrated October 13-19, 1985. Everyone should take advantage of this promotion to push the use of honey in their local areas.

American Beekeeping Federation will again have available a variety of printed materials about bees and honey. These include:

Articles which you can have printed in your local news media

Colorful informational brochures

Honey Queen and Princess Recipe leaflets

Bumper Stickers

A very attractive color poster

For more information and prices on these promotional aides, write to:

Frank A. Robinson, Secretary
American Beekeeping Federation, Inc.
13637 N.W. 39th Avenue
Gainesville, FL 32606

American Honey Show Set For Phoenix, Arizona—Jan. 18-25 1986

A feature of the annual American Beekeeping Federation Convention each year is the American Honey Show. Plan now to enter some of your finest honey in the 1986 Show and have an opportunity to win one of the attractive and unique trophies.

Copies of the Rules and Regulations, and additional copies of the Entry Blanks can be obtained from:

Herb & Rachael Blank
110 East Taylor
Tempe, AZ 85281
OR
A.B.F. Secretary
13637 N.W. 39th Avenue
Gainesville, FL 32606

Arizona Beekeepers Prepare Warm Welcome For Federation Convention

Arizona Beekeepers are prepared to demonstrate western hospitality and are anxiously waiting to welcome you to the 1985 American Beekeeping Federation Convention next January. If you're concerned about not being able to see any bees because of blustery snow and cold in the middle of January 1986, plan to visit us in the valley of the sun, Phoenix, Arizona.

You won't need to pack several suitcases of warm winter clothes because the temperature ranges from about 4[illegible] to 70 degrees (our bees forage all

winter). The weather will be just right for socializing on a sunlit patio tasting the salt from the rim of a marguarita glass. How about swinging a club at one of the dozens of world famous golf courses within a 10 or 20 minute drive? Tennis courts are on almost every corner, and famous movie sets dot the horizon, for example the movies, Red River, Last Wagon, True Grit, Stagecoach and Silverado are only a few of the many hundreds of movies filmed in Arizona. One movie set, just a few miles east of Phoenix, lays in the shadows of the legendary Superstition Mountains of Lost Dutchman gold mine fame. Also in that area is the authentic Gold Camp Miners Shack Restaurant where you're seated at long wooden tables and served on tin plantes family style. Mouth-watering cowboy steaks, a huge tureen of home-made soup and hot fresh biscuits all to set the tone of the authentic old west. If good restaurants are your fare we have the best, hundreds of them, and one of the great features about our casual western attitude is that you don't have to dress with black tie and tails to go out on the town. Casual comfort is in and to prove it, the Bola Tie is the Official Arizona State Tie and is usually worn with an open collared shirt.

From anywhere in Phoenix you will be able to find something to entertain your interests, for example, the beautiful Phoenix Zoo, the famous Desert Botanical Gardens with plants unique to this part of the world . . . . the beautiful Sonoran Desert. Key words here in the Arizona Sonoran Desert are casual and "warm" hospitality and we look forward to sharing it all with you during your cold snowy season.

The convention will be held in the beautiful Hyatt Regency Hotel in downtown Central Phoenix. A convention packet including hotel and convention registration information will be mailed out soon to Federation members. For information on commercial exhibits or any other aspect of the convention, contact Frank Robinson, Secretary-Treasurer, American Beekeeping Federation, 13637 N.W. 39th Ave., Gainesville, FL 32606, ph. 904-332-0012.

Arrangements have been made with American Airlines for special convention fares. The fares will be the lowest applicable — at least 35 or 40% discount from regular fare. To arrange your fare, call, toll free, 1-800-433-1790; ask for Star No. s-8020. The convention desk is open 7 a.m. — midnight, Central Time, seven days a week.

There is just so much to do here in the valley of the sun, we're concerned you won't be able to see it all. Make your plans now to enjoy central Arizona's winter while attending the American Beekeeping Federation convention.

INDIANA

The Indiana State Beekeepers Association will hold its 77th Annual Fall Meeting October 26, 1985 at the Sheraton Inn East in Indianapolis. Speakers will include Ernie Parker of the Indiana State Board of Health, Steve Forrest, president of the Southern States Beekeepers Federation, Albert Thomas, former owner of C.M. Scott and Co., and Tom Roney of Tuttle Orchards. The banquet will begin at 6:00 p.m. EST with Dr. Jim Tew of the Agricultural Technical Institute as featured speaker.

For further informtion contact Claude F. Wade, 613 State Office Building, Indianapolis, IN 46204 (317-232-4120) OR Alan L. King, 607 S. Fuller Dr., Indianapolis, IN 46241 (317-244-8210).

WISCONSIN

The Wisconsin Honey Producers will be holding their annual convention October 31st and Nov. 1st & 2nd at the Beaumont Inn, Green Bay Wisconsin This years list of speakers include: Jerry Hayes, Dadant & Sons Branch Manager, Wayland, Michigan; Mark Bruner, Editor, Gleanings In Bee Culture; P.A. Yalverton, Stover Apiaries, Mayhew, Mississippi; and Steve Taber, Taber Apiaries, Vacaville, California.

We've got many good topics to discuss and lots of friends we haven't seen in a year. Why not join us. For more information contact Dick Kehl, P.O. Box 706, Medina, OH 44258 (216-725-6677).

Connecticut Beekeepers To Meet Oct. 26th in New Haven

The fall meeting of the Connecticut Beekeepers Association will be held at the Jones Auditorium at the Connecticut Agricultural Experiment Station in New Haven on Saturday, October 26.

The program will start at 10 a.m. with the business meeting. Then, at 11:00 a.m. the guest speaker will be Mr. Charles McKellar of Rhode Island, who will speak on the subject: Important Factors in Wintering Honey Bee Colonies.

At noon, the traditional pot-luck luncheon will be served, and everyone is invited to bring a large dish of food to share. Beverages and table service will be provided by the Association.

In the afternoon the program will consist of a fund-raising auction to help offset the lawyers bill for the Pesticide Committee's fight against Penncap M. All members are asked to bring goods suitable for auction. In addition, a raffle will be held. A $25 gift certificate at Sears will be the prize.

One other speaker is scheduled for the afternoon session. Also, there will be a chance to participate in the annual photo contest. For contest rules, contact one of the CBA officers, or the Honey Bee, the official publication of the association.

Membership in the Connecticut Beekeepers Association is open to any interested individual. The Association meets four times a year, and publishes a quarterly journal. The dues are $10 per year. For further information, contact Mr. Kim Flottum, President, Connecticut Beekeepers Association, 2110 Purchase Brook Road, Southbury, Connecticut 06488, phone 203-264-4874.

TEXAS
Beekeeping Short Course
Holiday Inn Civic Center
Lubbock, Texas

Larry Connor, PHD, Beekeeping Education Service, Instructor. Registration Fee: $25.00 per person, $40.00 per couple, **per session. Payable in advance to the address below.**

Continued on next page

Continued from previous page

Intermediate Beekeeping — Oct. 31, 1985

TIME:	SUBJECT:
8:30-9:30	Comprehensive Review of Bee Biology and Behavior of the Honey Bee.
9:30-10:30	Seasonal Colony Management
10:30-11:00	BREAK
11:00-12:00	Queen Management
12:00 to 1:30	Noon Break — On your own
1:30-2:30	Diseases and Pests of the Honey Bee.
2:30-3:30	Honey Production and Marketing
3:30-4;30	Bee Botany
4:30-5:00	Question & Answer period.

The Business of Beekeeping — November 1, 1985

TIME:	SUBJECT
8:30-9:45	Setting Up a Beekeeping Business
9:45-10:00	BREAK
10:00-11:15	The Beekeeping Side of a Business
11:25-1:15	NOON BREAK — On Your Own
1:15-2:15	Record Keeping
2:15-3:15	Common Problems and Mistakes of Bee Businesses
3:15-3:30	BREAK
3:30-5:00	Case Studies and Small Group Discussion

REGISTRATION INFORMATION: Save a place for yourself and for your spouse now for one or two full days of simulating educational materials on two of your favorite subjects — bees and money. To place your registration, contact: **Margie Coplin, Route 6, Box 523, Arcadia, Texas 77517.**

SOUTHERN STATES BEEKEEPERS FEDERATION

57th Annual Convention
Sheraton Savannah Resort and Country Club
Savannah Georgia — November 9-14, 1985

SATURDAY — NOVEMBER 9 — Board Meeting

SUNDAY — NOVEMBER 10

Troy Fore—Beekeeping in Georgia; Eva Crane—Beekeeping in England; Fred Deer—An American Beekeeper in England & France; B.J. Sherriff—Beekeeping in Australia & New Zealand.

MONDAY — NOVEMBER 11

"A Look At Our Commercial Industry"

Tim Dadant—An Equipment Manufacturer; Reg Wilbanks—A Queen and Package Bee Breeder; Darl Stoller—A Honey Producer & Packer; Gary Fetters—A Pollinator; Nicholas Sargeantson—An Importer; The 2nd George Curtis Golf Tournament; TOUR-The Savannah Exposition; Advanced Bee School.

TUESDAY — NOVEMBER 12

"Beekeeping — Past, Present and Future"

Dr. Eva Crane—The Archeology of Beekeeping; Aristotle; Dr. Al Dietz—Africanized Bees and Beekeeping Today; Dr. Larry Connor—The Bee of the Future; Lee Russell—Oldest & Youngest Presentation; Advanced Bee School; TOUR-Historic District; 2nd Annual Bee Bowl-NC vs. GA; Ralph Wadlow—The Development of Beekeeping in Florida; Mark Bruner—The Unknown, The Little Known, The Down Right Bizarre: A Potpourri of Beekeeping History.

WEDNESDAY — NOVEMBER 13

"A Day of Promotion"

Dr. Eva Crane, IBRA—Who, What, When & Where; Binford Weaver—A Promtional Plan Who's Time Is Now; Loretta Suprenant—Promoting With Help From Our Friends; Steve Forrest—Let's Save The Bees; Business Session, Dr. John Ambrose, Secretary/Treasurer; Dismantle Commercial Exhibits; TOUR-Skidaway Island Education Center; Advanced Bee School; State Association Leader Roundtable; Cash Bar; Award Banquet & Antique Auction.

THURSDAY — NOVEMBER 14

Fishing Tour to Gulf Stream; Fishing Tour to Snapper Banks; Tour Low Country; Board Meeting.

BUY & SELL

Classified rates: 49 cents per word, each insertion, payable in cash in advance. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it) count as one word. Not less than 10 words accepted. Copy or cancellation orders MUST be in by the 1st of the month preceding publication. Send classified ads to the A.I. Root Company, Advertising Dept., GLEANINGS IN BEE CULTURE, Box 706, Medina, Ohio 44258-0706 **Note: BLIND ADS: Any ad sent in that does not contain the seller's Name and Address within the ad, will be charged an additional $6.50 per month.**

MAGAZINES

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

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

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

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

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

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

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

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

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

WANTED

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

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

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

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

Complete 700 hive operation in south western Manitoba including buildings, house, trucks and all related equipment. Write to:
Gleanings In Bee Culture
P.O. Box 97
Medina, OH 44256

For Sale: Old Bee Books Dating from Early 1600's to present. Approximately 500 books. Send $3.00 for list. Refundable upon first purchase. James H. Johnson, 107 W. State Street, Terra Alta, W.V. 26764. Phone: (304) 789-6486 10/85

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

For Sale — 170 strong colonies, never any disease, 3-6⅝" with 3-frame feeder each, 6.00, 6⅝" supers A-1 equipment with extracting equipment. 805-556-4127 Virginia. 10/85

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A devastating fire has destroyed my honey house with all my equipment. It left me with 115 hives and I will sell for $55.00 each. They are ten frame two and three deep, 190 deeps at $9.00 each and 400 supers at $8.50 each. All with drawn comb. The works for $10,000.00. Contact Allen Riggs, 222 So. East St., Hill City, KS 67642. Phone day 913-674-2579, evening 674-2530.

10/85

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

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For Sale: Northern California Bee Business 300+ 2-story colonies. 10,000 queen mating nucs, honey supers and supporting equipment. Pollination, package and queen bee contracts. Boxholder, P.O. Box 4693, Chico, Calif. 95927. 2/86

Complete 600 hive operation, in central Wyoming. Migratory operation. Inquire: 1260 Bretton, Casper, Wy. 82609. 307-266-4521; 234-7368. 10/85

For Sale: 20 colonies bees 2 deep with honey crop $45.00. Edward Stankus, Bridgeville, PA 15017. (412) 221-6769 10/85

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20 Colonies of bees three two supers deep $40.00 each. (216) 467-5507. Sagamore Hills, Ohio. AK TF

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FOR TOP QUALITY BEE SUPPLIES and advice on beekeeping problems, visit your nearest Root dealer and send for your FREE Root catalog. Satisfaction guaranteed. The A.I. Root Co., P.O. Box 706, Medina, OH 44256. TF

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

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

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WANTED — All grades of extracted honey. Send sample and price. Deer Creek Honey Farms, London, OH TF

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

HONEY FOR SALE

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

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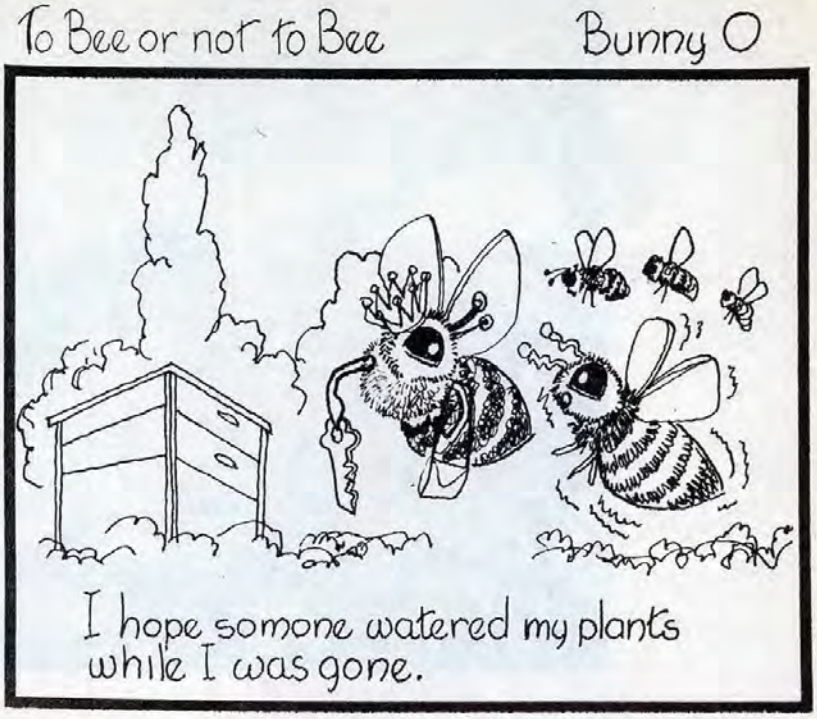

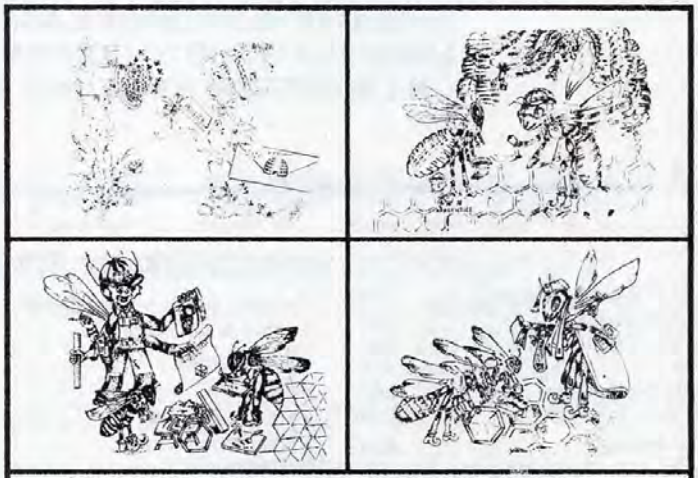

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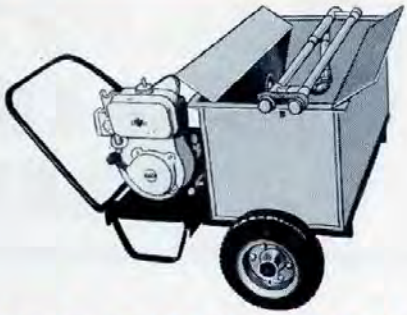
Walter T. Kelley Co.

Clarkson, Kentucky 42726



POWER PUMP SPRAYER

3 HP Tecumseh 4 cycle gas engine directly coupled to a centrifugal pump on a light channel iron base with supply tank and fittings to spray syrup into both sides of empty combs.

Must have syrup supply tank on truck with flange on side for hose – float valve controls syrup to supply tank.

Cat. No. 248 FEEDER PUMP

Ship. wt., 185 lbs. $275.00

Write For Catalog For Details

WALTER T. KELLY CO.
Clarkson, Kentucky 42726
Truck Shipment Only

QUEEN BEE SPECIAL

FALL PRICES SEPTEMBER 1st THROUGH OCTOBER 31st

1-5 . . . . . $6.00 EACH
6-24 . . . . . $5.50 EACH
25 up . . . . . $5.00 EACH

BABCOCK GOLDEN ITALIANS are large golden yellow bees that are easy to handle, very gentle and produce very large colonies. They are extremely good honey producers developed from my top honey producing hives. They are "THE MOST BEAUTIFUL BEES IN THE WORLD."

BABCOCK IMPROVED SILVER GREY CARNIOLANS have been developed from hardy, tough strains from the far North and can be wintered very successfully in outdoors in extremely cold temperatures. These large silver grey bees work equally well in hot or cool climates and are excellent honey producers. I believe my strain of Carniolans are the most Winter Hardy race in existence. These bees are extremely gentle and can be worked in good weather without smoker or veil.

BABCOCK RACIAL HYBRIDS are a true cross of my Silver Grey Carniolans and my Golden Yellow Italians. To obtain this cross bred hybrid, Carniolan queens are mated to Italian drones. This hybrid is a very prolific hard working bee developed for vigorous commercial honey production. This cross bred bee is very Winter Hardy and does well even under adverse conditions.

QUEENS — All of my queens are double grafted and are guaranteed mated and laying. My large 4-standard brood frame mating nucs allow me to carefully check the egg laying pattern of each selected queen before she is caged fresh and shipped to you via air-mail the same day. Fumidil-B is fed as a nosema preventative to all package colonies and queen mating nuclei. A government certificate of health inspection certifying our bees are free of all brood diseases as well as ACARINE mites accompanies all shipments. The state of South Carolina has never had a known case of honey bee tracheal mites (Acarine Disease). Queens clipped or marked or both, add $1.00 for each extra queen.

Indicate your choice of race. Mixed orders will carry the quantity discounts.

LIVE DELIVERY GUARANTEED.

Add shipping prices to package if ordering by mail; Shipping charges include postage, insurance, special handling fees and handling charges. Insurance coverage is for full value of bees only. Insurance does NOT cover shipping charges. Personal checks, money order or cashier's check accepted in U.S. currency only. Queens are postpaid and shipped air mail. Shipments begin April 1st. Please indicate desired shipping date.

HUCK BABCOCK — Queen Breeder

Post Office Box 2685
Cayce-West Columbia, South Carolina 29171
Office Phone — (803) 796-8988 **Phone after 9 p.m. only (803) 256-2046**

QUALITY PRODUCTS... QUALITY SERVICE... QUALITY PEOPLE...

You hear or read about QUALITY every day; "The quality goes in before the name goes on," or "Quality is job one," and the list goes on.

At THE A.I. ROOT COMPANY, we still believe that QUALITY is important.

For well over 100 years, we have dedicated ourselves to the manufacture, sale, and service of only the finest quality products,and we plan on doing so for at least 100 years more.

Foundation, Woodenware, Protective Clothing, Beekeeping Tools, Processing Equipment, Containers, Books, Teaching Aids. No matter what your needs, go with the best. Go with ROOT QUALITY.

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