GLEANINGS IN BEE CULTURE OCT. '86

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GLEANINGS IN BEE CULTURE

OCT. '86

SINCE 1873

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Created to Help Beekeepers Succeed

113 Years Continuous Publication by the Same Organization

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COVER . . . Reflect, if you will -- National Honey Week: October 19 - 25.

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Inside in October

National Honey Week brings out the marketing bug in us here at *Bee Culture*, so we've put together an issue that looks at several aspects of this most challenging situation.

Ken Kifer takes a look at one of the more subtle aspects of selling honey -- the sellers attitude and sales pitch (something often overlooked but certainly worth thinking about). We also have a pictorial essay featuring some of the more unique honey stands seen around the country and why they work.

Using honey in cooking is another good way to promote your healthy harvest. Kathy and Roger Hultgren offer thoughts on an entire meal using honey --- complete with recipes.

Dr. Jaycox offers some insights on present and possibly future marketing situations, while Tom Sanford takes a long hard look at the government's adulteration testing procedure.

When considering the sale of any product, it pays to know your competition. We offer a recent list of products produced with Nutrasweet®, a very major competitor with natures' 'Natural Sweetener'.

Selling other hive products is an excellent way to supplement your honey income. Henning Spitznagel gives a brief overview of Royal Jelly production and touches on the economics of his method.

Taking a broader view of the world, we conclude Eric Erickson's article on recommendations for handling the Africanized Honey Bee, and we also conclude Shaparew's article on Hive Ventilation. Both must reading -- and must finishing.

Our regular writers, a honey of a puzzle, and always those few surprises tucked away -- all waiting, Inside In October.

COMING NEXT MONTH. Beekeeper Ugli returns to the pages of Bee Culture next month, along with some extra pieces by Charlie Koover. A look at a couple of Bee Research Labs in the country and some information on wintering await your reading, Next Month in Bee Culture.§

WALTER T. KELLEY

Walter T. Kelley, 89, the world's best known Bee Man, passed away Friday, August 22, 1986. Mr. Kelley was born July 30, 1897 in Sturgis, MI. He graduated from Michigan State in 1919.

Between 1919 and 1924 he worked for the USDA in the Barberry Eradication Program and for E. B. Ault in Weslaco, Texas, raising bees and queens. In 1924 he began the Bee Business full time in Houma, LA, selling bees, queens, honey, and cypress bee hives. In 1926 he married his life's mate, Ida Babin and printed his first Bee Supply Catalog.

Many events took place in Mr. Kelley's life during the 30's. He began manufacturing foundation with equipment he purchased and due to few available cypress trees, moved from Houma, LA to Paducah, KY. There he built a brick house and in 1937 followed with a brick factory. In 1938 he started manufacturing extractors, tanks and boilers for honey harvesting.

In 1950 The Kelley Company moved to a 225 acre farm near Clarkson, KY and rebuilt the factory. The company has been doing business at that site since then.

Dr. Richard Taylor once wrote of Mr. Kelley: "Like so many beekeepers, Mr. Kelley is a loner. The sole architect of his life and success, with a great quality of individualism. In every sense, he is a self-made man. His bee supply factory is a monument to his industry and his genius. But to Mr. Kelley these are unimportant -- modesty, simplicity and a delightful sence of the absurd are the important facts of life. You cannot meet Mr. Kelley without instantly recognizing his integrity. Crusty, outspoken and refreshingly irreverent, you nevertheless see a man of firm principle and the warmth of genuine friendship for everyone he meets."

Walter T. Kelley -- You will be missed by family, friends, and the industry you helped build.§

THE INNER COVER

WASHINGTON TRIP PART II

If you've heard it once, you've heard it a thousand times -- WRITE YOUR CONGRESSMAN! While I was in Washington, I had the opportunity to see what effect this has -- do those letters count?

I got the chance to talk at length with four Hill residents when I was there, but I also got to chat with the folks that work for them -- the Legislative Aides.

Legislative Aides. These aren't the people you see on the 6:00 news every night nor will historical legislation bear their names, (i.e., Gramm-Rudman). But these are the people who make and keep things working up there. So when you want to find out what's going on -- find an aide.

We found several, and each was able to share some of the secrets of their jobs.

The first person we talked with was Ms. Kellye Eversole, LA (Legis. Ass't) for Senator David Boren, OK. Senator Boren is a strong supporter of the Beekeeping industry and serves on the Senate Ag Committee. But, much of the research and background needed to serve on this committee is supplied by Ms. Eversole. Kellye is an extremely effective Aide. She has served on the Hill for several years and knows most of the contact people necessary to get things done when needed. She and her cohorts supply as much factual information as possible to the Senator so that the decisions made are as sound as possible.

Both Senator Boren and Ms. Eversole emphasized the point that many of the decisions are based on what constituants want. Letters are read, analyzed and filed under the appropriate response. Kellye said that her office receives 2500 - 3000 letters per week and that they ALL get read.

Next was Mr. Mel Usted, LA for Senator Larry Pressler, SD. Mel doesn't have a strong Ag background, but does understand the problems of beekeepers. His main function seemed to be initially talking to visitors to get their background, so he can then brief his boss. Senator Pressler is another strong supporter of the beekeeping industry, and is particularly concerned about the aspects of pollination of wild plants.

Mel stated that they received about 50-60 letters from beekeepers in his home state last year -- and he's looking for more.

We briefly talked to Robert Lamina, LA for Representative Joe Skeen, NM. Mr. Lamina introduced himself and we chatted for a moment before talking to Representative Skeen. This is another Hill resident who is vitally interested in the present situation of our industry. Pollination of both cultivated and wild plants was discussed, but he also voiced a deep concern regarding the contact between the Washington crowd and the folks at home. He made a statement that I'll never forget -- "Politics is *not* a spectator sport".

He went on to outline several methods that constituants can use to accomplish this -- but THE main technique is to write a letter.

Finally, we talked to Representative Glenn English of OK, another supporter of our industry. This interview had been previously arranged and we were able to shoot right in. Representative English also brought up the subject of contact with home constituants. He too emphasized the need Congressional folks have for contact with home. He does realize that this is sometimes difficult for people to do. There exists a 'mystique' around elected officials in the form that "Why would he listen to me?".

This just isn't so -- according to everyone I talked to. They all listen, in fact, they must listen -- because if they don't, there's somebody else who will.

These folks had more to say, especially about the beekeeping industry in their respective states, but I'll save this for future use. The point I'm trying to make is that you can write to Washington, and your voice will be heard.

But you don't need to write a 3 page tome. Representative English showed me a letter that he said was the most effective letter he had received regarding the recent Honey Price Support Bill. I have it here, in it's entirety. It was hand written, on regular stationary:

Dear Representative English;

I support the proposed Honey Price Support Bill, and I would be pleased if you did too. Thank you.

How simple can you get! Five minutes, 22¢, and you have been counted.

•

There are several books and thousands of beekeepers that say you can learn a lot about the inside of a honey bee colony by watching the outside of a honey bee colony.

Since I've tried this I can testify that it's generally true. By careful observation you can determine what color and about how much pollen is coming in; fanning behavior; washboard routines; house-cleaning activities; dead, dying or diseased brood removal; cleansing flights; orientation flights; foraging strengths. The list goes on and on. This sort of unobtrusive beekeeping can be beneficial because a colony is not needlessly disturbed. There is certainly a very low element of risk to the observer; both from the bees and from finding anything really wrong that has to be dealt with.

But, and there is always a but, you can't tell *exactly* what's going on inside unless you open the top. In fact, there are some things you can't even guess at by watching the outside and would never know without removing the cover.

Some of these include -- egg laying pattern of the queen; new queen cells present; acceptance of the new plastic foundation just put on; degree of wax moth infestation -- again, the list goes on.

I'm not slighting those who advocate careful outside observation. In fact, it's just the opposite -- a good beekeeper uses every tool available to do the job better. This means observing both the outside and the inside of a colony.

So just for a moment, I'd like you to think of the beekeeping industry as a whole, in the same terms as the colony just mentioned.

By careful observation, from the outside, you can find out what kinds of activities are generally going on. By reading the journals, you get an idea of what's happening on a large scale and maybe get a few ideas to try out. You will probably be a pretty good beekeeper by reading the journals, a few good books and trying out what you learn.

But there is no risk in this method and you'll never know exactly what's

Continued on Page 513

Monthly Honey Report

October 1, 1986

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

Wholesale Extracted	Reporting Regions									
Sales of extracted, unprocessed honey to Packers, F.O.B. Producer. Containers Exchanged	1	2	3	4	5	6	7	8	R	A
60 lbs. (per can) White	34.50	39.60	--	40.93	47.50	36.75	37.25	43.20	27.00-49.00	39.66
60 lbs. (per can) Amber	31.40	34.47	--	32.40	45.00	33.75	36.00	38.10	22.80-45.00	35.05
55 gal. drum/lb. White	.49	--	--	.52	.46	.63	.60	.58	.45-.60	.54
55 gal. drum/lb. Amber	.43	--	--	.42	--	.58	.55	.54	.35-.60	.49
Case lots -- Wholesale										
1 lb. jar (case of 24)	27.93	28.40	--	23.50	26.65	24.50	25.00	30.12	23.00-38.40	25.30
2 lb. jar (case of 12)	27.06	26.43	--	22.75	23.15	33.88	31.15	27.45	21.00-44.75	27.38
5 lb. jar (case of 6)	30.40	31.00	--	23.99	28.20	23.75	25.30	28.35	22.00-38.00	27.61
Retail Honey Prices										
1/2 lb.	1.00	.85	--	.80	.89	1.20	.85	1.06	.70-1.50	.95
12 oz. Squeeze Bottle	1.35	1.37	--	1.29	1.27	1.43	1.06	1.52	1.06-1.50	1.37
1 lb.	1.21	1.54	--	1.48	1.53	1.55	1.53	1.72	1.29-1.89	1.59
2 lb.	2.67	2.75	--	2.88	2.70	2.92	2.76	2.81	2.29-3.55	2.79
2-1/2 lb.	3.75	4.00	--	--	3.15	3.60	3.41	2.99	2.99-7.00	3.84
3 lb.	4.00	4.38	--	3.22	4.05	3.92	3.49	3.54	3.00-4.98	3.81
4 lb.	5.13	4.90	--	4.35	4.14	4.55	4.75	--	4.35-5.30	4.85
5 lb.	6.75	5.77	--	5.75	6.90	5.37	5.37	5.36	5.00-7.00	5.83
1 lb. Creamed	1.75	--	--	1.51	1.68	1.43	1.48	1.56	1.25-1.75	1.56
1 lb. Comb	2.23	2.20	--	2.92	1.75	1.78	1.85	3.13	1.75-4.00	2.36
Round Plastic Comb	2.10	--	--	1.68	--	1.75	1.63	2.25	1.50-3.00	1.91
Beeswax (Light)	.98	1.10	--	1.03	.85	1.06	1.00	1.20	.80-1.25	1.03
Beeswax (Dark)	.88	1.00	--	.92	--	.84	.90	.95	.70-1.15	.94
Pollination (Avg/Colony)	20.00	--	--	27.50	--	19.00	22.00	19.50	14.00-27.50	21.25

New Features on Honey Report Graph

We have rearranged the regional map used for our monthly report. There are now 8 regions instead of 9. We are trying to make these regions more uniform in nature, but as you are aware, conditions can vary across the street let alone over several states.

On the far right hand side you will see two different columns. The first, labeled "R", is the price range of prices reported from all contributors -- lowest to highest. This will give you an idea where you stand nationally. The second column, labeled "A", is the average price of a particular commodity across all regions. Example: the range in price of a 1 pound jar of honey sold retail is $1.29 - $1.89 and the average price across the country is $1.59.

In the comments section you will see a figure called the "Price Index". This figure is only a descriptive statistic that compares all regions to the highest region of the month.

Example: Region 5 has a price index of 1.00 this month and remaining regions are compared to that index.

Note: These figures are only as good as the data sent in by our reporters. If you believe the numbers here are not indicative of your area please contact us. We are actively seeking reporters in Regions 3 and 5. If you are interested, please contact the Editor. We provide token compensation for your efforts.

Region 1.

Price index .85. Sales slow. Crop poor to non-existent in most areas. Rain and cool weather primarlily the cause. Government giveaway hurting sales. Fall flow hoped for.

Region 2.

Crop index 1.00. Sales slow. Most areas short of stores and fall flow unpredictable due to variable moisture. Most honey produced is dark.

Region 3.

No report.

Region 4.

Price index .71. Sales steady to slow. Generally poor production during summer with below average fall crop expected. Feeding will be required in most areas.

Region 5.

Price index .88. Sales increasing with high demand and low supply. Low moisture in most areas resulted in poor production with fall flow expected to be short. Feeding will be necessary in many areas.

Region 6.

Price index .70. Sales steady to slow. Import and giveaway honey hurting domestic sales. Colonies in fair to poor shape due to dry weather. Production down significantly and feeding in progress in some areas.

Region 7.

Price index .77. Sales steady. Colonies in fair to good condition, erratic rains causing unpredictable sumer and fall flows.

Region 8.

Price Index ..80. Sales steady to increasing. Northern regions production average to above. Southern slightly below to poor. Bears in North causting severe problems.

Alaska.

Reporter too busy to send in report this month.

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4. ***If you should have a problem with your order or merchandise, write a letter to the seller*** with all of the pertinent information. Telephone complaints should be followed up with a letter of confirmation. Keep copies of all correspondence.
5. ***If you have thoroughly followed up in writing*** with the seller on your problem and still are not satisfied, contact the consumer protection agency in the seller's state or your local U.S. Postal Service.

Dear Editor:

Longtime readers of bee journals and friends of ROY THURBER will be interested in a recent announcement appearing in the Entomological Society of America Newsletter, August, 1986:

The University of Washington has confirmed the receipt of a $250,000 anonymous contribution to establish a Distinguished Professorship at the University to be named "THE ROY THURBER DISTINGUISHED PROFESSORSHIP" in the Entomology Department, for studies of pollinator ecology. The gift was matched by $250,000 from the state's Distinguished Professorship Trust Fund.

Roy passed away a few years ago, but he wrote frequently with the best interests of all beekeepers at heart. It was my priviledge to have called him friend.

As is customary, a Distinguished Professorship, or a "Chair" at a University, will mean a great deal of money will be available to attract the highest quality person available. This in turn will attract high caliber students. Beekeepers everywhere should rejoice in this gift to the University of Washington as it will benefit all of us.

Steve Taber
Vacaville, CA

Dear Editor:

"Honey is good for more than just eating."

These are the words of H.R. Miller, Elwood, IN, who has been raising bees for many years. Miller said honey can be used as a facial mask and claims it increases the body's ability to heal wounds and burns. Miller said honey is also used for its medical value in making cough syrup. He frequently has cookbooks published by the Indiana Beekeeper's Association with recipes using honey as a sugar substitute.

"There is little waste to bee proeducts" Miller said. "Wax is used for many things, with Elwood Industries purchasing it for metal and glass mold production. Some people chew the cappings, claiming it is good for respiratory and sinus problems. It can also be used for coating metal and sticky drawers, candle making and strengthening thread in sewing."

Simon Schwartz,
P.O. Box 183
Berne, IN

Dear Editor:

There is probably no human endeavor where Murphy's Law is more applicable than in beekeeping, where anything that can go wrong *will* go wrong at the worst possible moment, resulting in dire consequences. Honey bees are wise beyond comprehension and totally unforgiving of error and stupidity.

Since robbing my first bee tree 55 years ago at the age of fifteen, I have probably made every mistake possible working with bees, some through ignorance, but most the result of carelessness and/or overconfidence. Considereing my age and long experience, I should have know better, but recently I pulled off about the worst stunt of my career for which I paid dearly by collecting the most stings I had ever gotten at one time.

The caper happened this way: Early this past June, a tremendous swarm of bees took up residence in some old hive bodies in my back yard. I quickly transferred the thriving, vigorous colony into a hive filled with good, clean brood comb. In setting up the new hive, I put the supers on a bottom board I'd made from an old piece of plywood which, after several days of heavy rain, began to come apart and curl up at the front, causing rainwater to run back into the hive. So, on the first sunny day I decided to replace the board, a very simple job.

It being so warm, I didn't relish putting on my heavy one-piece bee suit but, instead, got into a light jacket and well-worn jeans. On my feet I wore ankle high work shoes with extra long laces that I usually used to tie the bottoms of my pants legs with. But, to my eventual sorrow, the old pants were not beeproof and had shrunk to well above my shoe tops and offered little protection for my legs. Anxious to get the job done though, I did put on a veil and gauntlets. Ill-prepared, but unconcerned, I took off the top super and set it aside.

The second super seemed unusually heavy for this time of year, but it suddenly got lighter when the next super in the stack became unstuck to the second and came loose, hitting the ground at my feet in an explosion of bees, some of which quickly discovered my shoelaces weren't secure enough to keep them from crawling up inside my pant legs, stinging as they went!

Most of the resultant stings were on my calves and ankles, which set me to dancing a jig such as I had not performed since my days as a jitter-bugging GI during World War II.

My wife, who had been watching the performance from a rear window of the house, beckoned to me to come in. Meeting me at the door with a broom, she swept off all the bees she could and when I'd undressed she flicked the stingers out

Continued on Next Page

MAILBOX . . . Cont. from Page 493

and applied meat tenderizer to the punctures which relieved some of the pain. Although I'd been stung mostly below the knees, I had been attacked on my neck, wrists and forearms, too. In my haste to get at the job, I hadn't gotten the sleeves of my jacket properly into the cuffs of the gauntlets and the enterprising insects had gained access via that route, too. Altogether I was stung probably 25 times during the session, but it was not a completely lost cause because, being an arthritic, whenever I get injected with bee venom I forget about the arthritis pain.

But relief of pain is not sufficient reason to get careless when working with honey bees, and my wife said, caustically, "At seventy you should have sense enough not to get careless with your bees, we've been through all this before, in case you've forgotten, Dear."

The point she was making is that you have to be smarter than the bees, which I certainly hadn't been on this occasion. Murphy had been 100% right all along.

My mother had a saying that is most appropo here, "There's no fool like an old fool!"

Tom E. Clarke,
15531-9th NE
Seattle, WA 98155

Dear Editor:

I read in Dr. Taylor's "Questions and Answers" column in the February '86 Gleanings about the warming box with great interest. For what ever reason I had missed the original article in the December '85 issue. I had a large plastic tank with close to 200 pounds of honey that was a little more than just sluggish. I was looking for ways to liquefy it that would be easy but not damaging to the honey.

I have subsequently created my own warming box with a few modifications that might be of interst to some of your readers. After some searching, I found a large, old chest freezer and after scrubbing it out and replacing the original hinges with strong strap hinges, I stood it on end on a 2x4 platform. I needed the extra height so that the door would not hit the floor. Inside I mounted two porcelain lamp sockets and a small "muffin" Fan. In the circuit I added a thermostat for an electric hot water heater.

Now I can place either a few jars or even a large tank in the warming box and it can all be liquified with no fear of over heating. The fan assures even heat throughout the box, and the thermostat prevents the box from overheating even though I use two one hundred watt bulbs.

I have the thermostat set so that the temperature holds around 110 to 120 degrees fahrenheit. I verify this using a candy thermometer. Unlike using hot water or a microwave oven, your honey never gets hot spots. The temperature is slowly and evenly raised and maintained until it is completely liquid again.

Some pointers for those who would like to try these ideas. Muffin fans can usually be found in surplus stores or at your local computer repair shop. They are used in most computers these days. Mine was removed from a computer terminal because it was too noisy. I can't hear it in the old freezer. Make sure you ask for a 110 volt model.

The electric hot water heater thermostat should be available at any home improvement shop that carries electric hot water heaters. They are meant to mount to the outside of the hot water tank. In my case I simply used sheet metal screws to secrue it to the inside metal liner of the old freezer. They are adjustable between 100 to 170 degrees. For those using a wooden warming box you might want to put a large piece of aluminum flashing on one face of the box and secure the thermostat in the middle of it.

Ted Parker,
3123 Rock Valley Rd.
Metmora, MI 48455

Dear Editor:

This is an Open Letter to The Honey Board Members and all other concerned beekeepers:

For you who were recently nominated to serve on the Honey Board and for the entire Beekeeping Industry this is truly a momentous occasion! The idea of a national research and promotion program financed by mandatory assessments was endorsed by the members of the American Beekeeping Federation more than 25 years ago and finally in 1986 it has become a reality.

As members of the first Honey Board, you are in a unique position. Everyone in the industry and our supporters in congress are depending on you to make this program work! Whether in the past you have been a supporter or an opponent of this program or whether you may have had some individual special interest to serve, we know that you are dedicated to making the program successful or you would not have agreed to serve on the Board.

In carrying out the duties of the Honey Board as they are stated in the Marketing Order you have assumed some ***major*** responsibilities. Fulfilling these responsibilities will not be easy and some of the actions you may find necessary to take will seldom be popular with everyone in the industry.

One of your most important duties, and one that may be the most difficult and sometimes the most unpleasant to carry out, is making certain that ***everyone*** who is subject to the terms of this order does comply with its terms. As a Board Member it is your duty to make certain that every report of non-compliance is fully investigated and the results of the investigation forwarded to the Secretary of Agriculture so appropriate actions can be taken to ensure full compliance with the terms of the order!

Even if a neighbor, close friend or relative might be involved, this "policing" responsibility must be fully carried out! Non-compliance, or even just rumor of such, not only can have a direct adverse impact on the program but will encourage others to do the same.

While the A.B.F. has spent many thousands of dollars and hours getting the program to this point, we want everyone to understand that ***it is now an industry program*** and no longer just an American Beekeeping Federation effort.

You can count on our full support individually and as an organization, and we wish you the best of success.

Frank Robinson,
Secretary-Treasurer
American Beekeeping Federation

Dear Editor:

Alfalfa growers in sourthern Alberta say they will fight to keep using the insecticide Furadan even though area beekeepers report it is wiping out their honey bees.

Some beekeepers in the Canadian province have reported up to 75 percent of their bees lost because of the highly toxic insecticide.

There are some 35 beekeepers in southern Alberta producing an estimated C$35 million worth of honey annually. John Weibe, director of the provincial agriculture department's plant industry division, said Furadan is being used primarily to kill grasshoppers.

"There's no doubt about it," he said. "They are clear-cut cases. When a hive is near a field that is sprayed with Furadan the kill is dramatic. There are a few farmers who have had a few (bee) yards completely wiped out."

Farmers believe Furadan is the most cost-efficient insecticide on the Canadian market - and they have no intention of giving it up.

The province pays farmers one-half the cost of the chemical's application in their fight against grasshoppers, weevils, aphids and other crop-threatening insects.

It has been on the market for about 15 years, but its use in southern Alberta has recently been stepped up because of heavy grasshopper infestations.

There are 135 alfalfa seed producers in Alberta, 80 of them in the sourthern area. More than 90 percent of the farmers in the south grow alfalfa, using about half the land. The area produces about

Continued on Page 496

Advertise Without Cost

By RICHARD THOMAS EDWARDS

Is it possible to advertise without paying for it? Of course it is possible!

This kind of advertising is called indirect advertising. While you do not physically pay for space in your local newspaper or buy air time on radio or television, you will be investing some time and effort.

You can equate that to advertising dollars, too. But when you don't have the physical cash resources to advertise, you will find indirect advertising methods work just as well as if you had invested money in direct advertising.

Some people -- those familiar with this concept -- might call it public relations or public affairs. I disagree. Public relations or public affairs is a tool used to enhance public opinion or image of a business or business person. P/R also aims mighty guns at educating the public regarding a new product or product line.

This particular concept of indirect advertising involves using only one method in the many contained within the public relations scope. You want to let people know about your business or that you offer a special service.

As your business becomes healthier, you may want to include the rest of the public relations efforts to bear with your advertising dollars. Meanwhile, this will get you through the crunch.

FOCUS ON WHAT YOU SELL AND WHEN YOU SELL IT

It doesn't matter what product line you are involved with. There is a time and a point of interest which combines to generate the most business for you. It is either at this point or within a month of it that you will want to do some indirect advertising.

Hopefully, you will find one peak point in each quarter. That will give you four high volume dates to work with.

But don't shut down your creativity sheerly based upon consumer buying trends. Remember, you can educate the public.

If the trends aren't there, simply find four quarter points where, tying your product line to a holiday or seasonal event -- you can generate one or more topics of interest.

You'll be able to find four. It doesn't matter if you are selling books, health foods, tires, teddy bears or bees, whatever you are selling, there are points in time throughout the year when these subjects will be highlighted by a seasonal event or holiday. You can choose graduations, secretary week, Mothers Day, Fathers Day, and so forth and so on.

Once you have four of them, concentrate on a unique way to present the product with the subject you've chosen.

Consumers want to know about subjects that effect them. When are bees more troublesome? How do you clean a teddy bear without removing the color -- or worse, have the bear fall apart in the washer or dryer. When is the best time to buy seasonal tires, is there any worth in buying off brand tires, how do foods effect the body and mind, is sugar as bad as its reputation, when's the best time to buy a thriller, and how will I know when popular national authors are coming to the local bookstore.

I could name two dozen article ideas for each of the above businesses. And each can be of interest to your local media outlets.

HANDLING THE MEDIA

Much of how far you get with your local media will depend upon that very first contact you make with each media's representatives. Contact the city editor by phone.

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Promotion: What Do We Promote?

By GLEN L. STANLEY

There has been considerable mention of promotion throughout the industry over the past several months. The question is "how best to go about doing it?"

For months, industry producers have worked on a project which, with government involvement, would produce what is known as "a promotion and research act" or as it is sometimes referred to, a self help program.

This idea was finally developed and brought to a referendum which was approved by about 87 percent of the eligible beekeepers who bothered to vote. However, the total *production* of those voting in favor of the check-off equaled **only 37 percent** of the *total production* within the United States. This leaves a considerable amount of honey in the hands of those unaccounted for, and it's anyones guess whether those producers will participate in the check-off.

The best we could hope for within this promotion and research act is some good, down to earth research that would eventually provide new and different ways of using honey. If we have in mind something that is a quick solution to the problem let us not expect it through research. Research projects usually require several years before anything beneficial results. Most anyone in research will tell you that 90 percent of all research results in nothing, the other ten percent generally results in some way to solve a specific problem or at least work toward that end. It may have been summarized best by the Director of the Iowa Department of Agriculture's Sheep Division who said, "research is an on-going project that has no conclusion!"

But first, let's go back and take a good, sound look at what we are attempting to promote. We realize there are commodities that can be generalized as far as the product itself is concerned. Not so with honey. Properly handled honey will remain marketable for quite some time, but does deteriorate to some extent with age.

When we think of *generic* promotion we think of each item in generalities, and as we sample many of these products we find them inferior to brand name products, not just in quality but in quantity within the container. Is this what is to happen with the generic promotion of honey?

Unfortunately, the various types of honey cannot be generalized, including honey produced in the same general area within a township, county or state. It is extremely unfortunate that a high percentage of honey being marketed is **not** pleasing to the taste, but that is how it is. After a period of more than 40 years of observing how honey is produced and processed by beekeepers, it is easy to see why much honey is of inferior quality.

Top quality honey cannot be produced on dark or black combs. It is obvious to me that a major portion of honey is produced on such combs. Further, good honey produced on white combs can be damaged through various processes, especially overheating. Honey that is stored containing many, many wax particles, as well as other foreign matter, will affect the quality tremendously when it is reliquified at a later date. Care should be taken to remove all debris as the honey is processed and made ready for storing. There are devices to clarify honey which are quite satisfactory. A baffle system is probably the simplest.

We have acquired data from many research people, including chemists outside the research group, who tell of residues

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MAILBOX . . . Cont. from Page 494
C$5 million in alfalfa seed and C$50 million in alfalfa hay annually.

Said Eleanor Simpson, manager of the Alberta Alfalfa Seed Producers Association: "We require it as a chemical control measure for insects in our fields. It's important to our industry. There's a lot of farmers out there ready to clamp down on beekeepers if they wiggle."

Alfalfa hay producer Jock Airth said it would hurt his operation to give up Furadan. "It would increase my input costs by C$15,000. That's a lot of money to support the beekeeping industry."

On the other hand, beekeeper Dale Philpott estimated his operation has lost about C$200,000 since June because of Furadan. He wants the province to stop subsidizing the chemical. "I can survive drought and poor weather conditions, but I can't survive a man-made problem."

Alberta Beekeepers Association board member Henk Dyk said southern Alberta beekeepers have asked the provincial government to compensate them for this year's losses. The government has yet to make a decision.

Last year Alberta beekeepers had a crop of 17.05 million pounds of honey from110,000 colonies.

Agriculture specialists confirm the Alberta honey crop will be down this year. They say it's too early to say by just how much, but the signs are it will be well below last year's average of 155 pounds a colony.

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Birds do it, bees do it, even educated fleas do it.

Well, that's how the old song goes about falling in love -- but it's not so, according to Orley Taylor, a University of Kansas scientist researching control of the Africanized bee.

Taylor told the Western Apicultural Society convention in Victoria, British Columbia, that the mating of honey beesfcan be a split-second affair with no discernable courting. "Not unlike singles bars," he said.

Taylor, in a lecture entitled "Sex at Fourteen Miles an Hour," detailed how this casual sex can be used to breed aggression *out* of the Africanized bees. He said if the bees can't be stopped from moving into North America, its' undesirable characteristics can be tamed by breeding the Africanized queen bees with genetically selected European drones.

"We can manipulate and control the bees. This is much easier than trying to kill off Africanized colonies in the wild where they are hard to find. The more European characteristics we can get into this bee, the more chances we will have of controlling it."

He said a queen bee will go on a mating flight at a height of between 30 feet and 130 feet at a speed of between 10 miles an hour and 14 miles an hour. European and Africanized drones have an equal chance with queen bees. The only selection factor is the speed with which a drone can make contact, mate and break off. Thus, Taylor said, the key is to place genetically chosen European drones where they are likely to encounter an Africanized queen.

Alan Harman,
Apt. 408, 135 Rose Avenue
Toronto, Ont., Canada M4X 1P1

Dear Editor:

In the August, 1986 issue of *Gleanings in Bee Culture* I read about the questions Mr. Baltz had regarding the use of an Atago honey refractometer. According to the information I have, the printed answers were not correct.

Readings made on a refractometer need to be corrected depending on the temperature in order to get an accurate reading. Add 0.1 to the refractometer reading for each 1°C above 25°C or subtract 0.1 for each 1°C below 25°C. (Add or subtract 0.1 for each 1.8°F above or below 77°F.) The thermometer on your refractometer will have a scale telling you what to add or subtract.

Periodically you should calibrate the refractometer. Assuming you do not have the test piece or monobromonaphthalene, you can purchase them from the Walter T. Kelley Company, Clarkson, Kentucky 42726, the U.S. importer for Atago honey refractometers.

I. Barton Smith, Jr.
State Apiary Inspector
Maryland

Editor's Note:

We received *many* corrections to our answer regarding the refractometer in the August Mailbox. We try to publish correct information in this magazine, but occasionally miss the mark. However, it is extremely gratifying to know that there are readers who care enough about other beekeepers to correct us when we err. I'm sure Mr. Baltz is appreciative of your thoughtfullness, and I know we are.

Dear Editor:

The August, 1986 issue of *Gleanings in Bee Culture*, "Questions & Answers" (p. 387) contains two such which compel me to comment.

WALTER LUBACZEWSKI, Sellersville, Pa., asks: "Is there a good method of producing propolis?" and is given this reply: "I know of no special way of producing it, although it is well known that Caucasian bees are heavy propolizers."

Entered in the gadget show at the Eastern Apicultural Society Delaware meeting, August 6-9, was a slotted board called a "propolis collector". It is placed in a matching opening cut out of the long side of a deep or shallow super. Used from April to October, in seven to ten days, when the conditions are right, the slots will be plastered shut by the lively little ladies. Placed in the freezer overnight, it is then harvested by running a hive tool through it. This device was invented by W. Roland Bell Jr., 6901 Robinhood Lane, Ft. Worth, TX 76112 and can be purchased from him. It can be read about in *Gleanings* (Aug. '83, p. 432) in an article entitled "Propolis Production & Roland Bell: Inventor's Resinous-Glue Trap Put to Field Test." *American Bee Journal* also carried a two-part article (Aug. & Sept., '83) entitled "Propolis: The Most Mysterious Hive Element", discussing its demand, etymology, sources, gathering and hive use as well as looking at its serious collection and medicinal usage at home and abroad.

There is another hominal method of gathering bee glue. *Bee Culture* featured an article, "Experimenting with Propolis Production" (Apr. '83, pp. 202-204), in which a framed screen is used in place of the inner cover. After it is filled, it is "freezered" and banged against the floor covered with newspaper for harvesting. A five- or smaller- mesh hardware cloth (five holes to the running inch) should be used -- but NOT the window screen cited in the article (too flimsy). This method is slower than using the Bell Board since it takes months to fill, takes more time to remove, and causes greater bee disturbance.

Harvested propolis bits should be soaked in a pail of water: anything that floats is discarded. They should then be dried on a screen in the shade (the sun will cause them to melt and stick together) and stored in an air-tight container. When properly done, they will remain in chip, not molten, form.

The next query was sent in by DUANE WAID, Interlaken, N.Y., asking, "Is honey made darker by being stored in dark brood combs?"

The reply quotes a John D. Bacon, Auburn, Mich., and an Allen Dixon, Hannibal, NY whose experiments showed this to be true. The editor's note quotes G. F. Townsend (1972) of Canada who speaks to the contrary. I would like to quote another respected author who disagrees with the reply given in *Bee Culture* to wit:

But what about the honey comb itself? Does this have any significant effect on the quality of honey that is spun from it? More precisely, is honey impaired by being spun from dark combs that have been used for broodrearing?

. . . I used to think that it didn't make much difference if one extracted honey from dark combs. I thought it didn't affect the color of this honey

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MAILBOX . . . Cont. from Page 496

significantly. BUT THIS I HAVE LEARNED IS NOT SO. (Emphasis added.)

. . . This summer a student in one of my beekeeping courses brought me two jars of honey from the very same super. The honey in one of the jars had come from virgin comb; combs that had been drawn from foundation that season. The honey in the other jar had come from dark combs that had been alternated with the frames of foundation in the same super. I WAS ASTONISHED AT THE DIFFERENCE! (E. A.) The honey from the virgin combs was light, delicate and beautiful. The other was darker and unattractive. Neither sample had been heated; the ONLY DIFFERENCE WAS THE COMBS THEY HAD COME FROM. (E.A.)

I had been keeping bees for more than two decades when I first read this in *Bee Culture*Dec. '82, p. 662) and my own subsequent experience has verified this to be true: DARK COMB MAKES DARK HONEY. It does make sense. Layer upon layer of cocoon, each with a propolis coating, is in those brood cells as they become older and older. The nectar enclosed therein is, ipso facto, darkened, according to my own experience. That is why I now always try to extract according to color. Most of my honey this year was beautiful light black locust. That which came from my darker comb was without doubt much, much darker whereas that from light comb and/or new foundation was as nature intended it: therefore, over the years, I have become convinced that DARK COMB MAKES DARK HONEY.

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

P.S., The author of the extensive quotation above was Dr. Richard Taylor, Rt. 3, Trumansburg, NY 14886.

Dear Editor:

We saw the advertisement for your three new beekeeping videos in the *Gleanings in Bee Culture*. They sound exciting and informative.

We were beekeepers in the U.S. for many years before coming to Brazil. We came here to start a vocational-agriculture school to help the poor people learn a better way of life (this includes beekeeping).

We are self-supporting so we appreciate all the help we receive. We think these videos would be a real asset to our program. Please use this opportunity to share this knowledge and help further educate these people here by donating these great, new videos to the school. Our system is VHS.

We thank you for your kind consideration in this matter.

Bob & Miriam Eisele
Terra da Promissao
C.P. #30
Posse, Goias, Brazil
77280 S.A.

Dear Editor:

The African Youth Brigade is a voluntary organization in Ghana which is popularly known as A.Y.B., is a voluntary organization with the youth (both male and female). We have more than 50,000 school graduates who chose farming as their future career.

Presently we gave Brigaders from the home Agricultural Institutions, sponsored by our Government, which enable the youth to settle on their own in the countryside. This avoids employment congestion in the cities.

Fortunately, your 1986 Bee Supply pamphets came to me as Regional President in the Volta Region of Ghana. They appeal greatly to the youth who pledge to undergo two week and two year courses in beekeeping in your country. Unfortunately, we don't have the financial support to sponsor our candidates in your country. Therefore, we humbly appeal to you or any organizations in your or other countries to offer Four Scholarships to train at the Agricultural Technical Institute of Ohio State University in Wooster, to enable them to take over the beekeeping projects in our country.

Since the African Youth Brigade has branches throughout our ten (10) Regions in the country, we believe that any benevolent offer to our membership would go a long way to serve as an incentive to the youth of Ghana, who opted to take farming as a basic career.

E. N. Appiah
African Youth Brigade
Regional President
P.O. Box 103, Aflao
Volta Region, W.A.

Dear Editor:

Africanized Bees in Mexico From South Africa? I read with interest the thought-provoking article by Dr. Jaycox in the June 1986 issue of Gleanings. There is a reference to the presence of Africanized bees in Mexico, which must cause great anxiety for US beekeepers. There is the hint of a suggestion that these bees might have been exported to that country by South African queen breeders. I have my reservations on this. Queen rearings is not widely practiced in South Africa and I know most of those beekeepers who do some queen rearing. I cannot believe that any one of them would be so irresponsible as to compromise beekeepers in North America in such a way, the more so since we have stringent import controls on bees ourselves, albeit to safeguard beekeeping against diseases such as AFB, chalkbrood, tracheal mite, and varroa. Furthermore, beekeeping traffic between Mexico and South Africa is limited, to say the least, whereas that between Mexico and South American countries is certainly greater.

Gentle Africans from South America. The facts on the complete failure of the standard stinging test on the island breeding stock are reported correctly by Dr. Jaycox. The temperament aspect has however been given a low priority rating (10%) in the selection index system according to which these bees have been bred since 1976. We found that the temperament within the same colony is extremely variable, depending on a multitude of factors, and is therefore difficult to assess. Crosses between two parallel-selected inbred lines recently tested under commercial conditions were essentially indistinguishable from feral populations. This suggests that even limited heterosis could possibly influence defensive behaviour. Therefore, we regrettably have serious reservations about the introduction of any of our inbred stocks into Mexico for experimental purposes, even if the basic

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Love Potions from Montana

ARLEE (AP) -- A Montana-made aphrodisiac is turning on Far Eastern consumers.

"You can't believe the interest we have in this product," said Ron Hauge of the "Loving Mood" aphrodisiac produced by Montana Pollen & Herbs.

Hauge, the firm's manager and majority stockholder, said people worldwide are interested in aphrodisiacs but Far East consumers are traditional users and aren't embarrassed about buying them.

The firm's representative came back from the Orient recently with over $1 million worth of commitments for health products and dietary supplements -- plus the company's new "Loving Mood."

The aphrodisiac has become the seventh-best seller in the firm's 16-product line since its introduction in May.

The various products contain herbs and bee-related substances, such as pollen, bee propolis, wax, oils and resins that bees gather from trees. Another substance is "royal jelly", which bees feed their queens.§

? QUESTIONS & ANSWERS ?

Q. My biggest problem is mice. I've tried upper entrances and other measures but the bees chew in during the winter and destroy the combs. I tried stapling hardware cloth in the entrances but this obstructs the bees in their housecleaning. Can you help me? John Friend, Kendalville, IN.

A. First, get the hives up off the ground at least a few inches by using hive stands, bricks or whatever. *That is crucial.* Then staple a wedge of hardware cloth in each entrance. If it has half-inch openings it should not obstruct the bees. Then, make sure each colony is tilted forward through the fall and winter by putting a brick or rock under the rear end. This will enable the bees to keep both the hive and bottom board clean, and the hardware cloth can be left there all year round.
-- Richard Taylor

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Q. I am new to beekeeping, with two hives. When do I feed them? How much and for how long? They are two-story hives and the top story is full of honey. Clarence Steinback, Harrison, MI.

A. There is no need to feed bees in the fall under normal circumstances. If, as in your case, the upper stories are filled with honey, it would be a sheer waste of time to feed them and would accomplish nothing. Some beekeepers imagine they can rob their bees of winter stores and then replace them with sugar syrup, but this is an illusion.
-- Richard Taylor

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Q. Can bees survive the winter in a single brood chamber? Guy Bolt, Chattanooga, TN.

A. Yes, certainly in your latitude, provided that the brood chamber is heavy with honey in the fall. I have often wintered colonies in a single story even in this cold climate. What matters is not so much the amount of hive, but rather the amount of honey.
-- Richard Taylor

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Q. For years I have put my extracting supers outside and allowed the bees to clean them up. I have sometimes worried about the bees picking up foul brood this way, but apparently this does not happen. I know you have commented on this but I cannot find it. What do you think? Maynard B. Putman, Grover City, CA.

A. This is a fairly common practice, and from what I have been able to determine, foul brood is not spread this way, although some bee inspectors think otherwise. If supers are stacked outside in a cool area in such a way that air can circulate through them but mice cannot, (by raising them off the ground on a base of hardware cloth, for example) then this reduces wax moth damage while allowing the bees to clean them dry. This is the method of some good commercial beekeepers here. I have for many years set circular section comb honey supers from various apiaries out in my home yard for the bees to lick dry, and have never gotten foul brood in this apiary. I believe, however, that it may be unlawful to expose honey combs in this fashion in California. Finally, beekeepers should consider storing their extracting supers through the winter sticky. This has the advantage that the bees will enter them instantly when they go back on the hives, thus reducing congestion and swarming.
-- Richard Taylor

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Q. The Dutch and Alsike clover bloom was plentiful here this year, but my bees got no nectar from them. Is this due to the humidity and temperature not being conducive to nectar flow? Steve Moritz, Dayton, OH.

A. I long ago gave up trying to explain honey flows or their failures. Sunshine and warm weather are usually needed for good flows, but as often as not, I have found good flows when I did not expect them, and no flow when everything seemed right. I am baffled anew almost every year.
-- Richard Taylor

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Q. Where can I get seeds or plants of the Chinese Evodia or "Bee Bee" tree? Leon Bray, Ventura, CA.

A. Many people inquire about sources for this interesting honey plant. Readers knowing of sources are asked to let me know, so that I can make the information available to all *BEE CULTURE* readers.
-- Richard Taylor

Ed. Note: We have found an outlet for plants. Write to: Forest Farm, 990 Tetherow Road, Williams, OR 97544.

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Q. I am planting basswood trees. How many years before they will bloom? Charles R. Miller, Salem, IN.

A. There are two common kinds of lindens, or basswoods, the American and the European. The first is a large tree, common in some areas such as upstate New York. The second is smaller and often planted in parks as an ornamental tree. I planted a European linden in my yard about eight years ago, and it has bloomed every year, almost doubling its original eight-foot height. I would guess that these trees begin to bloom when they reach about eight or ten feet.
-- Richard Taylor

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Q. In addition to the two large compound eyes that a bee has, there are three tiny eyes at the top of its head. What is the function of these? Robert Brand, Beltsville, MD.

A. I put this question to Dr. Eric Erikson, who suggested that their function is obscure, but that they seem to do little more than distinguish between light and dark. The *Encyclopedia of Beekeeping* (Morse and Hooper) suggests that these three little "eyes" or ocelli distinguish light intensities.
-- Richard Taylor

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QUESTIONS . . . Cont. from Page 489

Q. In a queen cell, the royal jelly is always at the posterior end, while the queen's head is at the other end. How come? What stage does she spin her cocoon? Jesse Harmon, Kennett Square, PA.

A. This is in a way a puzzling question. The royal jelly serves only as a larval food, and the larva is virtually bathed in it. Hence the base of the cell, where the egg is laid and the larva hatches and develops, is the appropriate place for it. The larva ceases nourishing on about the ninth day, pupates, and emerges on the sixteenth. Her head is at the end from which she will emerge, because she herself chews her way out.
-- Richard Taylor

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Q. I am planting four acres of white sweet clover on good soil. How many hives of bees will this take care of and how much honey should it yield? Charles R. Miller, Saleno, IN.

A. There is no specific answer. White sweet clover is a primary nectar source, but it requires an alkaline soil. You might get quite a lot of honey from four acres and you might get none at all. I suggest you try about four colonies.
-- Richard Taylor

NASHVILLE HOSTS SOUTHERN STATES ANNUAL MEETING

By STEVE FORREST, PRESIDENT

The Southern States Beekeepers' Federation has put the finishing touches on their 58th Annual Convention to be held in Nashville, Tennessee, November 1,2,3, and 4. Excellent speakers, entertaining and interesting tours, bargain room rates, and the exciting Nashville area will make this one of the most fun and informative conventions in our long, proud history. Ya'll come!

The Nashville area boasts too many attractions to list, but the most well known are the "Grand Ole' Opry" and "Opryland, USA" theme park. On Saturday, November 1, at 8:30 p.m. we will all experience the Grand Ole Opry, the radio show that made Nashville famous. We'll be staying at the Executive Inn on Murfreesboro Road and buses will take us to this well-known radio show and bring us back. "Opryland, USA" theme park boasts world class entertainment with live musical shows, thrilling rides and all kinds of food. We are encouraging people to come a few days early to take advantage of visiting Opryland as the last day of its season is November 1st. Our hotel has graciously consented to extend our unbelievably low rate of $32.00 per night per room before and after the convention to our attendees.

Nashville is the number one destination for bus tours in our country and for good reason. For over 100 years the area has called itself the "Athens of the South" and they have a full scale replica of the Parthenon to prove it. The area has 16 schools of higher education including Vanderbilt and Fisk Universities. The main drawing card, of course, is music. Each year, aspiring musicians and songwriters flock to Nashvilles' ten block area called Music Row. The big record company names are all there, RCA, Warner Bros., United Artists and Columbia. Along Music Row you can tour Minnie Pearl's Museum, Barbara Mandrel's Musem, Hank Williams Family Tradition Home, George Jones' Car Collectors Museum and Conway Twitty's Music Store. The Country Music Hall of Fame is in this same section along with many other attractions.

Okay, so you don't like music, rides, or good food and you can't stand bargain room rates, then maybe we can tempt you with our best beekeeping convention ever! We've assembled industry leaders to examine every aspect of beekeeping, both good and bad, and have still allowed plenty of free time for you to explore the area around you. We've left Saturday and Sunday relatively open so you can take advantage of the last days of "Opryland, USA's" season. For those so inclined, an advanced bee school is available to sharpen your beekeeping skills, and it begins on Sunday. We will start Sunday evening with a Gospel Music Show sponsored by the Walter T. Kelley Co. Following the music we will have a contest that has long been needed in our industry. We all know who the biggest beekeeper is but we are unsure who claims the title of the best "Story Teller". Since many of us know someone, (or perhaps you are that someone) who spends much time shooting the "Bull", we felt the need to crown the best. (See *My Hive's Bigger Than Your Hive* in Box.) Jim Tew will try and keep order during this contest.

Monday morning's program will feature discussions on pesticides, mites, and the African Bee. The evening session will feature a lecture by the famous 18th century Swiss Naturalist, Francois Huber. He came highly recommended by our famous speaker Aristotle, at last year's convention in Savannah. Following Huber will be the Annual Bee Bowl Contest. The Georgia team will defend their 1985 state championship against the Tennessee Team.

Tuesday morning's program will emphasize promotion. Evening activities

Continued on Next Page

MY HIVE'S BIGGER THAN YOUR HIVE

To make things even more amazing, I supered late. It was hot. Entirely too hot and too dry to hope for a honey crop, but something just told me to get out there and get prepared. Now remember I've been keeping bees for 56 years -- that's right. The year I was born I got my first hive. A keeper can't have bees that long and not get a "6th sense".

The flow came at night. For the first couple of nights none of us realized it. After all, who would have thought that the greatest flow of the century would come at night. It would make sense, in that the weather had been so hot, so dry and so hopeless that the bees would have to do something creative. Bees are like that - *especially* my bees! I raise my own queens, and I select for characters like that. I feel that I have an obligation to the industry to withhold this stock. The upheaval would be too great to have such amazing stock released to an unprepared beekeeping public.

Now, as I was saying, the bees were making this honey at night. Three nights to be exact. I knew this was too good to be true. That my special breed of bees had found a nocturnal source of nectar that could produce such gigantic amounts of honey in three nights had to be an unprecedented feat. The problem -- "Black Nightshade" was the nectar source. It produced a dark honey just as I would have expected from a nocturnal nectar producing plant, but it was poisonous -- all poisonous.

Black Nightshade is a poisonous plant in the potato family. I had to destroy all that honey for the sake of the public. I always have my market's best interest at heart. Beekeeper's are all heart and I am no -

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BUZ-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z-Z

TIME'S UP.

Time's up?? I didn't get a chance to discuss my nuclear powered extractor.

TIME'S UP! Have a seat or the prestigious judges will dock you points and we all know you don't need that. Your story was incredibly incredible. Thank You.

-- Story Tellers name withheld by request

As we've already mentioned, The Southern States Beekeeping Federation is hosting a "Story Tellers Contest" during the regular session of the November Meeting in Nashville, Tennessee. The stories will be evaluated by an *objective* panel of *unsympathetic* judges. Constructive, but *slightly* slanderous comments will be offered to help the story teller (some may already know the participant as a liar) with future stories. It's all in fun and there's no *permanent* damage intended, and there are some prizes involved too. (That should be enough to bring out the worst in practically all of us.)§

NASHVILLE . . . Cont. from Page 500

will begin with a speakers' reception and will be followed by the Awards Banquet. Entertainment for the evening will be provided by a Beekeeper Band, (they finally made it to Nashville).

Door Prizes will be awarded throughout the meeting and a silent auction (we'll explain it to you when you get here) of Antique Beekeeping Memorabilia will be held. Numerous dealers will be present to offer you the newest and best equipment.

Our hotel is in the middle of "food row", with a wide variety both in taste and price and is easily accessible to the hotel.

All in all, we have tried to make this a meeting and vacation that you'll enjoy. You've worked hard all year and you deserve a break, so why not take it in Nashville this year with lots of people with which you have something in common?

For more information on this convention write: Dr. John Ambrose, NCSU Dept. of Entomology, Box 7626, Raleigh, NC 27695-7626.§

THE BEE SPECIALIST

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

Marketing -- Are We Out of Practice?

When we speak of marketing, we have to consider two levels: 1) from producer to packer and 2) from packer (or producer/packer) to the consumer. Both are important for a healthy beekeeping industry because we can't have one without the other, and changes at one level can strongly influence the other. The flood of foreign honey into U.S. markets and the diversion of honey to the federal honey support program have changed the normal marketing pattern for a large number of honey producers. Instead of looking for the best price among the various wholesale honey purchasers, many beekeepers have put their honey under government loan and settled for the support price without a major effort to market the honey elsewhere. Who can blame them?

As we move into a more realistic marketing situation, will beekeepers move aggressively to get the best prices for their honey or will they revert to the old practices that reduced their incomes and played havoc with the honey market? I'm talking here of such things as the not-uncommon trick of loading all the honey on the truck and hauling it to the nearest wholesale buyer without prior contact. On arrival at the buyer's plant, the beekeeper asks about the current price of honey and usually found that it was sharply down. Rather than go home with the honey, the beekeeper accepted the offer, or one only slightly higher. This set the pattern for subsequent sales because the buyer could use it in dealing with other suppliers.

These problems are not confined to the United States. Wink Howland, a Saskatchewan beekeeper, considered them in an article in *Beelines* of Saskatchewan Agriculture, April, 1986. He noted that honey prices had been reasonably stable in 1981-1983, but in 1984 things went to pot. The southern portions of the Canadian prairie provinces produced little honey because of severe drought. At the same time, there were record crops of up to 300-pound averages in the north. These producers, according to Howland, sold large quantities of honey for as little as 40 cents per pound. This action affected other producers as well as the retail price of honey, which dropped nearly $1.00/kg. Howland believes that better cooperation in honey marketing is vital to beekeepers' survival.

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There was an article in *Progressive Farmer*, May, 1986, that related to cotton sales but which offers advice relevant to the honey industry. Under the title, "Marketing

homework makes this student a whole farmer," it told about the marketing efforts of Cesare Fabietti, a California cotton producer. Fabietti realized his need for becoming more involved in selling his crops. He took classes to help his efforts, and realized its importance even more when a professor told the class " . . . that a farmer who doesn't market what he produces is only half a farmer." He now studies market performance, and uses a computer and a marketing service to improve his marketing *and* his income.

"But," you say, "we don't have marketing information available to us as does the cotton grower, with details from around the world." True. The honey producer has much less market support, but he can use a network of other beekeepers, buyers, and any available honey market reports to help his decisions. A marketing class at a local community college or university would be a good place to start in preparing yourself for the marketing "wars" that lie ahead.

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Retail marketing of honey suffers from problems similar to those in the wholesale activities. Don Gibbons put it plainly in an article in *The New Zealand Beekeeper*, Spring, 1985. He asks, "So why is it then that beekeepers can go through year after year working their way through bad seasons hardly able to make ends meet? Then, when a good season does arrive it seems to be the signal to start a price war, and we see honey for sale both privately and in stores at prices of 10 years ago."

In the same issue of *NZB*, Lin McKenzie hit on the problem of what one does versus what one says about pricing honey. He cited the person who wrote that everyone has to move (prices) at once. Ye the man had not raised his prices during two general rises and was selling honey at 12 cents/500 g below McKenzie's whole-sale price. We had the same problem in Illinois with the statements of a beekeeping dignitary who always decried low honey prices while keeping his prices so low that local beekeepers in Champaign-Urbana were hurt by them and complained to me regularly.

Although all beekeepers are plagued with "external" problems that currently threaten their existence, in order to survive, you must improve your responses to the "internal" problems of orderly marketing and obtaining fair prices for your honey. The key to better marketing is *information* and its proper use. Consider ways to get more information and to avoid some of the sad situations I have discussed here.

Where is the Propolis Market?

Several years ago, the offers for propolis by the pound were so enticing that I dreamed of ways to put screens into hives that the bees would fill with propolis on a regular basis. I could then chill the metal screens and readily pop off the pure propolis. That was when the price of these bee-collected plant resins was $40.00 or

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JAYCOX . . . Cont. from Page 502

more per pound. Lately, there are few purchasers and the price is as low as $2.00 per pound. What has happened to the U.S. market for propolis? In New Zealand, where it is sold in lozenges, toothpaste, ointment, and other items, the price was still US$18.00 as recently as last summer.

It is hard to figure just why the propolis market is so weak. A 1985 scientific publication reported that propolis contains compounds called caffeoylics that have antiviral activity. It has been shown previously that this "Bee glue" also has antibacterial activity as well as some beneficial pharmacological effects. These are important characteristics that should be studied and exploited if possible, particularly in view of the problem of resistance to so many medicinal compounds now in use.

If there is one thing responsible for reduction in the interest in products containing propolis it may be the frequency of allergic reactions to them. I do not know the extent of the problem, but it could be rather large, based on human reactions to other plant substances and compounds, including pollen. Queen breeder Terry Gavin of Whangerei, New Zealand, is so sensitive to propolis that he must wear rubber gloves while working with bees. Even then he suffers reddened and peeling skin from contact with propolis.

Propolis and pollen share the same lack of standardization needed for best use and acceptance. In the U.S. and Europe, propolis comes from many different plants including poplar, birch, oak, alder, willow, hazel, pine, eucalyptus, and other, unidentified plants. Little is known about sources in other countries of the world. It is easier and better to use a known, standard compound, or even a standard mixture of items of trade. Unfortunately for the propolis market, bees have been known to also collect paint, asphalt and mineral oils as substitutes or in mixture with the plant exudations.

Beeswax and Skeps For Gardeners

This summer I received a colorful and interesting catalog for gardeners put out by Smith & Hawken of Mill Valley, California. The catalog offers everything from teak garden benches to terracotta rabbits to tuck into your flower border. We don't need the latter items -- our front yard is always full of cottontails and jackrabbits feeding on the greenery. They live in a world full of creosote bush, yet they nip ours off to see if it is better than the rest.

The catalog offers a beeswax hand lotion to offset the effects of soil on the gardener's hands. According to the description, the lotion is made by two Montana families who have tested it under the cold, dry winter conditions there. It is a simple lotion without artificial fragrance, colloids, humectants, or others ". . . you can't pronounce." From the picture of the container, I can read the list of ingredients as water, mineral oil, beeswax, and, I think, borax. A four-ounce bottle sells for $3.00.

Smith & Hawken also offer skeps, the old-fashioned straw beehives, made by Rolla Chandler of Cardiff-by-the-Sea, California. They are made of rye straw and native grasses, depending on the season. Skeps eight inches high and nine inches in diameter are $44.00. Larger ones, about a foot in each dimension, sell for $98.00.

Changes In The United Kingdom

Big changes are taking place in relation to beekeeping information and research in the United Kingdom. The International Bee Research Association, on which many of us rely for the journals *Bee World, Jornal of Apicultural Research,* and *Apicultural Abstracts,* is selling its headquarters, Hill House, in Gerrards Cross, England, and moving to new quarters at University College, Cardiff, Wales. The Association has had recurring financial problems that have threatened to put it out of business. The new arrangement will allow the Association to gain long-term basic income from the sale of its previous quarters, and to join forces with ". . . the largest single centre of scientific and technical expertise in apiculture in the UK . . .".

In the recent past, the bee department of Rothamsted Experimental Station held the title as the center of UK beekeeping research. With the retirement of Dr. John Free and other outstanding personnel at Rothamsted, its future is now in doubt. Dr. Free has been among the top three researchers in apiculture for many years. He has contributed so heavily that his work touches all aspects of beekeeping and has influenced research and thinking around the world. In my own case, John's writing has always stimulated my thoughts on many subjects, and when I teach, I lean heavily on his contributions for lectures and assigned readings. Thanks, John, for helping all of us and best wishes for the future.

Fortunatley, Dr. Free is now attached to University College Cardiff so we haven't lost him completely.

Help Needed

When you use Kenya Top Bar hives, which are well suited for developing countries, you need a simple, sanitary system (not hand squeezing) to separate honey from the combs. Extractors can be adapted for the purpose, but uncapping and handling the frameless combs is difficult. It seems more logical to grind the combs and spin the honey from the resulting mixture, much like the system proposed by Osterlund and Lagerman in their story about the Swedish "FreeBee" System. They illustrated some models of their grinder and separator, but gave few details of their construction.

I feel sure that in the food technology or other industries there are grinders that could serve the purpose of grinding honey combs, but I have been unable to find examples other than home food grinders. These do not have sufficient capacity and may leak easily because of their horizontal grinding action and construction.

If you know of an available and suitable grinder of moderate cost and capacity, please tell me where I might obtain information about it. A handoperated grinder is most suitable, but a motor-driven one can also be considered. A suitable spinner to separate wax and honey presents no problem. It can be purchased or produced readily from an extractor, washing machine, or according to plans available in the beekeeping literature. Thanks for any help you can give me.§

A MILESTONE REACHED!

By FRANK ROBINSON, Secretary
American Beekeeping Federation

Called together in Denver, Colorado, August 15-17, 1986, the first meeting of the National Honey Nominating Committee marks the climax of an effort which started more than 25 years ago! First endorsed by members of the American Beekeeping Federation in 1958, division within the beekeeping industry hindered the effort to implement a research and promotion program financed by mandatory assessments for many years. Not until a combination of world-wide economic conditions and the flood of cheap imported honey had pushed domestic honey out of the normal markets, were special interests and differences of opinion put aside and a united effort put forth. Finally in May of this year, eligible beekeepers endorsed the proposed program.

Although every state was entitled to be represented on the Nominating Committee, only 39 did so. This includes all of the "top 20" honey producing states as the order requires. On very short notice, 35 committee members showed up in Denver (for the time-being, all of these representatives are traveling *at their own expense!)* and we want to express our appreciation for their dedication and interest in making this program work.

Attending this historic meeting were representatives from 35 states. Not represented were: AL, AR, AK, DE, HI, ME, MD, MA, NE, NH, NJ, OK, RI, SC and VA.

Although the American Beekeeping Federation has been the sponsor of this Research and Promotion program from the beginning, and has borne the thousands of dollars of cost to bring it to this stage, we hope everyone will understand that from this time on ***it is an industry program - not an American Beekeeping Federation program***! All the decisions and planning as to what will be done, and how, will be made by the Honey Board and the ABF will not be involved. We will, of course, do everything possible to support the Honey Board and help make this program the great success we know it can be, and we hope you, too, will do your part.

At the conclusion of this historic meeting, the following names were forwarded to the Secretary of Agriculture to be appointed to the Honey Board. We had been given a commitment from the Department of Agriculture that tentative appointments would be made without waiting for the security checks to be completed so that there would be no further delay in getting the program underway!

The first meeting of the Honey Board is to be held at the Old Colony Inn in Alexandria, VA. September 24 and 25, 1986 and that will mark another "milestone" reached!

HONEY BOARD MEMBERS

Reg	Tm	MEMBER	ALTERNATE	2ND ALTERNATE
		Producer Member		
I	1 yr.	Bruce Beckman 731 E. Tuolumne Turlock, CA 95380	R. Johnson 720 Fletcher Dr. Nampa, ID 83651	C. Van Wechel 13461 Hwy. 12 Naches, WA 98937
II	3 yr.	H. Rodenberg Box 3047 Wolf Point, MT 59201	J. Haefeli 3927 N. Rd. SW Monte Vista, CO 81144	D. Long
III	3 yr.	Richard Adee Adee Honey Farms P. O. Box 368 Bruce, S.D. 57220	J. Miller P. O. Box 213 Gackle, ND 58442	D. Ruby Rt. 1, Box 113A Milnor, ND 58060
IV	3 yr.	JoAnne Weber Rt. 2 Clayton, WI 54004	S. Klein 301 Robert St. Marshall, MN 56258	D. Folkema 2180 S. Croswell Fremont, MI 49412
V	2 yr.	M. Weaver Rt. 1, Box 24 Navasota, TX 77868	B. Weaver Rt. 1, Box 256 Navasota, TX 77868	G. C. Walker Rt. 1, Box 34-B Rogers, TX 76569
VI	1 yr.	B. Merritt Star Rt. 1, Box 1080 Tallahassee, FL 32304	H. York P. O. Box 307 Jesup, GA 31545	B. Shearman P. O. Box 999 Wimauma, FL 33598
VII	2 yr.	Dwight Stoller Box 81 Latty, OH 45855	S. Forrest Rt. 1, Box 135 Moravian Falls, NC 28654	D. Shenefield P. O. Box 75 LaFontaine, IN 46940
		Handler Member		
	2 yr.	T. E. Burleson P. O. Box 578 Waxahachie, TX 75165	N. Miller P. O. Box 517 Newcastle, CA 95658	D. McGinnis P. O. Box 8 Edgewater, FL 32032
	3 yr.	Wm. Gamber 2220 Dutch Gold Dr. Lancaster, PA 17601	R. Appel 118 Iowa Ave. Streator, IL 61364	B. Bessonet Box 303 Donaldsonville, LA 70346
		Importer Member		
	1 yr.	N. Sargaentson Sunland, Inc. P.O. Box 600 Purchase, NY 10577	H. Bodecker 14511 Franklin Ave. Suite 204 Tustin, CA 92680	
	3 yr.	C. Goettsche 1 Catoonah St. Ridgefield, CT 06877	Rolf vom Dorp Western Commerce Corp. 636 So. Turnbull Canyon Rd. City of Industry, CA 91744	M. Manley 1 Catoonah St. Ridgefield, CT 06877
		Co-op Member		
	2 yr.	J. Milam P. O. Box 78 Moore, TX 78057	G. Evans 2418 S. Nicollet Sioux City, IA 51102	D. Bauer Fertile, MN 56540
		Public Member		
	1 yr.	K. Arnevik Buchannon Rt. 3, Box 78 Rice Lake, WI 54868	R. Goroschens	Opal Blake 100 Roswell Farms Roswell, GA 30075

Mean Bees

By JIM STOKES
5617 Independence Road
St. Charles, Missouri 63303

Into each life a little rain must fall, and beekeepers are not an exception to the rule. As neophyte beekeepers, we have read everything we could get our hands on and really have no doubts about our ability to hive a swarm or how to install a package of bees. So when we were offered two free colonies by an older (and perhaps wiser) beekeeper, we gratefully accepted the offer. The donor told us that the hives were homemade and that he hadn't looked inside. It was a pleasant drive to load the bees and the hives had a very nice heft. It was the second week of April and they were loaded with stores, so we drove home in a very mellow mood.

Things started going downhill when we opened the hives for the first time. The original owner had apparently installed the bees in a hive with bare frames and no foundation. The bees had built comb from the bottom of one frame to the top of the next and all the frames were connected. It was impossible to work the hives, find a queen, or do anything else. We put a peek-a-boo deep on top, which is nothing more than a normal deep with cutouts for glass panels, and external doors so that we can see inside. We started feeding to encourage drawing new foundation. After 6 weeks of feeding in April and May, they started drawing and both hives built up well. Then the fun started.

The word "mean" now has new conotations for me. On one of the free hives, just removing the top feeder brought bees out in force. They would sting through a light shirt covered by a bee suit. So we went back to the head shed to put a heavy shirt under the bee suit. They met us 250 feet away and pinned a note on my ear that made me aware we were not welcome guests. Both hives had built up well, but only one was temperamental. Our apiary of 8 hives is located about 300 feet behind our house, but only about 75 feet from the nearest neighbor's home. The last thing *any* beekeeper needs is an irate neighbor who objects to bees.

Two days later we returned, determined to get the freshly drawn deep down on the bottom board and swap one of the supers of honey for a super of foundation. We needed to get the bees into a hive that we could examine. By the time we got down to the base, my legs and arms were black with bees. They were coming at my veil so hard they made a popping sound. I quickly remembered other chores that needed my presence urgently, so I put everything back and headed for the road. Over 450 feet away I was still surrounded by hundreds of bees and it was ten minutes and another smoker full of fuel before they let me alone. My neighbor was watching at the start from a lawn chair but quickly went inside. His dog didn't and paid the price. By this time I was so mad I could have bitten 16 penny nails and given 20 cents in change. That mean hive was going to go.

We talked to a couple of old timers in our bee club. What we had were three deeps, two Illinois and one shallow super on a hive stand. They had built up extremely well but were just chock full of mean bees. We had stored a new Carniolan queen in another hive and it seemed reasonable to pull the unworkable units off, take them back about 50 feet, use a hive tool to seperate the frames, and shake off as many bees as we could. The next day we could install the new queen and in three or four weeks we would at least have a gentler hive. And, we could extract the honey and get something in return for the sugar water. That was plan one.

To help control the bees, we purchased some Ammonium Nitrate. Two level tablespoons of Ammonium Nitrate go into the smoker, and as it burns it produces nitrous oxide, or laughing gas.

We purchased 36 gallon plastic garbage bags to put the supers in after the bees were shaken out. Using the nitrous oxide, we started smoking them at the entrance, and then lifted the lid and gently puffed the top super. So far, so good. We removed the top shallow and the bees simply exploded from the next super down. Now we blast them with laughing gas. When the smoke cleared they were lying on their backs with their legs up in the air, so we crack the first of the old supers and wham, defense level two went into operation. They are coming at me from the top of the super below. With all the unusual combs, the smoke doesn't seem to be penetrating into the lower levels. By now the Ammonium Nitrate has burned up all the smoker fuel, so its time out for a reload of the smoker. Back to the hive and the bees are starting to recover from the first blast of nitrous oxide. I notice several of them loading Sidewinder air to air missiles so scrap plan one. We take off the three supers and put them directly into plastic bags, bees included. We fold the edge of the plastic bags under the hives and say thank goodness it's over.

Normally, when we clear supers for extracting, we brush the bees off the frames and throw the entire super into a spare refrigerator in the basement. We think it hinders wax moths, and if we've missed a few bees, they are normally dead within a day. So we throw one of the supers into the frig and walk away. The next day I was going to take it out and let it warm in the sun before extracting but when I opened the door, those mean bees were walking around inside the icebox. What I had done is move a whole bag of mean bees ***INTO MY HOUSE***.

It seemed unlikely that the bees would be fast on their feet so we donned suits, veils, and gloves, armed ourselves with flyswatters, and opened the door. We got most of them, although some were surprisingly agile, and we very quickly got that super out of the house and into another garbage bag, this time with a ty-wrap. By putting them outside, we intended to let mother nature and a lack of oxygen do them in. Only mother nature gave us a cold snap, and after 6 days they were STILL buzzing and probably saying, "Wait till we get out".§

MANAGEMENT STRATEGIES FOR 'AFRICANIZED' HONEY BEES:

CONCEPTS STRENGTHENED BY OUR EXPERIENCES IN COSTA RICA. PART II.

By ERIC H. ERICKSON, JR.[1], BARBARA J. ERICKSON[2] and ALLEN M. YOUNG[3]

In Part I of this series we presented our experiences with "Africanized" bees in Costa Rica along with interpretations of our observations. In the following article we discuss some important beekeeping principles which govern the approach(es) that may be taken to effectively manage the problem of African bee gene flow into the United States. We then present realistic management approaches for this problem.

Predisposing Factors

Before developing management strategies for the "Africanized" bee it is essential that we keep in mind that domestic honey bees in the United States are characterized by the following:

1. The honey bee queen normally mates with from 8 to 15 drones, hence, each colony is necessarily a heterogenous unit composed of numerous and more homozygous step- or sub-families with varying degrees of relatedness. The queen contributes 50% of the genes of the whole colony but individual workers and daughter queens do not receive exactly the same complement of genes from the queen - only a sample of all the queen's genes. Each drone mate contributes 50% of the genes of only the subfamily he sires. Thus, the queen imparts variation within a subfamily, drones impart variation between subfamilies while both impart variation within a colony and between colonies. Out of the genetic mixture called a colony, one must know the parentage of the queen and that of each of her mates in order to correctly classify the total phenotype of a given colony (e.g. % AB vs EB). Obviously, each colony (as well as workers and worker subfamilies within each colony) will be phenotypically and genotypicaly different.

2. It has been shown (at Madison) that worker honey bees recognize differences between subfamilies and worker bees preferentially raise queens from their own subfamily. Hence, in the case of AB, at any given point in time, supersedure queens may have a higher probability of coming from either an "Africanized" or from a "non-Africanized" sire. (Note: it is logical to assume that both "Africanized " and "non-Africanized" queens will have mated with both AB and EB drones.)

3. "Domesticated" honey bee stocks (breeds) have been artificially selected to a far greater extent than most people realize and that this selection pressure is manifested to a lesser extent in feral populations as well. Domestic strains of honey bees are usually, but not always, maintained phenotypically through continued artificial selection and "controlled" matings. Significant variability in behavior (e.g. iracibility, etc.) is evident among these strains.

4. Colonies with restricted space for rearing drones produce fewer drones but do not produce more workers. Colonies that swarm produce more drones than those that do not swarm: A small portion of these drones come from laying workers and hence will be genetically different from those produced by the queen. The number of laying workers increases particularly during periods of queen rearing.

5. "Domesticated" honey bees are kept in highly artificial (evolutionarily speaking) and environmentally inadequate domiciles (hives).

Hence, an apiary is roughly analogous to a dairy wherein one or more selected breeds are maintained, with some interbreeding opportunity, in poorly ventilated, uninsulated (unheated or uncooled) artificial domiciles that are rarely if ever cleaned. Drugs may or may not be used to control disease. The animals are fed while confined but allowed outside to forage and defecate at "optimal" times. Finally, the cows are milked or bred too frequently and their diet is sometimes inadequate. To be sure, there is great variance in the quality of management among dairy farms and the same is true for beekeeping operations.

Our objective in relating the above is to point out that a honey bee colony is a poorly defined and highly variable unit which is kept in a hive that is very different from its natural domicile. Relatively little is known about the adaptive significance of particular traits and subtraits of honey bees within the natural environment (i.e., not within artificial hives). Whether EB or AB, there's a need to understand the complete natural history of honey bees under specific sets of environmental conditions. Breeding procedures to develop strains of domestic honey bees are not unlike those used to develop strains of domestic house and farm animals. Moreover, diversity exists in the management practices of beekeepers. We must recognize these variances at the outset when developing management strategies for "Africanized" bees, acarine mites, protection from pesticides or any other problem.

"Of all we believe that we have learned about 'Africanized' bees, we still don't know precisely how much behavior is governed by environmental variance versus genotype."

African bee phenotypes are adapted through natural selection, and probably have a broad genetic base. Domesticated "European" bees have a narrower genetic base. African bees are more adaptable (probably) and hence, the process of "Africanization" is a process of increasing genetic variability. Because of their behavior and local circumstances (perhaps including climate and beekeeper abandonment of previously "European" colonies) the AB phenotype frequently does not suit the needs of beekeepers.

Beekeepers must bear in mind that they are manipulating a "black box" in which not all the desired results can be attained through selection. Of all we believe that

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Figure 2. Transportation of colonies used in the cacao pollination studies.

we have learned about "Africanized" bees, we still don't know precisely how much behavior is governed by environmental variance versus genotype. Of particular interest here would be knowledge of interindividual interactions and behavioral variance over time. In regard to the latter, it is noteworthy that one of the most frequently stated problems regarding the defensive behavior of AB is the unpredictability of defensive response. Most experts seem to agree that a given colony may be docile on one occasion but irascible on another. Apparently, no scientific explanation of this phenomenon is available.

As stated in Part I, we saw no behavioral traits in so-called "Africanized" bees that we haven't already seen in bees in the United States, and particularly in the breeding program at Madison. The only thing found to be unique was that most of the behavioral characteristics were combined in a single strain of bees. We believe that all are independent, heritable traits that will be muted by our temperate climate or can be selected out or retained, at will, in conventional breeding programs. We, and others, believe that there is no genetic link between defensive behavior and industry/productivity. Artificial selection procedures designed to increase yields of honey, increase brood production, reduce defensive behavior, and optimize other parameters favorable to the honey industry, may be in the opposite direction from natural selection which adapts wild colonies to the prevailing environment. Finally, we would predict, as some have already shown, that some AB will be shown to have greater resistance than EB to many parasites, pathogens, and toxins, because of their natural genetic variability. Similarly, other desirable traits such as productivity may be uncovered in AB because of their ancestry.

An Analogy

We believe that the problem of "Africanization" of honey bees can be better understood with the following analogy:

Let's assume that a large, long established cattle ranch in Texas is involved in the production of gentle polled (hornless) herefords produced by artificial selection. This ranch is bounded on the south by a vast uncultivated range with an expanding population of wild longhorn cattle. To the north are many other smaller cattle ranches all raising polled herefords produced via any of several breeding lines.

One day the southern fences of the large ranch are breached by unknown numbers of wild cattle that quickly mix with the polled population. Though identifiable (initially) by their appearance and behavior, the first of the wild cattle cannot be easily rounded up and removed. Hence, they mate extensively with the polled population and vice versa. Moreover, the pressure of the wild population continues to break down the antiquated fence about as fast as repairs are made. The progeny of Wild X Polled matings produce offspring of variable appearance and behavior: Many of these cannot be differentiated from the pure polled stock. Now one must assume the role of the rancher -- what are the options?

1. Do nothing. Result: ultimate reversion of all progeny to the wild type.

2. Sell all polled stock and go out of business. Result: accelerated reversion to the wild phenotype.

3. Develope new knowledge of the genetics of mating, migratory and defensive behavior of cattle. Result: meaningful long term contributions to basic understanding of bovien anatomy, genetics and behavior but no solution to the immediate problem. The likelihood of a long term solution to the problem is uncertain at best.

4. Corral all uninseminated cows and bulls that can be identified by brand as original stock. Result: limited initial success but long term results must rely on the quality of questionable fences.

5. Build stronger fences. Rogue out undesirable phenotypes. Result: reversal of gene flow.

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Figure 4. Typical frame of brood from an irascible 'Africanized' honey bee colony.

BEE TALK
"AND WHAT OF TODAY"

By RICHARD TAYLOR
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I would like to offer some reflections on the present condition of beekeeping, to be followed next month by an attempt to interpret present trends and come up with some predictions about our future. So now, let's take a look at the present.

There is no doubt that beekeeping is in something of a doldrum in this country, and that the decline has come about in just the last few years. Attendance at bee meetings is down, and beekeeping courses have lost their popularity. It was very different just a few years ago.

This is partly a matter of changing moods and values. In the 70's there was a great nation-wide trend of back to basic values, to simple living and things associated with rural life. Bees and honey symbolized what people were yearning for. The price of honey tripled quite suddenly, and beekeepers were, for awhile, in a state of euphoria. Now everything seems to be going the other way.

This is not new. In the 50's I was glad to get $3.00 for a gallon of honey, retail, and the wholesale price seemed stuck, year after year, at about $.17 a pound. I was wholesaling two-pound jars, even into the late sixties, at $.65 each, and was glad to wholesale round sections at 3 for $1.00. They were $.50 each on my honey stand. The statistics showed that beekeeping was on the decline, with fewer colonies being kept from each year to the next. Rental for pollination was about $4.00 standard, and some commercial beekeepers were in effect living off the depreciation of their equipment. There just wasn't much money in beekeeping, and not much interest either. Then, for a few years, it was different. Those were heady times and some beekeepers, thinking the good times were here forever, expanded at a great rate. It didn't last however.

And where are we now? Some of the figures are depressing. The importation of honey has gone from forty-nine million pounds in 1980 to a hundred and twenty-nine million pounds just four years later. I don't know what it was last year, much more no doubt. And that isn't going to change. It is part of a larger picture, as more and more agricultural commodities of all kinds, from flowers to fruits to meat and fibers are produced abroad. It is part of the general direction that agriculture is taking. We can no longer afford to be farmers. The family farm is disappearing over great areas, and is up against hard times everywhere. It is just cheaper to buy our food abroad; sometimes, as in the case of honey, from the other side of the earth.

Beekeepers have in desperation, turned to government for help and government has, for the time being, responded. This is the most depressing part of the whole picture. In 1980, the year that seems to have marked some sort of turning point, five million pounds of honey went into government warehouses under the price support program. Four years later that figure skyrocketed to one hundred and nineteen million pounds, as more and more imported honey flooded our markets. By last year, the situation had become so scandalous that beekeepers were being singled out for scorn by writers and commentators serving vast audiences. John Chancellor, in an evening commentary on NBC television news, pointed a finger of shame at beekeepers and their relationship to the Commodity Credit Corporation, and the figures he cited seemed to support him. J. Peter Grace did the same on national public television, discrediting beekeepers in the eyes of an *enormous* audience. And the popular syndicated columnist, James Kilpatrick, delivered heavy blows in his column last November. The point that all three made is that a relatively small number of beekeepers were being paid vast sums, wrung from the taxpayers, to produce a food that the government has no use for other than to give away. And however much we may dislike what they say, they have a point.

And what of our other problems? Two come at once to mind -- the tracheal mite and the Africanized bee. The first of these, however has finally come to be seen as almost insignificant. I have to date, not heard of a single colony that has perished from infestation by this mite. On the contrary, its effect appears negligible. In Saskatchewan, Canada, experimenters found that in certain colonies known to have tracheal mites, there was no apparent adverse effect on their ability to over winter, no negative effect upon spring brood rearing, no effect upon the queens, and no increase in dead bees on the bottom boards of overwintered colonies. And Steve Taber has cited experiments with five colonies in Florida in which heavily infested colonies produced more honey than mildly infested ones and, more significantly, the degree of infestation *declined* to almost zero with the advent of a good fall honey flow (*Amer. Bee Jrnl., May 86*). Actually, this is what we should have expected, for the leading authority on this pest, Dr. Leslie Bailey has been telling us for years that it is of minimum significance. In the meantime, the various state departments of agriculture, in a kind of misguided ignorance that now seems unpardonable, ordered the depopulation of countless colonies, at huge costs to beekeepers. The height of the ridiculous was recently achieved by one state that adopted the policy of trying to keep the mites out of certain *counties*. No such hysteria accompanied the discovery of chalk brood, even though this is a disease that does, in fact, cause real damage.

So, I think this is a problem over which we need not lose sleep. What, then, of the Africanized bee? It is certainly only a matter of time before this strain crosses over our southern border. It is not a problem now but it will be, without doubt. But I think we can be assured that it will be a serious problem only in the south, having only an indirect effect upon the northern states where most of our honey is produced. That, however, is a topic for next time.

Continued on Next Page

BEE TALK . . . Cont. from Page 508

Finally, there is the problem of adulteration of honey. This was made a crime by the passage of the pure food and drug act early in this century and since then has not been a significant problem. The adulteration of honey with common sugar, or sucrose, is expensive and fairly easy to detect. But the advent of high fructose corn syrup poses a threat to the future of beekeeping perhaps greater than any of those mentioned so far. Its presence in honey can be detected, but not easily, and is cheap. Tests have shown that a significant amount -- twelve to fifteen per cent -- of the honey taken in by the Commodity Credit Corporation appears to have been adulterated.* High fructose corn syrup has a legitimate use as a winter food for bees, but the step from there to feeding it to bees during the active season is a small one, tempting to those who value money more than their own integrity, and it is one that threatens disaster for all of us. The demand for honey today is not great. It will reduce to the vanishing point if the general public ever has reason to believe that what they buy is not really honey.

This has been a rather dreary recital of problems. Yet I think the future of beekeeping is a fairly bright one. Pressing for continued price supports, tariffs on imports and similar actions by government is not going to do any good in my opinion, but there are, nevertheless, things to be done. I'll go into that next time.§

(Comments and questions are invited. Use Trumansburg address and enclose stamped envelope.)

*Ed. Note: There is no question that some honey entering the government program may be purposefully adulterated. However, present testing procedures are not as accurate as we are led to believe. See the 'Florida Citrus' Article elsewhere in this issue for a good case in point.

Testing Your Beekeeping Knowledge

By CLARENCE H. COLLISON
Extension Entomologiist
The Pennsylvania State University
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In the northern regions of the United States and in Canada, a new beekeeping year is just beginning. Winter is fast approaching and beekeepers are preparing to overwinter their colonies or getting ready to migrate south for the winter. A few beekeepers kill their colonies in the fall and start with new packages in the spring. Economics in recent years, however, have reversed this trend and more colonies are being wintered in the extreme north. Another approach that is used by some is the wintering of colonies in environmentally controlled buildings.

The ability of the honey bee colony to regulate temperature and humidity along with its hoarding instinct gives it a wider range of climatic adaptability than is found with any other insect. Thermoregulation in the winter is achieved as bees crowd together, forming the familiar winter cluster.

How well do you understand the essential requirements for successful wintering of honey bee colonies and the characteristics of the winter cluster? Please take a few minutes and answer the following questions to find out how well you understand these important topics. The first eight 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. _____ Bees are packed tightly together in the center of the winter cluster.
2. _____ The primary purpose of the entrance reducer is to keep the hive warm in the winter.
3. _____ The size of the winter cluster expands and contracts in relation to changes in outside temperature.
4. _____ Young queens will lay later in the fall and initiate brood rearing earlier in the spring than older queens.
5. _____ Aster honey is considered to be a good source of food for wintering.
6. _____ Crystallized honey stores consumed during the winter increases the incidence of dysentery.
7. _____ Individual honey bees within the winter cluster produce heat by microvibration of the thoracic flight muscles.
8. _____ Honey bees consuming honey during the winter produce larger quantities of metabolic water.

Multiple Choice Questions:
(1 point each)

9. Humidity in the hive and in a cluster of bees under normal conditions is maintained at _____ per cent.
A) 80-90, B) 50-60, C) 20-30,
D) 40-50, E) 60-70

10. The interior temperature of a winter cluster without brood is kept at approximately _____ °F.
A) 90-95, B) 75-80, C) 45-50
D) 85-90, E) 65-70

11. Compare the life span of worker honey bees in the summer and winter in the northern regions of the United States. (2 points).

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12. Please list five basic requirements for successful wintering of honey bee colonies. (5 points)

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13. Describe three approaches that a beekeeper could use to feed colonies found short of food in January in the northeastern United States. (3 points)

ANSWERS ON PAGE 533

HONEY OF A MEAL

By KATHY AND ROGER HULTGREN
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Holden, Mass. 01520

As beekeepers, we are always looking for new ways to use our honey. Often times we find a favorite recipe and stick to it. This recipe might be used for a dessert or a quick sauce over meat or chicken. What follows is a complete menu from appetizer to dessert. Why not try the taste of honey throughout your dinner tonight or better yet, invite some friends for dinner and share the recipes with them.

APPETIZER: Broiled Grapefruit
- 2 grapefruits
- 8 tablespoons of honey

Cut each grapefruit in half and loosen pulp from peel with a sharp knife. Remove seeds if any are present. Pour 2 tablespoons of honey over each half and place on a broiler rack about 4 inches below heat source. Broil at 375° for 15 minutes or until slightly brown. Top center piece with a cherry and serve immediately.

SALAD WITH HONEY FRENCH DRESSING:

Prepare your favorite salad with fresh lettuce, tomatoes, onions, peppers, raisins and whatever else fits your fancy.

Dressing:
- 1 can of tomato soup; 1/2 cup honey; 3/4 cup vinegar, white; 1 teaspoon thyme; 1 teaspoon Rosemary; 1 teaspoon basil; 1 teaspoon oregano; 1/4 cup water; 2 cups salad oil; 1 teaspoon dry mustard; 1 teaspoon garlic powder.

Combine all ingredients in a blender. Blend until well mixed and creamy. Keep refrigerated until ready to use. Makes about 6 1/2 cups of dressing.

MAIN COURSE: Sweet and Sour Chicken
- 1 chicken cut into pieces
- 1/4 cup soy sauce
- 1 cup of honey
- 1/3 cup water

Place chicken pieces in a baking dish. Blend soy sauce, honey and water before pouring over the chicken. Bake at 375° for 45 minutes to 1 hour or until done. Baste chicken pieces with mixture several times while cooking.

VEGETABLES: Honey Baked Carrots
- 1 pound carrots
- 1 cup honey
- 1/2 cup brown sugar

Cut carrots in half and arrange in a shallow baking dish. Pour 1 teaspoon of honey over each carrot and sprinkle each with 1/2 teaspoon of brown sugar. Bake at 350° for 15 minutes.

Candied Sweet Potatoes
- 4 medium size sweet potatoes
- 1/4 cup butter
- 1/2 cup honey
- 1/2 cup orange juice

Boil sweet potatoes without paring them. When tender, drain and remove skins. Cut in half lengthwise and arrange in a buttered baking dish. Season with salt. Heat honey, butter and orange juice and add to potatoes. Bake at 400° until potatoes are brown.

DESSERT: Honey Applesauce Cake
- 1/3 cup margarine
- 3/4 cup honey
- 2 cups flour
- 1/4 teaspoon cloves
- 1/2 teaspoon cinnamon
- 1/2 teaspoon nutmeg
- 1/4 teaspoon salt
- 1 teaspoon baking powder
- 1 cup cold unsweetened applesauce
- 1 cup seedless raisins

Melt margarine and *slowly* add honey, creaming each addition. Mix and sift together dry ingredients. Add alternately with the applesauce to the creamed mixture. Fold in raisins. Pour batter into well greased 8 x 8 pan. Bake at 350° for 45 minutes or till golden brown.

Cooking with honey is easy. When you have a favorite recipe that you wish to convert from sugar to honey, follow this simple guide; simply reduce the liquids by 1/4 cup and add 1/2 teaspoon of baking soda for each cup of honey.

Bon Appetite!§

BEE WORDS GAME

I've tried this puzzle on an adult (20 min.) and my 12 year old daughter, Jessica (30 min.). Both enjoyed the challenge, and both completed the puzzle. Good Luck. The Editor.

By CARSTEN AHRENS
3461 Harrisburg Street
Pittsburgh, Pa. 15204

L	S	E	E	B	E	S	R	U	N	M	E	O
T	P	R	O	P	O	L	I	S	O	N	T	T
N	C	R	A	T	C	E	N	U	O	E	A	H
O	E	E	G	G	C	U	T	R	K	R	L	G
I	A	E	S	R	M	H	D	S	O	B	P	I
T	N	V	U	N	U	R	A	Y	M	R	X	L
A	N	I	P	S	I	B	A	O	T	E	A	F
N	E	H	E	S	N	L	C	W	Y	K	W	G
I	T	C	R	E	J	Y	A	E	S	R	G	N
L	N	E	L	E	E	G	N	I	W	O	N	I
L	A	L	L	N	E	E	U	Q	C	W	I	T
O	O	L	O	N	E	L	L	O	P	O	T	A
P	Y	H	B	E	E	B	R	E	A	D	S	M

Words may read up, down, forward, backward or diagonally.

Remaining letters spell _____, what John the Baptist ate with his wild honey. (Matthew 3:4)

Carsten Ahrens, author of this puzzle, is a retired National Park Ranger Naturalist. He has also written "Afoot In Penn's Woods", "Along Penn's Waterways" and other award winning children's books.

ANTENNAE	EYE	MOUTH	PROPOLIS	SUPER
BEEBREAD	GRUB	NECTAR	QUEEN	SWARM
CELL	HIVE	NURSE BEE	ROYAL JELLY	WAX PLATE
DRONE	HONEYCOMB	POLLEN BASKET	SOCIAL INSECT	WING
EGG	MATING FLIGHT	POLLINATION	STING	WORKER

Answers on Page 532

ADVERTISE . . . Cont. from Page 495

You will want to contact your local radio station with a letter, addressing your letter to the talk show production manager. As for the TV, you are better off making contact with them about once a year or not at all.

Unless you have a local talk show on your TV, most of the guests a local station interviews are politicians or the like. If that TV station does make contact with you, it will be through your show on the radio or the article in the paper.

TV stations, you willl find, like to think of themselves as being the idea generators. OR, if not that, they like borrowing ideas and then amplify them as though they are new and fresh.

But if you have a really hot idea, give the station features editor a call and tell them what you have. The letter/phone call should cover a couple of very important points.

First, once you get the person on the line, ask them first, if they would be willing to hear about an article/show idea you think might be right up their alley. Next, explain to the person why you have knowledge on the subject and point out either the length of time you have had experience on the subject or have been in business. Next, point out the timeliness of the subject idea and highlight some of the facts. To a child, there's only ONE teddy bear . . . things like that.

Breathe. Let the reporter ask questions. Throw in the first round of ideas and then let the reporter do some talking. Whether it does or doesn't work, do ask if that reporter would like to know when you have another idea and how often they will work with you.

All of this will net you your ***free advertising***. It will also help you to educate the public at the same time. And that's important to you no matter what the cost is.§

PROMOTION . . . Cont. from Page 495

found in old combs. After many visits to processing plants that are far from sanitary, I find it possible that botulism spores have been reported in some honey. Obviously, other foreign materials have been found in it as well. For example, take a look at the highly advertised wood preservatives and their effects on bees, wax and honey. How about all the residues found in old combs from insecticides? Do you want these in your honey, or do you not eat honey you produce?

Brand honey should be advertised and sold on its own merits. Return customers are the easiest to get, and as the word spreads, honey sales will increase.

Those of us who produced, packaged and marketed honey in the 1930's and early 40's found we had to be competitive in ways other than price cutting. Then, honey was wholesaling for 4-1/2 to 5¢ per pound. Packaging from 75,000 to 100,000 pounds annually was quite a chore. One person was involved in making grocery store visits and delivering. It was during these years that we decided that *quality* was the most important ingredient in our business of producing and marketing honey. Needless to say this process took care of less than half of the production so an additional 125,000 pounds were sold wholesale. The same is true today with anyone who is a major honey producer - much of it must be sold wholesale. Surplus honey, produced on white combs, processed under sanitary conditions will retain good color and flavor and be worthy of promotion. Until producers come to realize this we can expect the use of honey to remain about one pound per capita, as it has for the past 40 years. There is no way a packer can refurbish honey if he doesn't receive a good quality product in the first place. This has been expected of packers since the beginning of time.

Beekeepers, it is time to make some changes in production if the industry is to flourish.§

STORY OF THE MONTH

A prominent Austrailian beekeeper is recouperating after a reportedly painful encounter with a horse. The beekeeper decided to ride the horse, just for fun. At first the horse appeared docile, allowing the beekeeper to mount and get settled before sending him skywards. According to our beekeeper friend the trip up was fine, and he got high enough for a good view of Haleys Comet.

The trip back down however was less enjoyable particularly when his posterior and the ground met with a resounding thud. Sore and sorry from his ordeal the beekeeper has had difficulty doing anything, particularly sitting down!

Moral of the story? Beekeepers shouldn't horse around.§

Inner Cover

Continued

happening unless you get involved. Involved means attending meetings and doing some work for the group. It means spending a few dollars to help make ends meet. (I'm not talking honey dollars here, but paycheck dollars, the ones you have to stretch every month.) It means attending State or National Meetings. It means writing for your local newsletter or helping mail it, or helping to set up chairs next time, or . . . .

Well, this list too goes on and on. But I think you see my point, Get involved. You'll be a better beekeeper and the industry can only gain from your action.§

Gleanings continually seeks accuracy in our publication. We recognize that errors do occur and use this space to correct them when discovered by staff or readers. Mistakes may occur in writing, editing or mechanical reproduction of the magazine. It is our policy to correct these mistakes. We encourage questions or comments from readers. Call (216) 725-6677 during business hours or write us at the address on the inside cover of this magazine.

SOME PROBLEMS TO PONDER

By STEVE TABER of Honey Bee Genetics
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Vacaville, CA 95688

Each beekeeper has their own special problems relating to bees. However, overall there are several problems that have been forced down our throats which we must deal with one way or another for the next several years. I have been in this business a very long time and I think that I may have a broader view of the whole of our bee business than many. Your own immediate problems are important, such as too much honey -- how do I get it off? How can I sell it? Where can I put my bees -- my neighbor is complaining? The list of personal problems with bees goes on and on. However, what we want to think about is the broad, overall view that is affecting bees and beekeepers of the USA. These problems, as I see them, can be divided into 3 separate and distinct parts:

1) Finding the internal parasitic mite, *Acarapis woodi,* a year and a half ago in Texas.

2) Finding the Africanized honey bee in Kern County, California, during the summer of 1985, and the supposed threat that this will cause people, agriculture and beekeepers.

3) Development of new and improved bee stocks that will more nearly meet the demands of current and future beekeepers for adaptability to changing crops, resistance to a host of diseases and a suitable temperament for beekeepers.

Almost 60 years ago the US Congress passed a law limiting importation of bees to prevent the internal parasitic mite from entering this country. At that time it was feared world-wide by beekeepers as the worst possible bee disease and was erroneously called the Isle of Wight disease. Sporadic research has been done in Europe and elsewhere on the effects of the mite and on its biology. Interest in the mite began to decline by 1965, and when the literature is searched after that date, few new research findings can be found.

In the early days, many European beekeepers were inventing desperate treatments to control the mite, which, according to Dr. L. Bailey, did more harm to the bees than the mite could ever do. Actually, there are acaricides available in Europe which are reported to control the mite satisfactorily. Dr. L. Bailey of the Rothamsted Experimental Station in England has done the most and longest period of research on the mite. His conclusion from England is that the mite does very little damage and that *at worst* it may shorten the lives of infested bees 10-30%.

No research on the mite was possible in the USA since the mite did not occur here. But now that the mite has been discovered, several people (with various government agencies), are working on how it will affect beekeeping and are looking for possible control measures. I am happy to report the preliminary findings of Dr. Harvey Cromroy, Florida, who recently gave a short report of his research to the California Beekeepers in Fresno, January 1986. His remarkable conclusions generally support Dr. Bailey in England and show that heavily infested bees, (colonies which have 45% of the population or more infested) will not only produce good crops of honey but that in so doing, their mite infestation is reduced by the honey flow to negligible 4%. Dr. Cromroy's work is far from complete; it's preliminary, and it reports conditions *only* in Florida.

The second concern is the invasion of the Africanized honey bee (AHB) in the USA, and particularly the finding of these bees in Kern County this past summer. It is important for us to be prepared to be interviewed by various news media people at any time on this subject. I was *not* prepared when 3 separate TV crews arrived in one afternoon to interview me. My suggestions, if you are interviewed, are as follows: First, request that the media people do **NOT** use the term "killer bees". The correct name of the bee, as determined by the Entomological Society of America, is "Africanized bees". The use of the term killer bees frightens the public, hurts honey sales and makes finding suitable sites for bees more difficult. Second, use the interview for free promotion of honey. Take control of the interview by offering a taste of honey to the interviewer *before* the interview starts and with a gift of honey *after* they have finished. This works. When I was interviewed in Wisconsin in November 1985, we watched the edited portion of the interview that evening and it showed the interviewer eating honey on television. Free advertising -- promote your product.

Third, and this is particularly pertinent to the AHB found here in California in 1985, is that there is a high possibility that the bees identified as AHB were actually European honey bees that were misidentified as AHB.

Identification of AHB is made on a computer after 23 different measurements have been made on each of 10 bees from one colony. These measurements are of veins in the wing, leg segments and one measurement across the abdomen, the wax mirror. This morphometric method of identification was developed by Dr. H. Daly, University of California at Berkeley, and was used by USDA APHIS and California Department of Food and Agriculture to identify the AHB. No person -- *nobody* can look at a European and African bee and tell them apart. Published photographs showing differences in European and African bees are phony. Several people are working on various chemical methods to tell the two sub-species apart but as of now, none of these are being used. Perhaps of interest is that 12 *so-called* AHB colonies have been destroyed in Kern County, at a cost of over $1,000,000 after examining more than 23,000 colonies.

How will the bees behave when they do get to California? What is the best guess? I think that they will be very much like the original bees we used to work here that were brought over to America by our forefathers, called the German Black Bee. Dr. J. Woyke took the bees from Brazil to Poland and reported that the temperament was much like that of the native Polish bee, and in fact *less likely to sting*. The bees are currently at the large German bee-

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TABER . . . Cont. from Page 514

research facility near Frankfurt and have caused no problems.

The third problem is one you hear little about. However, you do hear about specialized crop plants. For instance, sunflower seed growers are advertising a variety that does not require bees for pollination. Two major agricultural crops, cotton and soybeans, do not now require bees for pollination to produce more of a higher yielding fiber or bean. More and more work is being done by cotton geneticists to develop hybrid cotton, which must be cross-pollinated by bees. In experimental trials, when hybrid cotton was pollinated by hand, fiber quantity and quality was improved as well as the quantity and quality of cotton seed. You may be unaware that cotton harvests two crops at once -- fiber (or lint) and the seed. The seed yields oil when crushed. It is a high protein meal for livestock feed, and the hulls are frequently mixed with the meal as extender.

Much of the same story can be told about soybeans. They are a legume and yields have been increased when bees have cross-pollinated the flowers. The increased yields, of course, have benefitted the farmer or grower.

These two crops bring up to us bee breeders a very interesting set of problems, to wit: Neither one of these crops are what you would call really attractive to bees. How are you going to get bees to pollinate a crop unless you can induce the bees to visit that crop's flowers when they are in bloom? You do it by breeding bees that are specifically designed and bred to visit that one crop. It has already been done by Mackensen and Nye and confirmed by G. H. Cale that bees could be bred, and in fact, were bred to specifically visit alfalfa. If bees can be bred to visit alfalfa they can be bred to visit soybeans, cotton or any other crop.

When crops are developed that demand bee pollination for increased production, there won't be enough bees in all of North America to satisfy the growers.

Right now our bees are plagued with many diseases. The only one that has been examined for breeding genetic resistance is AFB. Dr. W. C. Rothenbuhler discovered the genetic mechanism for resistance to AFB many years ago, but at present I am the only breeder trying to release bees resistant to AFB. European foul brood and chalkbrood may also develop problems for many beekeepers by depressing populations, honey production and pollination ability of the colony. I have stated many times, and have never been rebutted, bees could be bred resistant to nosema, the disease of the gut of adult bees. Honey producers feeding fumagillan to control nosema would be able to cut costs and increase honey production 25% across the board by using nosema resistant bees.

Most beekeepers in the USA and elsewhere are much like yourselves, hobbyists or part-timers, and are really not terribly interested in problems of commercial honey production and pollination. Since I am in correspondence with a large number of beekeepers, because of my writings in the various bee journals, I can say that most of you want gentle bees that are easy and fun to work, you want pretty bees, solid black or bright yellow. You want bees of distinction such as the Cordovan bee, different than any other. Resistance to the various brood diseases is fine too, because the dead brood looks bad, smells bad, and you lose your pets when the colony is destroyed.

All in all, the demand in the future for special bees to meet different types of customer needs will keep many breeders busy filling those needs for years to come.§

Mr. Taber gave this talk at the Orange Co. California Beekeepers Association Banquet earlier this year.

ON THE ROAD

By KIM FLOTTUM

During the past few years I've lived in 4 cities in 3 different states and have traveled between them more times than I care to think about. By living in both city and country, I've had the chance to notice several techniques people use to sell honey. I've seen methods that work and those that don't, but I'd like to show just a few that were successful.

Success, as defined here, is being able to sell all the honey you want to sell. Some people only sell the honey left over after they've given away as much as they want. They don't keep bees to make honey, but usually end up with some surplus each year, so they've got to get rid of it somehow. (Fig. 1)

Fig. 1

One fellow in Wisconsin bottles his in various containers, puts them on a table with an umbrella and lets his kids mind the store. They set up on the sidewalk in front of his house and after about 2 weeks it's all gone.

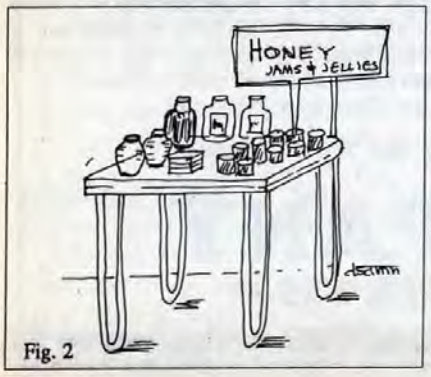

Fig. 2

Another in Connecticut does about the same but adds some of the Jams and Jellies she makes from the garden (Fig. 2) each summer. This sort of sweet cooperation was seen in a New York Suburb, where the proprietor of a small store was making a good living selling honey, Jams & Jellies (Fig. 3), mead, candles and beeswax. I'll admit this is not common, but the store was family owned and operated and the owner was completely satisfied with his business.

Fig. 3

One enterprising college student spent her summers pedaling honey in fancy containers (with extra fancy labels) and dipped candles in a portable stand. (Fig. 4) She moved to different parts of town as the summer progressed, going from neighborhood to neighborhood, supermarket parking lots to church socials, the beach and finishing with the county fair.

Fig. 4

Although she wasn't a beekeeper (her father and brothers handled all those chores) she was part of the extracting and bottling team, and the complete sales force. She earned enough each summer to pay for four years of college, her own car and a trip to Europe.

Generally, people are attracted to a place that has more than one item to sell, and when you get them in you have a chance for several sales. In the northwest hills of Connecticut lives a potter who does most of his business with tourists during the summer. His neighbor uses this traffic flow to get customers for his honey (Fig. 5). This helps the potter too, so both benefit from the same business. The

Fig. 5

cooperation goes even further because the potter makes beautiful, one of a kind honey jars. They will probably live happily ever after.

Wood and honey make strange bedfellows, but this Wisconsin entrepreneur did surprisingly well selling just these two items. (Fig. 6) Living on the outskirts of Milwaukee, he sold his

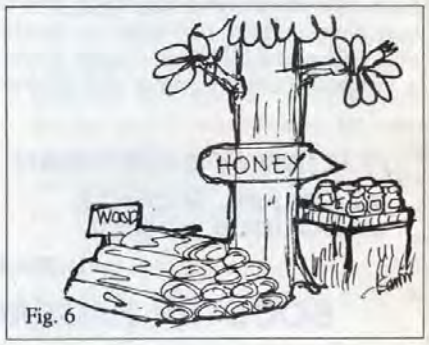

Fig. 6

wood to those city folks looking for a few fireplace logs for their party next Saturday night. Since he had them 'out in the country' so to speak, he used the chance to sell some Country Brand Honey. He said he made enough profit selling honey to keep expanding his beekeeping business, and to buy the wood his customers were after in the first place. This was one shrewd businessman.

Continued on Next Page

FLOTTUM . . . Cont. from Page 516

New York City may not be a great place to raise bees, but this family of Koreans (Fig. 7) sold lots of honey from their vegetable market. So much so, that they

Fig. 7

had to contract with a New Jersey beekeeper and two New York beekeepers just to keep it on the shelf. All three of these folks contacted the vegetable people first, and the three sell their entire crop each year. They get to use their own labels (part of the deal) and the storekeeper keeps some of each available year round.

Not far away I noticed this store. (Fig. 8) I'm not sure what else they sold, but there was a pile of honey candy in a bin in the center of the room large enough that

Fig. 8

you had to walk around it to get inside. The store was closed and dark, but they must have sold a lot of candy -- and with only one small sign.

Speaking of signs, probably the best I've seen was this masterpiece, hanging from a fellow's garage in rural Wisconsin. (Fig. 9) No words, no prices and no real information was printed. But this hand-painted sign had served him well for over 22 years. He said he sold between 1000 and

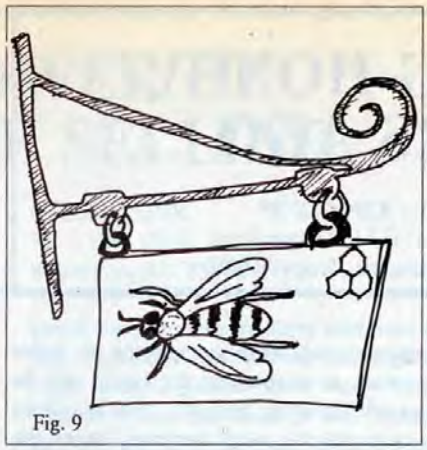

Fig. 9

1500 lbs. of bottled and comb honey a year and had never advertised his 'garage'. He breaks most of the rules, but you can't argue with success.

Probably the best 'urban' shop I've seen was in a small town in Pennsylvania. It was a converted gas station, and the proprietor sold everything from honey to nails. But mostly honey. (Fig. 10) She had

Fig. 10

taken over the business when her husband passed away and had expanded to a full time job. By the way, the shop was painted BRIGHT yellow, and there were 5 or 6 colonies in the back. A real down to earth beekeeping business.

Fig. 11

But I've saved my favorite for last. (Fig. 11) This stand was located on a fairly busy highway, over 14 miles from the nearest town. There were no signs or other advertising, just this small building about 40 feet from the road. The owner said that 80% of his business was done during the tourist season, which was fine with him because he liked to spend winters in California.

As I said, all of these people are successful. They all used a little imagination, a little hustle and they all sold a GOOD product. Some of these projects represent a substantial capitol investment, while others are incredibly inexpensive to implement.

If you've got a good product it will sell, but people have to know that it's good, and have to be able to find it. Have fun, and don't forget National Honey Week!§

BARRELING HONEY 100 YEARS AGO

By KEN OLSON
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Eugene, Oregon 97402

You could purchase honey in bulk quantities back in 1886. The big wooden barrels held more than thirty gallons of nature's goodness. The muscle required, though, to maneuver the bulky barrel from the store to the kitchen took some serious forethought -- they weighed 350 pounds.

Where would the barrel sit during the time it took to consume all that honey? How could you spread the honey on your biscuit or your fresh homemade bread after it crystalized, say, in six months?

Honey producers one hundred years ago faced the same marketing problems beekeepers encounter today: how to get the honey they have from the hive to the table.

A. I. Root's book, *The ABC of Bee Culture*, published in 1886, has a title which actually could properly be considered a paragraph: "The ABC of Bee Culture: A Cyclopedia of Every Thing Pertaining to the Care of the Honey Bee; Bees, Honey, Hives, Implements, Plants, Etc., Facts Gleaned from the Experience of Thousands of Beekeepers all over Our Land and Afterward Verified by Practical Work in Our Own Apiary".

This book, published in 1886, describes the marketing methods popular in those days, and it addresses a variety of problems that sound familiar to today's beekeepers.

Beekeepers in those days had techniques to keep the honey from leaking from their barrels. Root's book says, "A good barrel should not leak, without any waxing; but as they often do, we think it safest to have them all waxed." Root then describes the process for waxing barrels. "Ten or twelve pounds will do very well. Have your bungs nicely fitted, and a good hammer in readiness to get the bung out quickly. With a large-mouthed funnel, pour in the hot liquid (melted wax or paraffin), and bung it up at once. Now roll the barrel so as to have the wax go entirely around it, then twirl it on each head and give it another spinning so as to cover perfectly all round the chime."

Some of these terms have nearly passed form the American vocabulary. The "chime" was the rim of the cask, or barrel.

Mr. Root vividly describes the waxing process -- as though he's thoroughly familiar with the whole procedure: "This operation will have warmed the air inside to such an extent that the liquid will be forced into every crevice ... Just as quicky as you get the inside covered, loosen the bung with your hammer; and if your work is well done, the bung will be thrown into the air with a report."

The hot wax would seep into the cracks and crevices and the tiny holes of the barrel, making it a "safe" container for the sticky, sweet substance.

Some of the bee-men may have become overly enthusiastic about barreling so much goodness, and Root felt impressed to admonish them about their work: "The hoops should be of strong hoop iron, for honey is heavy compared with most other liquids . . . The hoops should be secured by large tacks, if they show any tendency to slip . . . or have them neatly painted. This will keep the hoops in place, and will preserve the barrels materially."

Forcing the hoops down too far over the midsection of the barrel could cause the hoops to burst, and the heavy honey could pour out between the staves. Honey could then run down the sides of the barrel, then the workers would step in it,unknowingly, and track dirt and debris all over the floor. Far better, says Root, to have "strong hoop iron".

Hazards of storing honey in those days included popping the cork. "Honey has a way of expanding during the candying process," Root says, "it will generally candy as soon as the weather gets cold . . . and if your barrels or cans do not give it room to expand, it will be pretty sure to push out the corks or bungs. Some kinds of honey expand more than others."

The containers today are not wooden barrels, of course, and we believe the honey doesn't expand enough to cause alarm. But in those days, the shock of discovering the cork had been forced out the top and sticky, syrupy honey was oozing down the side of the barrel would cause considerable stress.

The merchants in those days sold honey in smaller containers, too. Mr. Root noted that " . . . it may be well to have some half-barrels also, but these will cost considerably more in proportion . . . some very neat small ones, holding about 140 pounds cost about $1.75 each . . . our large barrels cost us $2.25 and hold about 350 pounds . . .".

Today the opportunity to purchase one pound of honey in a glass container for less than $1.75 would be an unusual bargain; in those days the one-pound bottle of honey cost fifteen cents.

Root further elaborated about the barrels: "We wish to decide upon the most profitable size for these barrels. The regular size of about 31 or 32 gallons is probably the cheapest size."

In our day, we shudder thinking of the accidents which might have happened with the wooden barrels of honey. Suppose the barrel suddenly twisted or turned while being rolled up the steps. It would bounce down the steps until it broke apart. Or it might craht totally out of control into furnace, furniture, or fine china. Honey would be oozing down the steps, between the boards or out onto the ground.

Or, suppose the barrel dropped to the ground while being transported from the wagon to the wheelbarrow? Again, the scene of sticky honey flowing into the grass or onto the ground makes us thankful for today's methods and smaller containers.

Whether we consider the bees and the honey of one hundred years ago or of today's methods, one thing remains constant. It still tastes today like it tasted back then: mighty good on muffins.§

THE POWER OF NEGATIVE SELLING

By KEN KIFER
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When I was a boy, THE POWER OF POSITIVE THINKING by Norman Vincent Peale was a best seller. I'm not sure that positive thinking has ever helped me, but I know that negative thinking has hurt me time and again, so I would consider it more powerful. Now in selling, we are supposed to accentuate the positive, but I have never read what happens if we don't. However, I have *seen* it happen in selling honey and I want to pass along a warning.

The first time I became aware that there was a problem, happened this way. I was in a tobacco shop buying an uncoated pipe and I asked if I could treat it with beeswax. "Where do you get beeswax?" "I'm a beekeeper." "Do you have any honey with you?" "Yes." "Well, go get some." I made several half-mile round trips to the van and back, and each time the honey was sold to someone else before I returned. The woman that owned the shop was beside herself with enthusiasm and acted as if she had never been able to buy honey before, even though two stores in the same mall sold it regularly. She wanted to sell my honey in her shop, which got *me* pretty enthusiastic. But when I returned to deliver a few days later, she was cold and nearly rude.

I worried for a long time about what I must have done wrong on that sale. But the truth of the matter is that I had done nothing to make the sale and nothing to lose it. The power of negative selling had done both. Before I had arrived the woman was already convinced that the vast majority of honey was worthless and that is why she was so excited about having 'the real thing'. But before I returned, someone must have given her reason to doubt my product also.

Now that I sell at Trade Days, I am well aware of the problem. "Did you make this honey yourself?" "Why is it dark?" "Is this PURE honey?" These questions are asked with a hard, sharp, suspicious tone of voice, reminiscent of "have you stopped beating your wife?" Other questions seem to indicate a direction. "Is this wild honey?" "Has this honey been cooked?" "Do you feed your bees sugar?"

It seems like the organic movement is behind such questions, but there are few of these outlets in my area. Why should people who don't worry about pesticides on their vegetables, salt in their hot dogs, or sugar in their peanut butter worry about whether I feed my bees or not? Indeed, further remarks often reveal beyond doubt that the source of their worries is a beekeeper. For instance, I sell a lot of Tulip Tree honey, which is a deep red. My customers have been informed that honey can be darkened in brood combs, by being heated, and by being stored for a long time. I'm sure they were informed by beekeepers; after all, this is fairly sophisticated knowledge. But why were they given such *negative* information? And why did the beekeeper not explain that some kinds of honey are naturally dark?

I have in mind's eye a sort of sleazy beekeeper who slinks up to a new customer and says in a greazy whisper, "Don't buy that honey! It's got corn syrup and other gunk in it. They had to boil it because it wasn't ripe. It's old and worthless anyhow."

But the truth is, the originator of these suspicions is probably a clean-cut, God-fearing, all-American type. He says, "Buy my honey. It's 100% pure, and don't accept anything that isn't. It's raw and wild, not like that stuff they sell at the store. It's never been cooked (or it's thoroughly pasteurized). It won't turn to sugar because I don't feed sugar to my bees. I use only new comb for my honey, not old, moldy ones. It's fresh off the hives, so you better buy it quick before it gets old." In fact, if he only says that it's pure, wild, uncooked, and fresh, he's still saying that there's something wrong with other peoples' honey.

And if you stop to think about it, he hasn't given us *ONE* reason why people should buy honey, only many reasons why they shouldn't.

A long time ago, I worked milking cows for a couple months. The operator let manure, blood, and penicillin get in the milk. But have you ever heard a milk company claim, "We always clean the manure off of the cow's sack?" Of course not. But why should I have to explain the difference between brood comb and honey comb to people who have never seen the inside of a beehive?

"But," you ask, "How can I claim my honey is superior if I can't explain how I'm more careful about processing it?" Very simple. Let them eat a bit. I don't care what kind of ultrasophisticated, ultra-modern, or primitive-makeshift equipment and processing you use; I don't care if you are the best beekeeper or the worst; I don't care if you have 10,000 colonies or one; I don't care if your honey is as black as ink or as clear as air; you won't ever sell a customer a second jar of honey if they don't like the first.

After all, the reason you should be taking extra pains in extracting and packing your honey, or in producing comb honey, is so your customer will be delighted with the taste and come back again; the reason is not so you can have some snide remark to make about what someone else does.

What do you do when the customer won't taste any? Why, you describe the taste of your honey and tell how the aroma, flavor and color come from the flowers from which it's made. Look at Charles Mraz' article in the June issue of BEE CULTURE for an example.

I don't recommend, however, that we try to sell honey as a health food. I feel that warning people against the use of sugar has pretty much backfired on us. You can waste a lot of time explaining the difference between one kind of sugar and another, and still not make a sale. In fact, even if honey were the greatest health food of all time and the customer knew it, I doubt we would increase our sales.

Probably a better way to sell honey is to convince people that it's illegal, immoral or harmful. Look at the sales of soft drinks, tobacco, alcohol and drugs. Why, the local store makes more selling cigarette papers than it does selling honey. People know these things are bad but buy them anyway. In that regard I am curious about the coming Promotion Program. I think a TV ad showing a boy sneaking honey to put on his bread will do more for us than if the Surgeon General announced that honey eaters live five years longer.

No, don't tell people that honey is good for them. Don't tell them how wonderful bees are. Don't complain about cheap foreign honey. Don't tell them about the man you think is selling corn syrup (tell the State, though). Don't put down sugar. Don't talk about processing. Instead, talk about flowers and their wonderful aromas. Explain that honey contains the essence, the flavors and aromas of flowers (and you should learn which). Talk about bread made with honey. Or hot cakes with honey. Or chicken or ham baked with a honey glaze. Or ice cream made or covered with honey syrup. And do what Steve Tabor suggests - - *Eat honey yourself.*§

WASHINGTON SCENE:
POLITICAL ACTION IN THE LAST QUARTER

By GLENN GIBSON
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Usually the last quarter of the year finds us waiting until next year to commence work on big ticket items in Washington. This year is no exception except that a number of loose ends need attention, but action and plans for their solution should be delayed until the meetings over the country are finalized. These will tell us how to proceed.

This period gives us an excellent opportunity to do a great deal of planning at the grass roots level and discuss some points overlooked during the course of the year. I am hopeful that the state beekeeping associations will give attention to political action such as: *congressional letter-writing, visiting with congressmen during their visits back home and a thorough discussion of this in their newsletters.* Since I have no big item to push at the moment, I will cover some important points that have been overlooked.

TRIBUTE TO THE JOURNALS

I would be remiss if I failed to recognize the several courtesies that have been extended to me and the American Honey Producers Association during the past years from the Journals. Without their help, it would have been extremely difficult to get the message out. Being an editor is certainly a difficult job. Privately I have thanked and criticized this group regularly. I hope I have not been disagreeable.

All editors have critics and our beekeeping editors do receive their share, but I am certain that they receive more thanks than complaints. To the carping critic I would like to ask if he realizes how important our publications are to the industry? Can one visualize an industry without publicity of any kind? Without communication among associations and reading the journals each month, our industry members would certainly be loners like some of our silent majority. WE SALUTE YOU MR. EDITOR. PLEASE CONTINUE AS YOU HAVE IN THE PAST SO WE CAN GIVE YOU A GENTLE KICK-IN-THE-PANTS AND A HEARTY PAT ON THE BACK NOW AND THEN.

EXPERTS AND STATISTICS

The two groups need to be listed together because experts are always using statistics. Americans seem to be hooked on hiring experts who smother us with numbers and then we have an oversupply of economists who use statistics to predict our fortune. It seems that the world became addicted to using statistics during the latter half of the nineteenth century. Benjamin Disraeli and Mark Twain wrote disparagingly about the use of lies and statistics.

Beekeepers along with other Americans regularly consult experts, read economic reports, and search for facts. Economists, who are rife in and out of government, can on short notice publish reams of facts on any subject. Most of the statistics are "official" in the sense that they are published by the government. However, this doesn't mean that they are always correct. Some critics have compared them to the weather reports. Accurate figures with a little journalistic imagination can wreak havoc in the way that the General Accounting Office did us last year.

Even though accurate figures are available, I am compelled to say that they are not a crystal ball. They echo the past, but give little more than theory about the future. Then on occasions, some politicians take political positions and *then* search for figures to prove their point. Never mind that they might ignore some important point about honey bee pollination. New studies by the biased will review earlier studies and magnify the errors. I am not questioning the need of experts (we need them), but every expert solution put forth needs a careful proofreading by non-experts with experience. Beekeepers who understand the honey bee well enough to make money are well qualified to make a judgment on figures about beekeeping.

JOURNALISTS AND THE MEDIA ELITE

The term "Media Elite" refers to the top TV stations and leading newspapers such as the *Washington Post, New York Times,* and *Los Angeles Times.* Last year some of the leading journalists gave us a hard time about the honey program. In most cases they relied mainly on the Department of Agriculture's economic reports which were *worse* than our weather reports. I made a wee effort to counteract this negative publicity during a 4 week period in July last year. I mailed some information to 4 leading dailies every day for 20 days. I have no way of evaluating the effort, but I haven't noted any adverse publicity in these papers since then. Instead, we netted favorable comment on the editorial page. This type of effort, which would be expensive, should be expanded and continued.

WHAT NEEDS TO BE DONE

Mr. and Mrs. Beekeeper, you need to become active in beekeeping affairs. *Be sure and attend your local bee meetings and make plans to attend our convention in Corpus Christi, Texas, January 11 through 13, 1987. Also, meet with your congressmen when they are home this fall.*§

ROYAL JELLY

MORE PRODUCTS AND NEW MARKETS TO SECURE BEEKEEPING

By HENNING U. SPITZNAGEL
C.H.R.A. 22930 - 48th Ave.
Langley, B.C., V3A 4R1.

The importance of the honey bee to our environment is in total conflict with the stress the beekeeper faces in a world where honey prices are dropping. This is due to cheap imports, the approach of dangerous mites, strange aggressive bees to our continent and the fact that the society of beekeepers grows older while very few of the rising generation find their love and interest in beekeeping.

WHAT CAN WE DO? Of course, first we have to change the image of the natural products we harvest from our bees, develop new products and also new markets. I can see the future of beekeeping in Apitherapy, the natural healing and strengthening of the human body in place of trying to compete with the powerful international sugar industry.

There would be no Apitherapy without beekeepers. They have the knowledge and the force to do it, and all that's needed is the know how. I'll try to describe a simple but effective method of how it can be done, but if it's still not clear, just let me know. Of course, it is easier to do it yourself than to explain to others.

ROYAL JELLY is produced by worker bees when they start feeding very young larvae after hatching, and even more importantly, for queen larvae during development. But how can it help the human body? It is used pure, or added to honey. In Europe, 200 g, less than half a pound of honey, with 2 g of Royal Jelly sells for $6.00 - $8.00 or even more.

The application is very simple, just take a teaspoonful of unheated natural honey/Royal Jelly mixture (100:1) at a.m. and at p.m. before your meal and hold it in your mouth. The mucous membranes absorb the Royal Jelly and carry it directly into your system.

To my knowledge, there are no regulations covering the production and processing of the product, but the fundamental rules that apply to food production apply here also (i.e., cleanliness of tools, accessories, workspace, hands and clothes throughout the *whole* process).

Production is based on the JENTER QUEEN REARING TRANSFER METHOD. I know there are other known methods and we have tried a few, but this method worked the best for us. At least all roads led to Rome and the only important thing was the final result. I will describe a test performance done at the CANADIAN HONEYBEE RESEARCH ASSOC. in 1985 as a test project.

In our production test run, five strong colonies were involved using ordinary Langstroth standard equipment. We did not use special queens or colonies but we selected colonies with high swarming ability based on Carniolan bees. We used two sets of JENTER QUEEN REARING COMBS, one JENTER TOOL BOX, two special top bars (10mm wide), eight JENTER queen cell bars mounted into four new standard Hoffman frames, ten sheets of plastic foil, 22" x 17", Miller type top feeders and one separate young mated queen.

Overall, we spent $270.00 on special equipment but it was worth every dollar. We assembled the JENTER COMB KITS and mounted each on a top bar according to the instructions, mounted the cell bars into the Hoffman frames and prepared the hives for production, boosting the colonies with extra brood frames from other colonies.

Based on earlier tests, we used a slightly altered type of hive. The bottom boards have a large screened opening on the floor, and on both sides of each super we have dummy frames, (sheets of plywood the size of a frame with bee spacers to the hive wall) therefore we use only nine frames in each super. Our test hives had two brood supers and one honey super divided by a queen excluder. The top super was covered with a sheet of foil cut in half leaving just the center frame uncovered, then another full sheet of foil with a small opening under the feeder entrance, the feeder and the top cover.

Next, we confined our young queen in one of the JENTER boxes with the comb already drawn and placed the box in the center of the honey super with one frame of young worker brood (don't let drones hatch above the queen excluder) and a frame with pollen stores on either side of the comb box. Two days later (always about noon) we released the queen into a small Apidea mating hive where we could easily find her and put the comb box back into the hive for nursing.

Opening a hive every other day while not using a smoker could cause some trouble, but the plastic foil method comes in handy. Open the hive, set the feeder on an empty super aside and fold the top plastic foil back so the center frame can be pulled out without disturbing the bees. Only a few young nursing bees were on the frame or box and didn't bother the beekeeper at all. I know, it really works and you should try it.

Day four: The young queen is placed in comb box #2 and the transfer cell plugs from #1 are removed with the young larva imbedded in Royal Jelly and plugged into the cell cups, then into the cell holder plugs and finally placed in the cell bars. Twenty cells per frame are placed in the center of the nursing hive super, again surrounded by frames with young brood and pollen stores. We sprayed honey-syrup into the JENTER comb (without the cell plugs) and hung the comb back into the hive. The bees cleaned out the cells and also removed the rest of the larvae in the cells.

Day six: We moved the queen from comb box #2 into the baby hive and at the same time, harvested the first crop of Royal Jelly by using the tools in the JENTER tool box. Using syringe and an attached hose, we sucked 60% of the Royal Jelly out without touching the larva and the nursing bees replaced the Royal Jelly.

Day eight: Again the cell bar frames are pulled. The Royal Jelly and larvae are removed. The larvae were dropped into an extra jar and the Royal Jelly from the syringe was emptied carefully into a sterile glass test tube (holding approx. 8 cm. or 8 to 10 g). It is important that no bubbles are in the Royal Jelly. The test tubes are stored in the refrigerator or freezer.We have been told that the shelf life of Royal Jelly in the freezer is more than one year, in the refrigerator at least 6 months.

Cell plugs from the cell bars were removed and plugged back into comb box #1 where the queen is now introduced again, while the plugs from #2 go into the cell cups in the cell bar frame. From now on every second and fourth day it is the same performance and the person in charge quickly developes a certain routine.

Keep in mind that all the colonies in the test hives, as well as the supplier hives, should be in outstanding condition. We made one discovery. None of the colonies were going to swarm during the test. I assume that the twenty queen cells and all the activity made them happy. In addition

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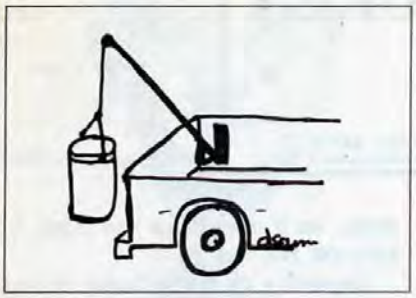
New Products



Free Enterprise Systems offers two new products that can be invaluable to beekeepers. The first, **BACK-SAVER**, is a pick-up truck or bench-mounted hydraulic boom that is ideal for handling those bulky, hard to lift items so often found in or around a bee yard. It installs in minutes with basic tools and tucks away without load space loss. Extendable boom and adjustable cable make hook-up and load positioning easy. Heavy duty construction and high quality components throughout. Lifts motors, propane tanks, engines or farm equipment. Two models are available with hoist capacities of 500 and 1000 lbs.

The second is the **Bold Eagle Barrel Harness**. Free Enterprise Systems say that this tool will lift barrels from the end. As long as barrels have a lip, you can lift 55 gallon or smaller barrels with ease and safety. Weighing only 2 lbs, it has a rated working capacity of 840 lbs. It can be operated by one person and is simple to attach and use.

Necessary Trading Co., one of the nations largest suppliers of non-toxic products for home, garden and farm use, has just issued the *"Newsalogue"*.

There are insecticidal soaps to control fleas, lice and ticks on dogs and cats, rechargeable flea collars and herbal cleansers to control internal parasites.

They have all types of traps and beneficial insects to attack pests eating vegetable gardens, and offer dozens of effective and safe controls to help gardeners improve and increase healthier yields.

The Newsalogue also outlines an eight-month Lawn Management Schedule to provide a healthy lawn without spraying chemicals that are harmful to children and pets, as well as to the soil.

Copies of the Necessary Newsalogue are available from Necessary Trading Company, 645 Main Street, New Castle, VA 24127.§

ROYAL JELLY . . . From Page 522

to the steady routine work in the honey super section, only brief inspections were done in the brood supers to make sure no queen cells or disease problems had developed. After six weeks, the test was over and we started our evaluations.

During the six week test, we spent a total of 71 hours working the test hives (an average of 90 minutes every second day) and spent $270.00 to buy the equipment.

Investment in special equipment	$270.00
71 hours x 6.00 labor time	$426.00
Total cost of this project	$696.00

Understand, at this time we do not have all questions nor are marketing results available as most of our crop was used for laboratory tests. We also didn't include the fixed costs of our apiary operation or office and management costs. We know that the permanent costs of our hives are $118.00 per year. This includes the equipment, interest, repair cost, bees, feeding, medication, etc. No transportation or honey house costs are included, we call these 'production related costs'.

The final result of the harvest was 380 g x $1.85 = $693.00 and we know we could easily improve the results by using ten hives and doubling everything up and extending the production period to 12 weeks. Nevertheless, $123.00 revenue per hive in two months is not a bad start. I am positive some beekeepers don't reach that high.§

If the JENTER QUEEN REARING TRANSFER METHOD Products mentioned in this article are new to you, please write for more info to: Rheingold Enterprises Ltd.,. (In Canada:) 22930, 48th Ave., Langley, B.C., V3A 4R1. (In USA:) P.O. Box 759, Lynden, WA, 98264.

THE HAPHAZARD SYSTEM OF QUEEN PRODUCTION

By DR. JAMES TEW
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I don't think much else can be written of queen production. Nothing offers so much promise and yet is as rarely accomplished by the hobbyist or sideliner as honey bee queen rearing.

I suspect many beekeepers are in the same category as I am. That is having a lot more interest than time to devote to our part-time beekeeping project. During recent years, I have found this situation to be getting worse instead of improving.

In past issues I've related some of the problems and challenges one could anticipate when trying to manage 50+ colonies alone. To my list of improvements I wanted to make in my side-line operation, I added queen production. I knew it was an ambitious addition, but I was motivated to do great things with my little 50 colony operation.

My plan was simple as well as common. I would modify deep hive bodies with 2 plywood partitions installed lengthwise. The resulting complex would give me three 3 frame nucs in one deep. A bottom was permanently attached and each nuc was given an augar hole opening.

Nucs were stocked, queen cells introduced, and anticipations raised. Actually, there were no serious operational problems -- only managerial. Spring changed to summer and with it my schedule. I had to take time off from my queen rearing operation to *teach* queen rearing. I don't mind that, because it's my job, but it was none-the-less ironic. While queen rearing classes flourished, my mating nucs became honey bound. Some cast late swarms. Burr comb was everywhere and I had another developing mess to correct. I have my three-way nucs in storage waiting for a better year.

I expect that a perusal of the queen rearing literature would produce a plan similar to the one I'm about to describe. I'm not trying to develop a new system, just produce queens as simply as possible. As with practically all queen production techniques, it has the potential for numerous modifications.

After the major nectar flow has passed, colonies to be requeened are selected. Inner covers are modified by stapling window screen on both sides of the hand hole. Actually, any dividing barrier may be used (eg., screen boards, another bottom board) but inner covers are handy and easily adaptable.

Probably a colony of average strength will be in two deeps with a super or so left on (remember, this is *after* the honey flow.) Remove one deep and consolidate all the younger brood, along with the queen, in the deep that's left on the parent stand. Move two or three frames of older brood along with nurse bees to the second deep that you have temporarily positioned somewhere nearby. If there's not enough bees to cover the capped brood, shake a frame or so of bees into the second deep. Then reassemble the hive as follows. The bottom deep, containing younger brood and the queen is on the parent stand. Next, replace a super or two to give a clear division of deep brood bodies. The partitioning board (eg., the modified inner cover) separates the bottom colony from the nucleus colony that is now *on top* of the original hive. If one so desired, the nucleus hive could be put anywhere -- beside, behind, or totally away from the parent colony. I put it on top simply for convenience. Be certain all components have individual entrances.

> ***"This plan is simple as well as common"***

If the beekeeper has the skill, grafted cells can then be added to the nucleus. In many instances, one may simply leave a frame of young brood and let the bees produce their own queen from that. It works, but it takes longer and there's a bit more risk involved.

Depending on the particular technique followed, the beekeeper could expect to have a mated queen in two to four weeks, at which point, a great number of options become available. The beekeeper could use the nucleus hive to requeen the parent colony. The queen could be removed and used to requeen another colony, and the queen producing process then repeated; or the nucleus colony could be treated as a split and allowed to develop into a new colony.

As I stated initially, there's little that's truly new in the queen production process. The suggestion offered here is an effort to keep the process and the required equipment as simple as possible.

SUMMARY

1. Select colonies for requeening.
2. Colonies having brood in multiple hive bodies work best.
   a. Place younger brood and queen in the lower hive body.
   b. Place abundance of nurse bees and 2-3 frames of older brood in hive body that will subsequently be positioned on top of the colony. (See 6 below)
3. Reassemble parent colony minus the 2nd hive body.
4. Place a divider (eg. screen board, inner cover with hand hole closed [screened] on both sides, another bottom board) on top of the parent colony.
5. Place second deep on top of the divider. Allow for an entrance in the top deep.
6. If possible, install ripe queen cells in the top deep (nucleus hive). Otherwise, allow a frame of eggs and young larvae to go into the top deep. (See 2b above)
7. Depending on the system used to develop queen cells, your queen should be laying 2-4 weeks later.
8. Use nuc to:
   a. requeen parent colony.
   b. produce queens for colonies that were too weak to split.
   c. produce queens for colonies at other locations.
   d. develop into another colony.§

RESEARCH REVIEW

By DR. ROGER A. MORSE
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Africanized Bee Leaflet

The Africanized bees in South America are increasingly in the news. A few months ago I reviewed a leaflet in this journal on the subject issued by the International Bee Research Association. It is a publication that is worth mentioning again. It points out that while these bees are aggressive, Brazilian beekeepers have come to live with them. Those interested in some thoughts about managing Africanized bees will find it of interest. A Spanish version is also available. Single copies are free by writing Information Officer for Tropical Beekeeping, International Bee Research Association, Hill House, Gerrards Cross, Bucks. SL9 ONR. England.

Colony Population and Honey Production

What is the best size colony for honey production? This age-old question was approached from a different point of view in the study cited below.

In these tests, a 24-pound package of bees was made up and stored for two days. It was then used to make up five colonies, with initial populations of 2,300; 4,500; 9,000; 17,000; and 35,000 bees. This was repeated 10 times during five different months. The data showed the two largest populations produced the greatest quantity of honey per bee in the 19-day test period. Interestingly, in winter or during periods when no forage was available, colonies of the two largest sizes consumed less honey per bee.

A major goal of this study was to determine the best size colonies for stock testing. (The author is a researcher at the USDA Bee Breeding and Stock Center in Baton Rouge, Louisiana) A population of 9,000 bees (about 2.5 pounds) was found to be best. The population must be large enough to withstand "the most severe stress that occurs during the test period," but also be within the range of sizes that are experimentally practical. The author stresses the importance of knowing the population size during stock testing. I suggest this is a point that is often overlooked.

Harbo, J.R., 1986. Effect of population size on brood production, worker survival and honey gain in colonies of honeybees. Journal of Apicultural Research 23:22-29.

Old Combs and Chalk Brood

Tests conducted by the USDA laboratory in Madison, Wisconsin, show that colonies on old comb had more chalkbrood. Colonies on old comb were compared to colonies with new comb, those on comb that had been used for honey storage only, and those on old comb that had been fumigated with ethylene oxide. Interestingly, the colonies on fumigated old comb had more chalkbrood than did those on new comb. This suggests that the debris in old comb may encourage the growth of the fungus that causes chalkbrood.

Many European beekeepers routinely replace their brood combs with new foundation every three to five years. One reason they give is that bees raised in cells on old comb are smaller; this is true, because the accumulation of cocoons in re-used cells make them smaller, and the bee that developes is smaller too. A second concern on the part of European beekeepers is that old combs may be contaminated with bacteria and other agents of disease. The paper cited below confirms that this second concern is valid.

What is a practical response? Should American beekeepers renew their brood combs periodically? Almost none do so. It is certainly costly in terms of foundation and labor. However, our beekeeping methods are based on years of experience *prior* to the introduction of chalkbrood, which was first observed in the U.S. in 1972. There is no doubt that old comb can harbor spores of American foulbrood as well as agents of European foulbrood, nosema and sacbrood virus plus some lesser and little known problems. Is the addition of the chalkbrood fungus to this list sufficient to change our management scheme? I think not but one cannot overlook new data.

This all suggests to me that I should repeat a theme I have mentioned several times recently: we need more emphasis on the production of disease-resistant stock. I don't think we will ever eliminate bee diseases but I am convinced we can do much to reduce the losses they cause by growing bees that can rid themselves of these problems. There is certainly ample evidence to indicate that many strains of diseae-resistant bees exist.§

Koenig, J.P., G.M. Boush and E. H. Erickson, Jr. Effect of type of brood comb on chalkbrood disease in honey bee colonies. Journal of Apicultural Research 25: 58-62. 1986.

BEEHIVE VENTILATION

By V. SHAPAREW, B.A. SC., M. ENG., P. ENG.
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REVIEW OF PART I

Having found little scientific data available explaining the phenomenon of bees clustering on the front of a colony, experiments were undertaken to determine the reasons for this.

Part I defines draft and how it affects a colony in summer, winter and spring. Different methods of controlling and reducing draft through a beehive were examined. Among these were raising the front of the inner cover, summer ventilators and automatic thermostatic ventilation devices. Data indicate that thermostatic ventilation resulted more honey/colony than raised inner covers, which in turn produced more than conventional inner covers.

Part II explores the thermostatic controlled devices, called 'Temperature Controlled Honey Drying Ventilators' (H.D.V.'s) in greater detail.

During the development and testing work, a number of air temperature measurements were taken for air exhausted from the hives by fanning bees in test and control hives. The test hives are defined here as the hives with H.D.V.'s and the control hives are with conventional inner covers. A thermometer was installed through the entrance. The average increase in temperature, between ambient air and that exhausted by fanning bees, was 3°F for test hives and 7°F for control hives. This information provides us with some useful clues. First, the heat to evaporate water from nectar was supplied by the bees in both test and control hives. Second, the exhausted air temperature in test hives is *lower* than in control hives, because of larger air flow through H.D.V.'s in test hives.

The calculated amount of energy lost to exhausted air is about 100 B.T.U's per pound of water evaporated, (B.T.U's are explained later). It represents about 2% of energy contained in one pound of honey. This energy loss is herewith identified and recognized, however, because it represents a relatively small quantity, it will not be further discussed.

I have calculated the pounds of water to be evaporated to produce one pound of honey for different sugar concentrations in nectar and the information is plotted on a graph in Fig. 6.

Evaporation of water, or conversion of water to vapor, requires thermal energy, which the bees can only derive from consuming honey. One pound of honey contains 1,380 K/calories of energy, which is equivalent to 5,480 British Thermal Units (B.T.U's). To evaporate one pound of water at 70°F requires about 1,050 B.T.U's. Thus, one pound of honey consumed by the bees will generate heat to evaporate 5.2 lbs. of water. This amount of water must be evaporated from 6.2 lbs of nectar with 13.3% sugar concentration to produce one pound of honey. This is a break even point, where bees consume the same amount of honey as they produce. Of course this does not include the energy expended by the bees to *collect* the nectar. This should answer the question why bees seek nectar with high sugar content. For nectar concentrations of 41% and 27% respectively, the bees evaporate one and two pounds of water to produce one pound of honey, and in the process, consume 0.2 and 0.4 pounds of honey.

These tests confirm that hives with H.D.V's produce more honey than control hives. How can we account for this increase? The above consideration of heat loss shows that the honey production increase did not occur because of some heat

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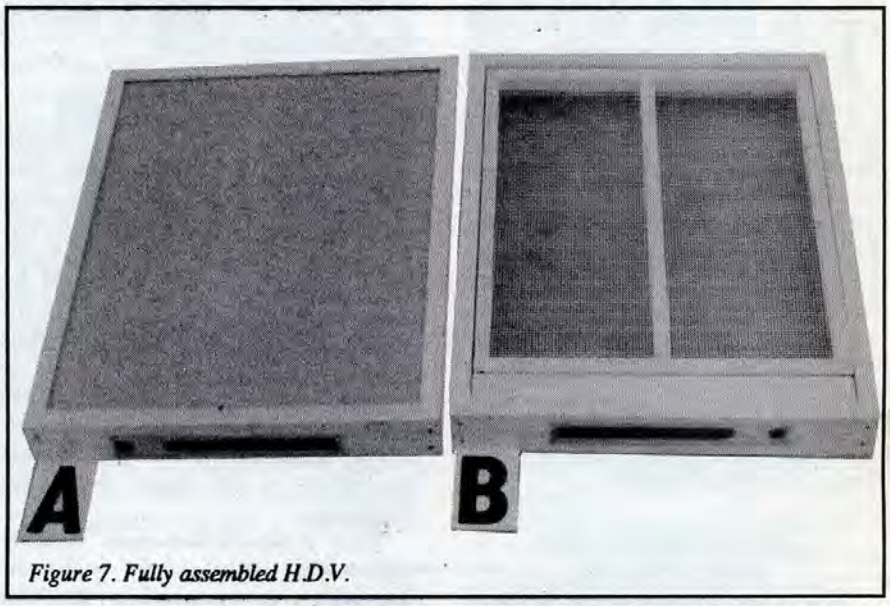

Figure 7. Fully assembled H.D.V.

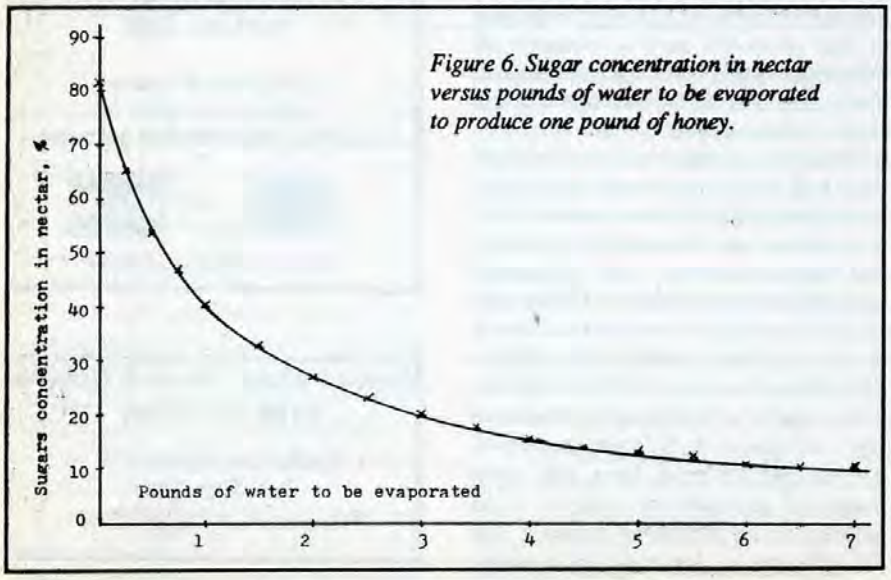

Figure 6. Sugar concentration in nectar versus pounds of water to be evaporated to produce one pound of honey.

VENTILATION . . . Cont. from Page 526

Figure 8. Bunch of bees on the side wall covering 1/2" dia. knot hole.

savings in test hives. It appears that during a nectar flow, the bees bring in only as much nectar as they can dry successfully before it starts fermenting. Thus, the bees' drying capability becomes a limiting factor in how much nectar they will bring in during a given period of time. The honey-drying air supply through H.D.V. enables bees to dry nectar faster, thus they are able to bring in more of it. The increased nectar collection by test hives required the bees to visit more flowers. This in turn results in additional pollination and better field crops. In some instances the value of such increased pollination of crops may be worth many times the value of increased honey production.

Brief description of H.D.V.

Figure 7 shows the fully assembled H.D.V., where (A) represents the top view and (B) the bottom. The front rim has a 3/4" diameter hole and a large slot, both covered with an outside screen. The air entry slot is closed from inside by a wooden door, which is actuated by a thermostatic strip. The strip is pre-adjusted to start opening the door at 67-68°F to prevent escape of warm air from the hive during cool weather. The amount of door opening is approximately proportional to nectar flow. The nectar flow increases with temperature, so does the air inlet opening H.D.V. and vice versa. The H.D.V. *must* be placed on the hive with the slot facing the front, which then precludes the draft.

To check the air flow direction through H.D.V., when bees are fanning and the ambient temperature is above 75°F, proceed as follows. Remove a few staples and curl up the screen covering the slot in H.D.V. Light a match, hold it at the slot and observe the flame bending horizontally with the direction of air flow into the hive. The upward convective air movement is substantially weaker than the pull or vacuum created by fanning bees. The resultant air flow is downward, opposite to convective direction. When the bees stop fanning, upward convective flow is re-established.

Testing of H.D.V's

Several tests were conducted on H.D.V's and the test results were published.[5,6,7,8,9] The tests have also shown that increased honey production depends extensively on availability of good pasture. For example: for control hives producing 40 lbs of surplus honey, the test hives produce about 43 lbs. For control hives producing 50 lbs, the test hives produce about 57 lbs.; for control hives producing 100 lbs, the test hives produce 115 to 125 lbs. From these tests it became apparent that the H.D.V's begin to contribute to increased honey production on the hives where a minimum of 50 lbs honey is expected. Furthermore, tests have shown that the honey from test hives contains 1/2 to 1% less moisture, compared to control hives. In summary, the beehives with H.D.V's produce dryer honey and more of it. In addition, because of increased honey production, increased pollination results.

Clustering of bees on the front wall of the hive

This subject was briefly mentioned in the introduction of Part I. As tests on ventilation continued, this mystery began

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VENTILATION . . . Cont. from Page 527

to unravel. The key to understanding this is shown in Fig. 8. Look at the front right side wall of the lower brood chamber in this picture. There, bees are covering a 1/2" diameter hole in the brood chamber wall, and of course, there is a minor cluster at the entrance. In this case, the bees are restricting the air circulation through the hive, rather than promoting it. This picture was taken on a showery day with ambient air temperature at 70°F. Further observations revealed that the clustering occurs at any temperature when the following two conditions occur simultaneously:

1. Newly collected nectar is stored in the hive.

2. The relative humidity of ambient air is high, at or near 100%.

Many temperature measurements were taken from inside clustered hives. Some showed the temperature to be 20°F higher, but mostly 10°F higher than the ambient air. It was further observed that the cluster was largest on undersupered control hives and smallest on oversupered control hives and test hives.

Now the jig saw puzzle begins to fall in place. Nectar gathered by the bees has a short "shelf life". It may start fermenting unless reduced to honey within a few days. With nectar stored in the hive and ambient air saturated with water vapor, the bees are trying to dry the nectar by "bottling up" the hive, thus warming the interior's atmosphere so that it will absorb additional moisture. To improve the air circulation the bees not involved in drying nectar move out from areas where undried nectar is deposited. They move to empty supers if the hive is oversupered or out to the front wall if the hive is undersupered.

Reduced clustering on the hives with H.D.V's leads to a conclusion that because of the supply of drying air, hives with H.D.V's always have a lower inventory of raw or semi-dry nectar.

Autumn ventilation and preparation of beehives for winter

For successful wintering it is essential to provide bees with ample food stores. To achieve this end, the following steps should be taken:

1. Remove your honey supers early in fall so that the bees will fully propolise the inner cover. If it is not propolised properly, the hive will be drafty throughout the winter.

2. Do not remove frames with honey from brood chambers for extraction. There are two basic objections to this. First, the bees need this honey for wintering. Second, these frames may contain traces of sugar syrup, medicated or plain.

3. Feed as much medicated sugar syrup as the bees will take. When this is completed, cover the feeding hole to prevent draft.

4. Before applying winter insulation, examine all external walls of the hive. All rotted corners, cracks, and knot holes should be repaired or taped to prevent draft.

Feeding should be done *above* the inner cover. If ventilating inner cover is used, fully open the 3/4" diameter feeding hole during fall feeding. If your feeding method requires removal of inner cover, complete your feeding early to allow the bees to propolise the inner cover.

Common practice in North America is to fall feed with sugar syrup containing 2 parts of sugar to 1 part of water. This is equivalent to nectar with 66% sugar concentration. Fig. 6 shows that for this sugar concentration, the bees must evaporate about 1/4 pound of water for each one pound of cured sugar syrup produced. This will require about 260 B.T.U.'s, which is equal to 5% of the energy content in one pound of cured sugar syrup. In addition, there is wear and tear on bees engaged in fanning to dry the syrup. This 5% is not much of a penalty but it is a waste. Had we been feeding 3 parts of sugar to 1 part of water, by weight, there would be less waste.

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diet Mandarin Orange Slice™
diet Cherry Cola Slice™
diet Apple Slice™
diet Sprite®
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Cereals

SUN FLAKES®

Chewing Gums

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Cocoa Mixes

ALBA® Sugar Free Hot Cocoa Mix
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Dean Foods, Sugar Free Hot Cocoa Mix
Estee® brand SUGAR FREE Hot Cocoa Mix
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Isn't this amazing!

TIP OF THE MONTH

The roadside market approach to selling honey may be worth considering if it appears worthwhile and appeals to you. It may be wise to investigate other markets, ask questions and then make up your own mind. Locations, with respect to the general area and the physical surroundings, must be taken into account. Does the volume of traffic or number of potential customers warrant opening a stand? Are there competitors and in what way will your products compete? Roadside markets selling similar products, different products or complimentary goods may sometimes be clustered and still fare well. People come simply because of the opportunity to shop for variety. A number of fruit stands are clustered in the fruit growing region of the Niagara Penninsula, all competing with similar produce but all seemingly doing very well. At one time they lined a main highway nearly side-by-side. This was both a convenience and an attraction to passing tourists and locals who welcomed the opportunity to compare prices and quality and do their shopping on the roadside. Again, some areas can sustain only one marketplace to a neighborhood. Other factors should be considered: Is the location safe for motorists to park in, the area zoned for that type of business and can the buildings be improved, expanded or otherwise adapted as the business expands? Remember, too, that it takes various lengths of time to develop a trade volume of sufficient size to make a living.

This month's tip is extracted from the book *'Marketing Honey'* by Larry Goltz and will soon be published by the A.I. Root Co.

KOOVER'S KORNER

By CHARLES KOOVER
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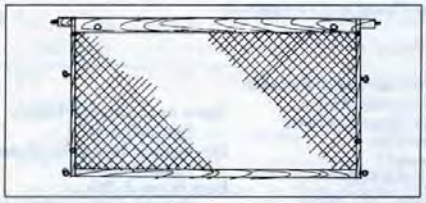
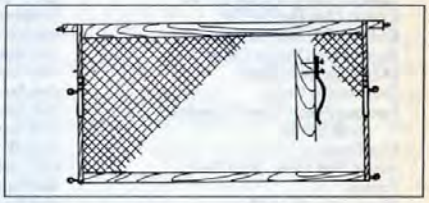
In my beekeeping, I have always used the free-hanging frame as described by Dr. Roger A. Morse in his article for BEE CULTURE, May 1986. With the exception, that I added spacers to maintain the correct bee-space, which is 5/16". I made mine 1/4", because the bees always managed to add some propolis to make it come up to the standard 5/16". But all the spacers I used and those described in the literature never came up to expectations. Until one day I read in a British bee publication about the use of small screw-eyes. It proved to be the answer to the proverbial "maiden's prayer". They do everything a good spacer should, and they don't get entangled with other spacers in the hive nor do they slide past the other frame already in the hive.

INSTALLATION

To prevent splitting your end-bars, drill a 1/16" hole where you want to install the screw-eye. Make it deep enough. Now, screw in the screw-eye using a big nail to turn it into the proper depth. Don't be afraid to let the eye dig into the wood. It will cause no harm. The shank is long enough to get a good bite on the wood while the eye is thick enough not to dig into the opposing end bar. I use 10, count them, 10 screw-eyes to a frame. Five screw-eyes in each end of the frame. Two in the end bar where they touch one another. One above and one below. And two where the endbars face the hive wall. Finally, one in the slightly shortened end lug of the top bar. I sent the Editor life-size pictures of these frames made on a copying machine. I wonder how he is gong to get them reduced for the magazine? (Fig. 1)



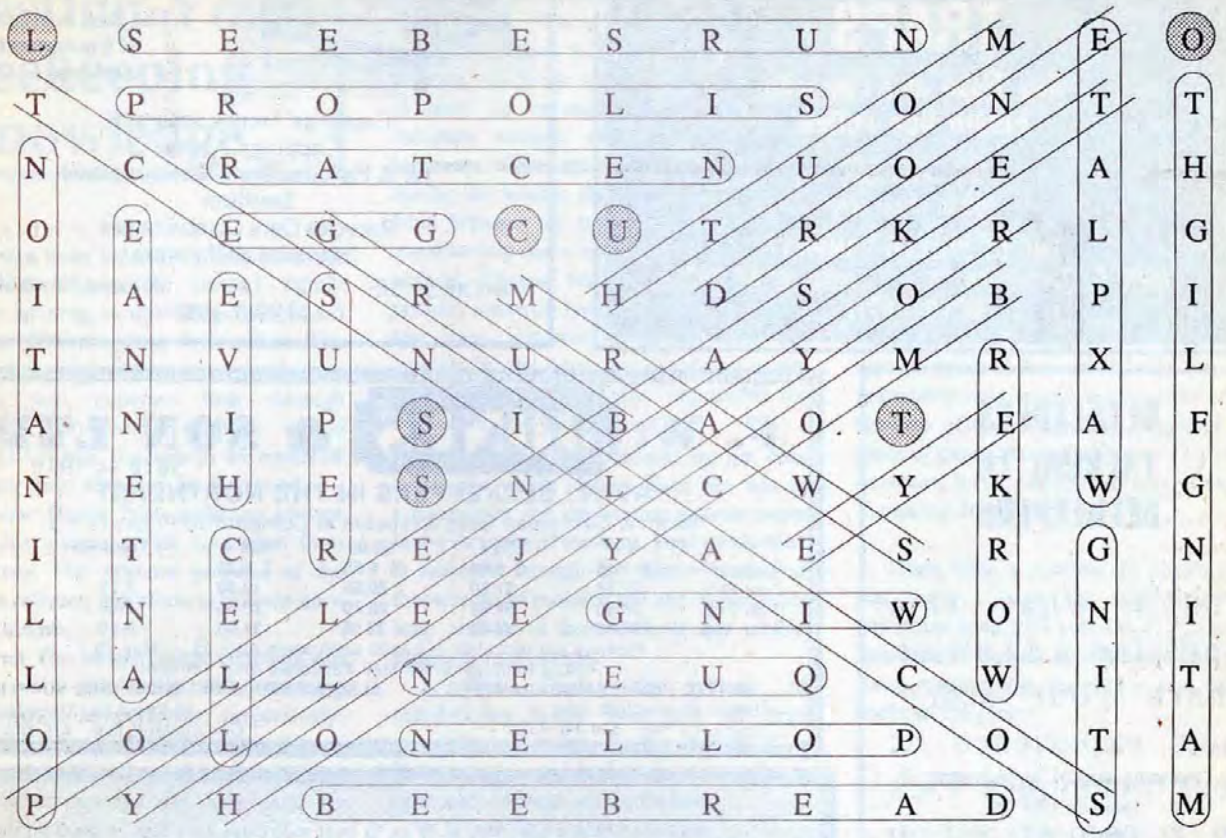
Next, put pressure on these 10 frames so they will maintain their beespaces under *all* circumstances (like hauling your hives over rough roads, or no roads or to an apiary location.) That was a tough question to answer. Finally, after many years of trying, I came up with the following answer. I used to put a couple of super springs between the last frame and the hive wall to increase pressure. That proved all right up to a point. But when the going got too rough, the super springs would shake loose and gouge the comb. Then I got the idea to flatten one end of the super spring in a vise and drill 2 small holes in the flattened end. I nailed the spring, or what was left of it, to the end bar of the frame, one on each end. However, you will have to put all 10 frames in the hive body and determine how much of a frame stop you need at the opposing hive wall to act as a stop for the screw-eye. You don't need too much pressure when you slide that last frame down in the broodnest. (Fig. 2)



Now you have it all your own way. There is nothing the bees can do but follow orders. I have used my combs for many years, because they were drawn on molded plastic foundation. They can't chew them to pieces. When the cells get too many left-over cocoons in them, they will chew them out, starting all over again in the same old cells. Believe me, this is beekeeping at its best. My hat is off to that English beekeeper who had this brain-storm.

Oh there will be some who will complain that this is too much work fixing all those frames. And where are you going to get those free hanging frames? That is a good question. Hound your beekeeping supply company. "WHERE THERE IS A WILL, THERE IS A WAY."§

BEE WORDS GAME ANSWERS



SOLUTION: LOCUSTS

Answers to Testing Your Beekeeping Knowledge

1. ***False*** Bees located on the surface of the winter cluster are packed tightly together forming an insulating shell which varies in thickness from 1-3 inches. The bees within the cluster are much less compact and generate heat through metabolic processes. After brood production begins, the bees in the center of the cluster must also care for the brood.

2. ***False*** Honey bees make no attempt to heat the interior of the hive apart from themselves. The primary purpose of the entrance reducer, therefore, is to keep mice out of the hive.

3. ***True*** The winter cluster contracts and expands with decreasing and increasing environmental temperatures, respectively. Heat loss is diminished by contraction of the cluster which decreases the cooling surface and increases the density of the bees, making up the insulating layer.

4. ***True*** In areas where winter conditions cause a break in the brood rearing cycle, young queens lay later in the fall and initiate brood rearing earlier in the spring than older queens.

5. ***False*** Aster honey makes very poor winter food since it granulates very quickly and the bees often fail to get it fully ripened before winter sets in.

6. ***True*** When honey crystallizes, glucose separates from the liquid phase as crystals, while the other sugars remain in solution. As crystallization proceeds the moisture content of the liquid phase increases. When this happens in the comb during the winter, the bees suck the fluid from between the crystals, thus obtaining considerably more water in their diet than normal. Excess water in the diet is a primary cause of dysentery. Once the water has been removed from between the crystals by the bees, the remaining stores are very dry and are often impossible for the bees to use until spring.

7. ***True*** Heat is generated by the bees within the winter cluster. Each bee acts as a thermostat and the heating process starts in the thoraces of the bees. Heat production is achieved through the microvibration of thoracic flight muscles and can continue for long periods of time without any visible muscular movements.

8. ***True*** During the process of metabolizing honey, bees give off large quantities of water. In the winter it is important to get rid of this water so that it does not condense within the hive.

9. D) 40-50 per cent humidity

10. E) 65-70°F.

11. In the summer the worker typically lives 5-6 weeks and during the winter 5-6 months.

12. Adequate food stores (honey and pollen) located in the upper part of the hive. Strong colonies. Young productive queen. Colonies free of disease. Adequate hive ventilation (often provided by an upper entrance). Hive protected from extreme climatic conditions. Prevent mice from entering the hive. Remove queen excluders and combs of foundation.

13. Feeding heavy sugar syrup is **not** recommended since it places additional stress on the clustered bees. Inverting the sucrose and handling excess water will cause problems. The best way to supplement food stores at this time is to feed sugar candy. Combs of honey in storage or from colonies with a surplus can also be used, if they are disease-free. Dry granulated sugar may also be poured around the hole of the inner cover or spread on a piece of paper above the frames. Dry sugar, however, is not an efficient way of rapidly increasing food stores.

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

VENTILATION . . . Cont. from Page 528

While on the subject of drying sugar syrup, the spring feeding is even more costly. The sugar concentration in syrup for spring feeding is usually half sugar: half water, by weight. Fig. 6 shows that to dry one pound of sugar syrup with 82% sugar concentration, they require 1.6 lbs. of sugar syrup, from which 0.6 lbs. of water must be evaporated. This in turn requires 630 B.T.U.'s of energy. This represents about 12% of the energy contained in 1 lb. of 82% sugar syrup. Again, as in fall feeding, had we used sugar syrup of 3:1 sugar to water, we would reduce this waste to about 2%.

General discussions

As described in this article, beehive ventilation requirements are now better understood. Substantial improvement in wintering beehives outdoors, with lower food consumption, has been achieved by a ventilating inner cover designed for that purpose. Presently, many beekeepers in Canada kill their bees in autumn and restock again in spring with packages. The use of a ventilating inner cover could substantially improve wintering of bees and would probably swing the economic balance in favour of wintering.

In the summer, the use of H.D.V's will increase honey production, producing dryer honey and increasing pollination of foraged crops.

It is regrettable that our apicultural institutions have shown reluctance to participate in testing. However, despite their reluctance, the viable improvements in beekeeping can still be implemented with full co-operation between beekeepers and beekeeping equipment manufacturers. In the spring of 1986, two beekeeping equipment manufacturers in Canada and one in the U.S.A. commenced testing on H.D.V's. Testing of ventilating inner covers will follow. Local beekeeping associations are invited and encouraged to conduct their own test so that their members will have the benefit of direct participation in testing and the test results may be shared with others by publishing them. The beekeeping equipment manufacturers in the U.S.A. who may be interested in manufacturing these itsms are invited to participate in testing. The inquiries with respect to testing should be addressed to the writer.

It is expected that some readers may have questions. Such questions should be addressed to the writer. Upon receipt, I will forward both questions and answers to the Editor for publication. This article may stir up some controversies and if it does, I hope it will shake us out of our present complacency.§

References

4. ABC and XYZ of Bee Culture, 1975 Edition.

5. Clustering of Bees in Summer, by V. Shaparew, *American Bee Journal*, May 1980.

6. Honey Drying in the Hive, by V. Shaparew, *Gleanings in Bee Culture*, Sept. 1982.

7. Temperature Controlled Upper Ventilation Improved Honey Production, by V. Shaparew, *SKEPtic*, Feb. 1984.

8. Tests Show Ventilators Increase Honey Production, by V. Shaparew, *American Bee Journal*, Aug. 1985.

9. Yes, the Ventilators Work for Those Who Use Them, by V. Shaparew, "Letters To The Editor", *American Bee Journal*, Feb. 1986.

AFRICANIZED . . . Cont. from Page 507

6. Replace individuals lost through roguing with animals of known breeding from other ranches. Result: expensive but effective immediate revitalization of business and accelerated dilution of wild genes.

Recommendations

It is intuitively obvious to us that while some avenues of AB research are worthwhile, they are not likely to contribute a solution to the immediate problem. Unfortunately, beekeepers and lay persons are being misled into believing that research will magically solve the problem. *We must change this impression.*

In our opinion, the problem of "Africanization" is not an invasion, rather it is a gene flow problem. Solution to the problem of "Africanization" will come about through beekeeper directionalization of gene flow -- achieved by maintaining positive selection pressure favoring desirable phenotypes. Fortunately, we have the mechanism for this process (requeening and possibly drone confinement) already in place. What we must do is insure that existing techniques are applied uniformly *at all levels* throughout the beekeeping industry. In our opinion (and that of many others), African bee management strategies to reverse the flow of "African" genes may be subdivided into six relatively simple objectives.

1. *Develop a program of honey bee selection and breeding* that specifically addresses the needs and capabilities of commercial queen and package bee producers: One that they can readily implement. We must recognize that the burden for the day to day work that will solve the AB problem in the United States must necessarily rest with beekeepers and queen breeders (public institutions/ scientists are too few in number to accomplish this objective). If done correctly, we will minimize the effect of undesirable behavioral traits, take advantage of desirable AB traits and thus build a stronger bee industry than we have had. Adjustments in existing breeding programs will be necessary.

2. *Provide new or improved ways of maintaining colonies that are reasonably free of "African" genes* (assistance in meeting objective 2 above). Here, implementation of the concepts presented in options 4-6 of the polled hereford analogy is clearly the only way to procede. Research should be focused on improving efficiency in these areas. This should include:

a. *Develop more precise colony evaluation techniques* for field identification of undesirable phenotypes. Note: Expensive, time consuming analytical procedures will be of little use, except to researchers once AB genes are in the United States (actually these genes have been here for many years).

b. *Develop improved methods of queen finding, queen introduction and regulation of drone populations.* If a suspect colony is found, requeen it and put a queen excluder over the entrance to prevent drone escape. Alternatively, a trap can be used to capture all drones for the balance of the season.

c. *Have experienced beekeepers assist* less well informed peers in a & b above.

d. Provide reliable sources of desirable stock (here we find the importance of closed populations and other sources of AB gene free stock).

3. *Develop the necessary beekeeper educational programs* for implementation of 1 and 2 above and emphasize the need for beekeeper participation at all levels.

4. *Develop necessary programs to insure continuation of a strong beekeeping industry, both hobbyist as well as commercial.* Maximal numbers of colonies headed by queens with desirable behavioral traits will serve to offset the AB gene flow. The reversal of gene flow can be further accelerated by encouraging maximum drone production by colonies in AB areas and by requeening whenever necessary. Note: our discussions with Costa Rican University and Extension personnel suggest that the "Africanized" bee problem there has been exacerbated by the retirement of numerous hobbyist and sideline beekeepers (see options 1 & 2 of the polled hereford analogy).

5. *Develop a program for public education* that emphasizes the problem solving approaches above. Included here is emphasis of the need to maintain a strong, extensive hobby and commercial beekeeping presence (a high density of colonies with desirable phenotypes) to reduce or stop the spread of bees with undesirable traits. Emphasize also the implementation of this program prior to introgression of AB genes to North America. Its essence must be stressed to the public. One of the most counterproductive events would be the loss of existing base phenotypes (apiaries) and *their respective drone populations.*

Figure 3. Installation of pollen traps on honey bee colonies used in the cacao pollination studies.

6. *Assure good overall colony/apiary management.* Beekeepers at all levels must be prepared to make difficult adjustments in their management practices and, perhaps, develop new beekeeping skills.

Finally, we must recognize that under concepts of gene flow, some genes of the so-called "Africanized" bees will not be confined to the southern states.

Acknowledgments

The authors wish to acknowledge the Milwaukee Public Museum, the USDA-Agricultural Research Service and the American Cocoa Research Institute for their support. The authors also wish to thank Drs. Harry H. Laidlaw, Robert E. Page and Ms. Marla Spivak for their counsel and suggestions and for reviewing this manuscript.§

FLORIDA CITRUS HONEY
IS IT UNIQUE?

REPRINTED FROM FL. COOP. EXTENSION SERVICE
By MALCOLM T. SANFORD, Ext. Apiculturist

Historically, there have been problems with the unique composition of Florida citrus honey. Shipments of the sweet have been refused abroad when found to contain excess sucrose. This was not purposefully added sucrose, but the shipments were returned in any case. The United States Department of Agriculture (USDA) is now taking a closer look at honey coming into Commodity Credit Corporation warehouses. Recently, some Florida citrus honey has been rejected because it appeared to be adulterated with corn syrup.

The testing process, known as isotope ratio analysis was developed by Dr. J. White. It detects the ratios of carbon atoms derived form cane and corn (monocot grasses) versus carbon atoms derived from nectar secreting (dicot woody flowering) plants. According to "$^{13}C/H^{12}C$ Ratios of Citrus Honeys and Nectars and Their Regulatory Implications," *Journal of the Association of Official Analytical Chemists*, Vol. 66, Jan. '83, by J. W. White and F. A. Robinson, the average ratio value of 119 honey samples was -25.4, whereas corn syrup was -9.7. Unfortunately, the variability found in authentic samples of honey precludes accurate calculation of a composition of unknown mixtures, according to the paper, and samples with values between -23.5 and -21.5 should be confirmed as adulterated by an independent test.

Florida citrus honey can fall into the independent testing range. During the 1980 marketing season, according to the paper, a citrus sample with a -23.8 value was declared 10% adulterated, resulting in considerable confusion and economic loss. The authors conclude that Florida citrus honey has significantly less negative values than other U.S. Honey and this was not the result of purposeful adulteration, but characteristic of the plant species.

The present level set by the USDA at --23.4 appears to cover most U.S. honey. However, some citrus honey, according to the paper above, may have as low a figure as -22.0. Experience this season suggests that a lower figure may also be characteristic of mesquite honey. All this suggests that the USDA should re-examine its policy on the issue. A major problem with this is loss of reliability, as suggested above, in the value range of -23.5 to -21.5; performing an independent test makes taking Florida citrus and mesquite honey a more costly process by the CCC. Representatives of the beekeeping industry are hard at work in the political realm on the issue. If you are concerned, I'd suggest contacting your beekeeping industry representative. To obtain a copy of the paper in question, you can write me at 202 Newell Hall, Gainesville, FL 32611.§

Increase Honey Sales and Consumption in your Area! Have Queen DeAnn's and Princess Caroline's Honey Recipe Brochures available for consumers. They will convince new customers of the value of honey and show regular customers new ways to use honey -- so they will buy more. This tri-fold brochure features a colored photo, sixteen tested recipes and several "Honey Hints". These folders should be by EVERY Honey display as well as included in EVERY mailing. Every customer needs one!

BEE A PROMOTER! and especially during Honey Week, October 19th through 26th. Order a box today through the American Beekeeping Federation, 13637 N.W. 37th Ave., Gainesville, FL., 32606. Phone (904) 332-0012.

ADDRESS CHANGE

If you are moving, please fill in the form below so we can process the change without undue delay. ***Also***, if you have 2 addresses during the year (i.e., winters in Florida and summers in Connecticut) let us know which months you spend where and we can pre-program your address change so you will find ***us waiting*** when ***you move*** — No Delays, No Fuss!

FOR PERMANENT CHANGE:

NAME _____

OLD ADDRESS: Street _____

City _____ State _____ Zip _____

NEW ADDRESS: Street _____

City _____ State _____ Zip _____

FOR TEMPORARY CHANGE:

NAME _____

ADDRESS NO. 1: Street _____

City _____ State _____ Zip _____

Circle Appropriate Months: J F M A M J J A S O N D

ADDRESS NO. 2: Street _____

City _____ State _____ Zip _____

Circle Appropriate Months: J F M A M J J A S O N D

Send Form To: Subscription Department, P.O. Box 706, Medina, Ohio 44258

News & Events

☆ ALBERTA ☆

Beekeeper Technician Program Offered

Fairview College, Alberta, Canada, offers one of the world's most unique opportunities to study beekeeping.

The Beekeeper Technician Program starts in January and runs for eleven months. The couse is designed to train people to work with commercial beekeeping operations and prepare for careers as independent beekeepers.

The course is offered in three sessions. Session 1: theory of apiculture and honey production, including a one-month field trip to California.

Session 2: work with the College's 300-hive apiary or established beekeepers. Session 3: learn business and management aspects of running a beekeeping operation.

For more information write to: Registrar, Box 3000, Fairview, Alberta, Canada TOH 1LO.

☆ CALIFORNIA ☆

The beekeepers Guild of San Mateo County placed first in the Agricultural Feature Division at this year's County Fair. The Fair was held July 18 through July 27, 1986 at San Mateo, California.

"The Honey House" was the theme of this year's exhibit. Honey, pollen and beeswax products were featured at the booth. All types of beekeeping equipment were also incorporated into the display.

Educational aids included an observation hive, beekeeping video tapes and honey recipes. The booth was continually staffed by Club members. The Club also received a Special Commendation for having the best maintained booth during the Fair.

☆ CONNECTICUT ☆

The Western Connecticut Beekeepers Association, (which meets from 8 p.m. to 10 p.m. at the Fairfield County Extension Center, Rt. 6, Bethel, CT.) has the following schedule of events:

Oct. 17 -- Harvesting -- from Super Removal to the Bottle.

Nov. 20 -- Richard Taylor, talking on "The Future of Beekeeping".

☆ FLORIDA ☆

The Tampa Bay Beekeepers Association of Hillsborough, Pinellas and Manatee Counties, Florida, is celebrating it's 40th year anniversary. Because of a special program planned in honor of the event to be held on Thursday, December 4, 1986, it is requested that ALL former members and former honey queens contact us. Please write or call Diane Cornwell, Publicity Committee, P.O. Box 13535, Tampa, Florida 33681. (813) 634-2072.

☆ GEORGIA ☆

Georgia Beekeepers Association Annual Meeting will be October 11, 1986 at Rural Development Center in Tiston, GA. Th meeting starts at 8:45a.m. and will end by 4:30 p.m.

Program topics include:

•Marketing Honey under the buy-back program

•Honey Promotion Research Report

•Basic Beekeeping Tips

For more invormation contact: GBS Sec, Cecil Sheppard, 4054 Briar Glade Way, Doraville, GA 30340 (404) 491-3734.

☆ ILLINOIS ☆

Illinois State Beekeepers 96th Annual Convention November 1, 1986

Place: Department of Agriculture Building
Illinois State Fair Grounds
Springfield, Illinois

9:00 - 9:30	Registration
9:30 - 10:30	ISBA Meeting Reports
10:45 - 11:30	Mr. Ross Clark,"Queen Rearing"
11:30 - 11:45	Election of Officers
11:45 - 1:15	Lunch
1:15 - 1:30	Raffle Drawing
1:30 - 2:00	Dr. Basil Furgala, Apiculture Dept., U. of Minnesota. "Future of Beekeeping in N. America"
2:00 - 2:30	Mr. Kurt Gross, Editor of the Illinois State Beekeepers

NEWS . . . Cont. from Page 538

	Bulletin. "Figurine Wax Molding"
2:30 - 2:45	Break
2:45 - 3:00	Installation of Officers
3:00 - 3:45	Local Chapter Reports

Complete dinner at the Agriculture building cafeteria $6.25 per person. Reservations must be received no later than October 22nd. Make check payable to: Illinois State Beekeepers and mail to: Mr. Udell Meyer, R.R. #3, Box 308, Edwardsville, Il. 62025.

YOUR NEXT MEETING NOTICE COULD HAVE BEEN HERE

LET YOUR MEMBERS KNOW!

☆ INDIANA ☆

The Indiana State Beekeepers Association will hold its 78th Annual Fall Meeting on Saturday, October 25, 1986. The site will be the Speedway Motel, 4400 W. 16th St. in Indianapolis.

Registration and dealer displays will open at 11 a.m., with call to order at 12 Noon.

Featured speakers will include:

•Doris Pharris, Walter T. Kelley Co. "The Kelley Company - Down Through The Years"

•Rodney Stewart, Slippery Rock, PA. "Producing, Packing, and Pollinating "

•Darl Stoller, Stoller Honey Co., Latty, Ohio. "Beekeeping Antiques"

•Karen Lackey, Indiana Farm Bureau. "Producing Commodities"

Buffet banquet at 6:00 p.m.,. Featuring: Mauri Williamson, Exec. Sec'y., Purdue Ag-Alumni Assoc., "Indiana Farming - The Good Old Days". Coronation of the 1987 Honey Queen. Awards: Beekeeper of the Year Award and the Clover Blossom Award.

Banquet tickets are $13 each. Reservations with payment by October 18th.

For more information contact: Claude Wate, 613 State Office Bldg., Indpls., IN 46204 (317) 232-4120 or Alan L. King, (317) 244-8210.

☆ MARYLAND ☆

The Fifth Annual Maryland Honey Festival will be held at the Oregon Ridge Nature Center in Cockeysville, MD on October 4 & 5, 1986 from 10 am to 5 pm. Admission is Free.

Included will be demonstrations of:

Extracting — Making Mead
Dipping Candles — Skep Making

Educational exhibits/talks on:

Capturing Swarms, Beginning Beekeeping, Stinging Insects, Apiotherapy, Beekeeping Equipment, Beginning Beekeeping, Pesticides and Honeybees, Products of the Beehive, and sales of:

Honey — Pollen
Bees Wax Candles

There will be free samples of:

Honey and Honey spiked food and drink.

Plus observations hives, 3 Bee Beard demonstrations and Meet the American Honey Princess, Caroline Comport, and Watch free movies

☆ MISSOURI ☆

Missouri State Beekeepers Semi Annual Meeting

The Annual Fall Meeting will be held on Saturday, October 11, in Poplar Bluff at the Junior High School Gym located at the junction of Highway 60 and 67. The meeting is being held a bit earlier in the month than usual so be sure to mark your calendars. Also registration will begin an hour earlier at 7:00 a.m. and the *meeting itself will begin at 8:00 a.m.*

7:00 - 8:00	Registration
8:00 - 8:30	Ray Nabors, U. of MO, "Our State Insect"
8:30 - 9:30	Harry Williams, U. of TN, "Bee Disease: Lab. Diagnosis"
9:30 - 10:00	Neal Bergman, Missouri Beekeeper, "Queen Rearing"
10:30 - 11:30	Harry Williams, U. of TN. "Bee Management for Disease Control"
11:30 - 12:00	Flernoy Jones, U. of MO, Columbia. "Pollination Contracts and Bee Mgmt."
1:00 - 2:00	Marvin Parker, Voc. Ag.. USAID,"Beekeeping practices in Turkey and the Phillipines"
2:00 - 2:30	Larry Hanning, Ent., State of MO., Dept. of Ag. "Field Recognition of Bee Diseases and Legal Ramifications"
2:30 - 3:00	Joe Francka, State Entom. MO,"Tracheal Mites in MO"
3:00 - 4:00	Panel Discussion, Moderator, Flernoy Jones

☆ NEBRASKA ☆

The Nebraska Honey Producers will hold their annual convention on November 7, 8, 1986, at the Radisson Inn, 10909 M Street, Omaha, Nebraska. Eugene Killion and James Tew will be the speakers. There will be displays of equipment and supplies. The meeting begins at 9:00 a.m. each day with a banquet Friday night

For further information contact: Sally Leu, Secretary, Route 4, Box 194, Norfolk, Nebraska 68701.

☆ NEW HAMPSHIRE ☆

The New Hampshire Beekeepers Assoc. will hold their fall meeting October 18 at 10 a.m., Daniel Webster Grange Hall, Webster, N.H.

Bring your honey and wax for the honey show.

There will be speakers and lunch at noon.

☆ NEW ORLEANS ☆

The Crescent City, New Orleans is the site of the 1987 convention of the American Beekeeping Federation. The annual event is set for Jan. 18-21, at the Hyatt Regency New Orleans.

The Federation convention program is being arranged to allow conventioneers plenty opportunity to sample the culinary delights of New Orleans. Instead of the traditional two evening banquets, only one combined banquet and honey queen coronation is scheduled.

A comprehensive program is being developed that will encompass *all* aspects of American beekeeping -- from the political scene to current research, from Africanized bees to honey promotion. The theme of the meeting will be **"Opportunities in Changing Times."**

The general session of the meeting will open Sunday afternoon and close at noon on Wednesday. The business meeting will be Wednesday afternoon, and the usual directors and officers meetings will precede and follow the convention proper.

For more information contact Frank Robinson, Sec./Treas, American Beekeeping Federation, 13637 NW 39th Ave., Gainesville, FL 32606, (904) 332-0012.

NEWS . . . Cont. from Page 539

☆ NEW YORK ☆

The Western New York Honey Producers Association will hold a workshop on honey extraction for both large and small scale beekeeping on October 11, 1986. For more information contact: Sally or Mike Potoczak, 541 Bell Road, Corfu, NY 14036 (716) 599-3491.

☆ OHIO ☆

Miss Amy Flannagan, 18, of Lebanon, Ohio, is the new 1986-87 Ohio Honey Queen. In a pageant conducted during the summer meeting of the Ohio State Beekeepers Association on July 18-19, Amy was chosen to represent the beekeeping industry throughout Ohio. Amy was the former 1985 Ohio Honey Festival Queen for the event which is held in Lebanon, Ohio. She is the daughter of Mike and Linda Flannagan of Lebanon.

Ohio State Beekeepers Assn.

The Ohio State Beekeepers Association will hold their fall meeting at the Ohio Fire Academy, 8895 East Main St. (St. Rt. 40) at Reynoldsburg, OH, on Sat. Nov. 15th, 1986. There will be a $6 registration fee.

8:30-9:15	Registration
9:15-9:30	Introductions, Jim Thompson, Pres. OSBA
9:30-9:45	Welcome, Steven D. Maurer Dir. Ohio Dept. of Ag.
9:45-10:30	Promotion, Kim Flottum, Editor, *Gleanings in Bee Culture*
10:30-10:45	Break
10:45-11:30	Bees and Finances, Tom Sanford, Ext. Sp., Univ. of Florida
11:30-11:45	National Honey Promotion Board, Dwight Stoller, Pro. Bd. Member
11:45-12:30	Lunch
12:30-1:15	Bee Venom Therapy, Arnold Murray, Knox County
1:15-1:30	OSBA Honey Queen Report, Amy Flannagan,
1:30-2:15	The Future of Beekeeping Tom Sanford
2:15-2:25	Beekeeper of the Year Award
2:25-3:00	Bus. session & Election of Officers
3:00	Adjournment

For more information contact John Grafton, Rt. 1, Box 269, Steubenville, Ohio 43959 or call (614) 282-2076.

☆ OKLAHOMA ☆

The Fall Meeting of the Oklahoma State Beekeepers' Association will be held Saturday, November 1, 1986 from 8:30 a.m. to 4:00 p.m., at the O.S.U. Extension Building at 10th and Portland (900 South Portland) in Oklahoma City. Featured speakers will be George Vanarsdall and his son Mike of Sibley, Missouri. A covered dish luncheon will be served at noon.

The Central Oklahoma Beekeepers' Association will host the meeting, and will have their local meeting on Friday night, October 31, at 7:30 p.m. in the same location.

President of the Oklahoma State Association, Chuddie Smith, P.O. Box 34, Guthrie, OK 73044, invites all interested persons to attend.

☆ SOUTH DAKOTA ☆

Cecilia Marlene Zietlow, 19, is the 1985-1986 South Dakota Honey Queen. She is the daughter of Mr. & Mrs. Alvin Zietlow of Rapid City who have been commercial beekeepers since 1958. Cecilia is presently employed by the Girls Club of Rapid City where she teaches horsemanship. She is an active participant in 4-H, numerous horse organizations and the promotion of honey.

☆ TENNESSEE ☆

The Tennessee State Beekeepers Association will hold their 1986 Annual Meeting, October 23, 24 and 25 at the Holiday Inn, Jackson, TN (45 By-pass at I-40).

Speakers include Harry Fulton - MS Apiarist, Joe Parkhill, Helen Foster, Dr. David Sims, Howard Kerr, and Laura Overbay, along with talks on Chalk Brood disease, wood preservatives and TN weather patterns.

There will be a Honey Queen Reception and auction, a buffet-style banquet, a "homemade tool" demonstration, a smoker lighting contest and a honey and wax contest.

For registration information contact: Palmer Smith, Rt. 2, Box 237C, Covington, TN, 38019.

☆ SOUTHERN STATES ☆

PROGRAM

Saturday, Nov. 1

4:00-6:00	Board Meeting (Old Business

Sunday, Nov. 2

8:00-6:00	Open House - Am. Bee Supply, Inc. Lebanon,TN
2:00-5:00	Bee Schools - Dr. James Tew, Lawrence Cutts, and Huck Babcock
7:00-8:00	Gospel Music - Sponsored By The Walter T. Kelley Co.
8:00-?	Story Tellers Competition, Dr. James Tew, Moderator

Monday, Nov. 3

8:00-1:00	Commercial Displays Open
8:00	Call to Order - Steve Forrest
8:10	Welcome to Tennessee
8:20	Opening Remarks - Steve Forrest,
8:30-9:00	"The Mite Infestation in Florida", Lawrence Cutts
9:00-9:30	"The Mite Project in North Carolina", Dr. John Ambrose
9:30-10:00	"Of Mites and Men" Dr. H. Shimanuki
10:30-11:15	"A Beekeepers Approach to Africanized Bees, Dr. James Tew
11:15-12:00	"Pesticides, A Cancer Upon Our Industry:, Dr. Eric Erickson
2:00-5:00	Bee Schools - Dr. John

Continued on Page 543

☆ Classified Corner ☆

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

Seven Steps To More Sales From Your Classified Ads

"Classified advertising is a powerful sales tool, and it's probably the most cost-effective way to generate inquiries."

Whether you have never placed an ad before, or whether you have been using classified advertising for years, you can generate more sales by following these seven simple steps:

1) Follow the AIDA principle. Classified advertising must follow the rules of all good advertising. The AIDA principle is one way to sum it up: ***A***ttention, draw ***I***nterest, create ***D***esire and cause ***A***ction.

2) Put "U" Before "I". It doesn't work that way in the alphabet, of course, but in advertising "you" comes before "i". It's another way of saying that when you are selling put the emphasis on the reader. Your ad should tell the reader what your service or product will do for the reader!

3) Be aware of the classified ad's limitations. You can sell directly from a classified ad only if you ask for a small sum for a catalog, sample or modest product. Leave your full sales message for display ads and direct mail; the classified's job is to entice prospects to write or call for more information.

4) Use power-packed sales words. There are certain words and phrases that are generally successful in all advertisements. The favorite six are FREE, NEW, AMAZING, HOW TO, NOW and EASY.

5) Do not worry about the word count. Your first job is to get all the benefits and selling words about your product or service on paper. Then comes the rougher job of editing and polishing!

6) Say more in fewer words. The average classified is 20 to 25 words. Generally, if you can't state your proposition in 35 words or less, go back and analyze your offer.

Find brief ways to say the same thing: use "10¢" rather than "10 cents"; write "Satisfaction guaranteed" instead of "Money back if not satisfied"; say "Details free" or "Free Information" rather than "Write for free details".

7) Key your ad. A "key" is a device to code an ad so that you can tell where an inquiry or purchase came from. It should always be used when you advertise in more than one publication.

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

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

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

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

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

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

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

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NEWS . . . Cont. from Page 540

	Ambrose, Dr. H. Shimanuki, Steve Forrest
8:00-8:30	Francois Huber, The Swiss Naturalist
8:30-?	3rd Annual Bee Bowl - GA -vs-TN

Tuesday, Nov. 4

8:15-8:25	Opening Remarks, Paul Harrison, Mod. of the Day
8:30-9:00	"The Honey Research Promo. and Consumer Info. Act" Reg Wilbanks
9:00-9:30	"The American Honey Producers Activities in Washington", Richard Adee
9:30-10:00	"Our Future, It's Up To Us" Steve Forrest
10:30-11:00	"How To Sell Honey" Bob Cole
11:00-11:30	"Honey Shows of the World" Brian Sherriff
11:30-?	Business Session
2:00-5:00	Bee Schools - Troy Fore, Ed Buchanan, Jed Shaner
6:00-7:00	Speakers Reception
7:00-9:00	Awards Banquet

Wednesday, Nov. 5

8:30-11:00	Board Meeting (New Business)

Commercial displays must be dismantled and removed by 12:00 noon on Tuesday.

Registration Rates: $30.00 per person or $45.00 per Family (Before Oct. 15th).

Bee School Rates: $15.00 per person or $25.00 per Family (at each session a complete hive with bees will be given away).

Rooms: $32.00 a night per room.

For more information contact Dr. John Ambrose, Dept. of Entomology, NCSU, Box 7626, Raleigh, NC 27695-7626. (919) 737-2129.

☆ TEXAS ☆

The Texas Beekeeping Association will hold a Short Course on "Beekeeping For Fun And Profit" on October 30, 1986 at 8:30 to 4:30. All new, hobby and sideline beekeepers are welcome. Dr. Larry Connor, Consulting Entomologist, Beekeeping Education Service, will be the instructor.

8:30	Welcome and Introductions
8:45	"How Bee Biology Affects Your Actions as a Beekeeper"
9:30	"Twenty Common Mistakes of Beekeepers"
10:30	"Increasing Colony Numbers"
11:15	"Treating with Drugs for Disease Control"
1:30	"Honey Composition, Properties and Processing"
2:30	Break
3:30	"Queen Management Banks, Introduction and Problems"
4:30	Question and Answer Period

The program will concentrate on selected areas of interest to nearly all beekeepers.

For registration information, please contact: Marilyn Wilkerson, President, Heart of Texas Beekeepers Association, 3709 Latimar, Waco, Texas 76705 (817) 799-4488.

MAILBOX . . . Cont. from Page 497

idea behind this suggestion is a sound one, reflecting a refreshingly different approach to the problem.

Back to Mendel. I have much sympathy with US beekeepers' apprehension of the advent of Africanized bees. At the risk of being accused fof meddling, I have some thoughts on the Africanized bee which may interest your readers. I am immediately at a disadvantage, not having personal experience of the US or its beekeeping set-up. The rather simplistic scheme I offer to keep the Africanized bees out of the US is based on impressions of beekeeping from American beekeeping journals, and the genetic laws of Mendel.

A major problem in strategies to combat the Africanized bee seems to be the question of rapid and sure identification. If all US bees were black, however, any yellow Africanized bees could immediately be identified. Likewise, even limited hybridization by matings of black queens with African drones or African/Italian drones, would promptly be apparent by the presence of yellow banded worker offspring (Woyke, 1977). Such colonies should then be fitted with a queen excluder or drone trap until requeened, rather than eradicated.

As bees of the US are mainly the yellow Italian, the scheme is at a severe deisadvantage. Nevertheless, "blackening" of the Italians is well within the scope of elementary bee breeding, and I believe the infra-structure is available to accomplish this in a short time. Fortunately, south of the border most bees are yellow and must remain so for the scheme to be effective. A buffer zone of colonies on the border should be prevented from leaking black genes to the south by fitted queen excluders or drone traps.

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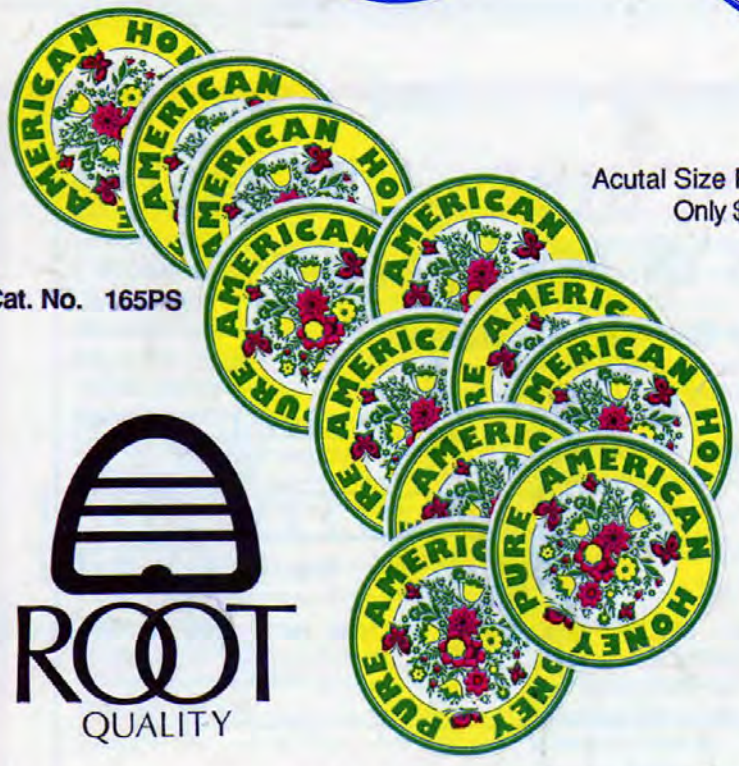

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