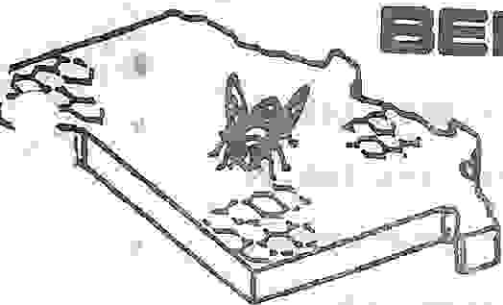


# MISSOURI STATE BEEKEEPERS ASSOCIATION



**PRESIDENT**  
Joe Solt  
4235 Gallatin  
Bridgeton, Mo. 63044  
(314) 291-1360

**VICE PRESIDENT**  
Mike Vanarsdall  
Rt. 1, Box 141  
Sibley, Mo. 64088  
(816) 249-5637

**PROGRAM CHAIRMAN**  
Dr. Flernoy Jones  
1215 Subella Drive  
Columbia, Mo. 65201  
(314) 445-5760

**SECRETARY**  
Jim Thaxter  
Rt. 4, Box 60 E  
Moberly, Mo. 65270  
(816) 263-2694

**TREASURER**  
Jim Hausam  
P.O. Box 141  
Lincoln, Mo. 65338  
(816) 547-2495

**EDITOR**  
Sharon Gibbons  
314 Quinmoor Drive  
Ballwin, Mo. 63011  
(314) 394-5395

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QUARTERLY NEWSLETTER  
OCTOBER, 1988

NUMBER 4

Our Fall beekeepers meeting is just weeks away. I hope that all of you received the extra newsletter that came out in September. If you didn't, the meeting date was changed to October 28-29, 1988. It will be held at the Community Federal Building in Mexico, Missouri. There will be an Executive Board meeting on Friday evening at 7:30 at the same location in Mexico. Until last year when I became editor, I thought that this meeting was for a select few "executives" of our beekeeping association. It simply is a meeting to hash out the issues that are presented the next day at the business meeting. It allows our business meeting on Saturday to go more smoothly and helps shorten the meeting. If you have anything you wish presented at the State meeting, please come on Friday night and help us to direct and manage the Missouri Beekeepers' Assn. more efficiently.

Richard Trump is our featured speaker at the fall meeting. Mr. Trump is an award winning biology teach emeritus from the Department of Entomology, Iowa State University, and author of a number of publications including contributions to the American Bee Journal. His book, "Bees and Their Keepers" is an entertaining volume that stands out among the many good books about the science of beekeeping. You will enjoy his humor, antidotes, and knowledge of honey bees as well as his experiences. His book will be for sale and can be autographed.

The afternoon session will consist of demonstrations and workshops by members of our association and displays from Dadant and Drapers Super Bee. We do not have a firm commitment, but we hope that a representative from Walter Kelley's will be there too. The following are some of the workshops we have scheduled:

1. James McCaskill, beekeeper/photographer, will present his slide show entitled: "Not for Beekeepers Only". Jim does a beautiful job of filming bees, wasps, butterflies, etc. on flowers. How many different flowers that are bee visited can you identify?
2. Mike Vanarsdall talks about beeswax and candle-dipping with help from Joe Solt. If actual dipping of candles can be shown, it would have to be done outdoors in good weather conditions.
3. Jim Robinson with bait boxes
4. Charlie Wells will show us how to make top feeders.
5. Sharon Gibbons will show WUR film from the National Honey Board showing the promotions coming up in the next year.

BRING YOUR GADGETS AND IDEAS AND BE PREPARED TO TELL PEOPLE HOW TO USE AND MAKE THEM. The workshops will run continuously and simultaneously so you can visit all of them.

AGRIMISSOURI - MISSOURI STATE BEEKEEPERS ASSOCIATION  
DIRECTORIES ARE NOW AVAILABLE

The new Agrimissouri - Missouri State Beekeepers Association  
"Directory of Honey Producers in Missouri" is now available.

If you would like to distribute some of these in your local  
area, please request a quantity of Directories from Jim  
Hausam. We have plenty of these and we need to get them  
distributed out to the public.

We will have these at the State Meeting in Mexico so if you  
want many, please pick them up at the meeting to help save us  
the postage.

The Directory turned out very nice and we distributed a great  
number of them at the Missouri State Fair. In addition to  
listing about seventy beekeepers around the state, the  
Directory has some recipes and honey tips for people to use  
in cooking and in using honey around the home.

These Directories should be given to local Farmer's Markets,  
Fruit Stands and Information Centers.

Please help us get them out to the public.

Once again, please request Directories from Treasurer Jim  
Hausam or please, if at all possible, pick them up at the  
State Meeting in Mexico, Missouri.

*Joe Selt*

FROM THE PRESIDENT'S CORNER

Hello fellow Beekeepers. I would like to report that we had an excellent Missouri State Fair this year.

We were fortunate to have our American Honey Princess, Felicia Hart, spend three days with us promoting honey and beekeeping. We were able to have her do five radio interviews on five different radio stations at the fair. She was very knowledgeable and was able to answer any question that was asked of her. The remainder of her time was spent in the area of our booth and the beekeeping equipment display area where she answered people's questions and talked about bees and honey. I feel that having Felicia visit was a great asset to our State Fair effort.

The last Sunday of the fair, we were paid a visit by Laura Miles, the Kansas Honey Queen. Laura spent the day with us promoting honey in and around our booth. Laura plans to compete for the 1989 American Honey Queen Title. (She has got my vote.)

I would like to express a personal thanks to the folks who helped us at the booth during the eleven days of the fair. I think everyone enjoyed working and talking about bees.

We would like to have more people come to the fair next year to help. If we had more volunteers, we could all work shorter shifts and perhaps get to see a little of the fair also.

Also, a very special thank you to Jim Hausam who, once again, did a superb job of coordinating, overseeing and organizing the honey booth. Without Jim's efforts, the State Fair would not be near the successful event that it is. Since the State Fair is the one event that is done for and by the Missouri State Beekeepers Association each year, Jim's efforts should be greatly appreciated by all of our members.

George Vanarsdall, once again, supplied all of our honey for the fair and also the freezer for the ice cream. This year however, George will not have to haul a freezer full of honey ice cream around with him all year. Thanks George.

The honey contest was a great success again this year with many entries and many Ribbons awarded. However, since there was still a tidy sum of prize money turned back to the fair, there is still plenty of room for next year. I realize that it is always a hassle trying to get the entries there and pick them up when the fair is over. I think we are gradually making progress in getting folks educated as to how this works. We have several local associations who have one person bring all their entries and another person pick them up. Next year it may be easier to have someone pick up the entries the day after the fair so that it won't be real late Sunday night when they get home.

LET'S HAVE A BETTER FAIR NEXT YEAR AND WIN SOME MORE OF THE RIBBONS THAT ARE AVAILABLE!!!

I would like to see all of you at the Fall meeting in Mexico. We are doing a few things differently this time and it should be a very interesting and exciting meeting.

Sincerely yours,



## WHO WAS MISSOURI'S FIRST BEEKEEPER?

by Jim Stokes

I don't know the identity of Missouri's first beekeeper and I'm asking for your help in finding him (or her). Let me tell you what few details I know so far. The Lewis and Clark expedition, westbound in 1804, found the honeybee at the Osage River. On their return in 1806 the honeybee had reached the Kansa (Kansas) river. Compare this to the advance of the African bee. And in the October 1861 American Bee Journal, Mr. Thomas Allen of Crystal Springs, St Louis, Missouri, reports taking honey as early as the fifth of May. Those two dates are certain. What occurred between 1804 and 1861?

In 1818, John R. Crawford raised a cabin in Montgomery county. Helpers included Daniel Boone, and his sons Nathan and Jesse. Lewis Jones killed game and found a bee tree, from which they had fresh honey for their dinner. Lewis Jones married Susannah Hays, granddaughter of Daniel Boone.

The editor of the Franklin, Missouri Intelligencer in 1826 reported wagon loads of bee hunters heading for the headwaters of the Chariton and Grand rivers, as well as the Iowa border, searching for wild bee trees. And in 1839 the citizens of Iowa jailed Sheriff Uriah S. Gregory of Clark county, Missouri for attempting to collect a 12 cent tax on wild bee trees. That started the "Honey War" between Iowa Territory and Missouri.

Farmers in 1820 believed that corn would not grow where trees didn't grow. They passed over the prairie ground and cleared the forests, not just for cabins, but to plant corn. That brought great prosperity to ax salesmen and second growth timber to Missouri. How different were the forests? In 1780 the commander at St. Genevieve thought he could drive a coach and four from St. Genevieve to St Louis and roads did not yet exist.

Thomas Jefferson called the honeybee the "White Man's Fly" and claimed it forecast the arrival of settlers. The advance of the honeybee through wilderness indicates good bee forage was present. What plants provided the good nectar flow? Should we be looking for native Missouri plants of the 1800's for superb nectar production? Is sweet pea-vine that plant? Or were the forest fires that cleared the underbrush the prime cause? Did the Indians know something we have missed, or were the fires they started for signalling purposes?

Any information would be appreciated, and if you have records that show honey or beeswax being used as currency or for trade credits, please send us a copy. Jim Stokes, 5617 Independence Road, St Charles, Mo 63303.

# WALL STREET JOURNAL.

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WEDNESDAY, SEPTEMBER 7, 1988

HIGHLAND, ILLINOIS

## Killer Bees Know All About Flanking Strategies; Just Look at Their Long March Toward the U.S.

### Killer Bees Evade First Line of Defense In a Beeline for U.S.

A Chemical Wall in Mexico Designed to Slow Arrival In Texas Has Little Effect

By MARY LU CARNEVALE

Staff Reporter of THE WALL STREET JOURNAL

The way the scientists saw it, the BRZ was supposed to be this country's first line of defense, a chemical wall that would neutralize the enemy. But when the onslaught hit in force this summer, the BRZ proved it best a porous Maginot Line. Now the experts are hoping a new set of defensive traps—closer to the U.S. border—will slow the advance.

The enemy here is the much-maligned "killer bee," and the BRZ is the shorthand researchers use for the Bee Regulated Zone, a 125-mile-wide stretch of land across the Isthmus of Tehuantepec in Mexico. The aggressive bees—actually Africanized honeybees—have been on maneuvers there all summer, confounding a joint U.S.-Mexican effort to slow their march through Mexico and into Texas. The scientists' tactics are straightforward: Kill as many bees as possible and dilute the genetic traits of the survivors to take some of the sting out of their orneriness. That strategy has given life to a new, albeit still small, arms industry: modern anti-bee warfare.

#### Step Into My Parlor

Under development are radar and infrared devices to track the intruders, instruments with elaborate electronics to identify them, genetic tactics to tame them and chemicals to kill them.

Martin Marietta Corp., the big defense contractor better known for its efforts on Titan rockets and MX missiles, is developing the Buzz Buster and the Bee Backpack. Meanwhile, researchers at the Agriculture Department and several universities are tinkering with formulas for synthetic pheromones—chemicals that can be sex attractants and can lure the bees into traps.

These new gadgets and techniques probably can't be brought to market fast enough to stop the African bees from causing at least some disruption of the \$150 million U.S. honey business, particularly in southern states where most commercial bees are produced. Moreover, farmers and ranchers also may have reason for worry. In South America, African bees have attacked cows, chickens and dogs, stinging until the animals dropped dead.

#### Stacking the Deck

The bees broke through the BRZ by flanking traps in the west end of the zone. Within three months, other swarms probably will have flown beyond the BRZ on the opposite side.

Nevertheless, scientists are sticking to plans to trap and kill wild colonies in the BRZ and flood the area with European males. African bees generally dominate in mating, but the scientists hope to give a numerical edge to the calmer European honeybees, the type widely used throughout North America for honey production and crop pollination.

Farther north, researchers are setting hundreds of traps along three lines: a 100-mile stretch from the coastal town of La Pesca to Ciudad Victoria in Mexico; a 125-mile line from Tampico to Ocampo, also in Mexico; and a 100-mile section of the Rio Grande, roughly from Brownsville, Texas, to Rio Grande City.

Nonetheless, the bees are expected to reach Texas in a little more than a year, but just how far north they will spread is a matter of some debate. Most entomologists believe the tropical bees can't survive more than about four months of winter.

If they are correct, the greatest harm could come to the U.S. bee business in the south, particularly California, Florida and the Rio Grande Valley in Texas. Throughout the U.S., European bees are used to pollinate crops valued at about \$20 billion. One study, however, suggests some African bees, if they get past all the lines of defense, could endure colder climates as far north as Canada.

"We're using a very limited technology, and it's far from a perfect technology," acknowledges Orley Taylor, a University of Kansas entomologist who recently returned from the BRZ. The chemically baited traps are cardboard boxes eight inches tall, 15 inches deep and 20 inches long, with plastic bags attached for easy removal.

So far, they have been somewhat effective: Hundreds of colonies, each containing thousands of bees, have been caught in the traps. Researchers are using the boxes to test pheromone formulas to find what's most attractive to the African bees. They may later add an agent to kill or sterilize the bees, but steps first must be taken to keep the boxes away from impoverished Mexicans: "People steal them," says Mr. Taylor. "They burn the cardboard and use the plastic bags."

African bees may be gentle enough initially, but when agitated, they turn ugly fast. A cloud of hundreds of bees will rise up to attack, often pursuing a victim for some distance. Their venom is no more potent than that of their European kin, but their collective stinging can kill. While most victims have been animals, estimates of human deaths range from 300 to 4,000 since 1957, when 26 swarms were accidentally released in Brazil during breeding experiments.

#### One Experiment Gone Bad

The bees had been imported from Africa the year before in a failed effort to develop a better honey producer for the tropics. What emerged instead is a ferocious insect—and only an average honey producer—that looks just like a European bee.

Anita Collins, a member of the Agriculture Department's research team in Baton Rouge, La., doesn't wear a bee suit when working with European colonies. But, she says, "when I go into an African yard, I wear two bee suits over blue jeans and a long-sleeved shirt, a pair of gloves and a veil."

As an extra precaution, researchers and beekeepers work in pairs, one doing the beekeeping work and the other constantly blowing smoke out of a small pot with bellows to keep the colony calm. "Even still, you have large numbers of bees swarming around," Ms. Collins says.

In the field, it's nearly impossible to distinguish African bees—unless they're upset. But in a laboratory, the differences become apparent when measurements of the two bees are compared. An African bee is somewhat smaller, has a shorter tibia and displays distinctive angles in the veins on its wings. Years ago, Ms. Collins and

other researchers also noticed that the African bees sound different. That observation led to the hand-held Buzz Buster.

#### Good Vibrations

It's a little hand-held box, about the size of a cigarette pack, with a chamber that you put the bee in," says Michael Buchanan, a project manager at the Oak Ridge National Laboratory, which Martin Marietta operates under contract with the federal government. A microphone amplifies the buzz as the bee beats its wings while a sensitive tone-decoder microchip measures the sound's frequency. African bees are smaller, so they buzz at a higher frequency, around 260 hertz versus 220 for a European bee. A red signal lights up if the bee is African; a green signal indicates it is European.

"We haven't had any mistakes in identifying pure African and pure European bees," Mr. Buchanan says. But the device, he concedes, has had some trouble distinguishing cross breeds.

Elsewhere at the National Lab, a small team is working on an infrared transmitter used for tracking the bees, called the Bee Backpack. It is about the size of a newborn baby's fingernail and weighs less than 47 milligrams, the maximum load for a worker bee.

Once developed, the device will be glued to bees' backs. It will then transmit infrared signals from microscopic, solar-powered laser diodes mounted on the backpack. Kelly Falter, one of the device's developers, says the microchip can track a bee as far as a mile away, as long as it is in the line of sight of a receiver. If all goes well, field tests will begin on European bees next spring.

In the fields outside Tucson, Ariz., scientists are using radar to track bees. They hope, among other things, to find out exactly where bees mate, says Gerald Loper, a researcher in the Agriculture Department's Carl Hayden Honeybee Laboratory. That data could help researchers and beekeepers genetically dilute aggressive strains.

While radar can't track individual bees, it works well on mass maneuvers. "We've been able to find the flyways where drones go after they leave the apiary," said Mr. Loper. The narrow flyways, about 80 yards wide and two miles long, are crowded in late spring and early summer with as many as two thousand drones.

Within the flyways are dozens of congregation areas where drones are drawn, perhaps by queen bees on mating flights. The scientists are attempting to track bees and mating patterns in flyways to try to explain why African bees tend to be more successful than European bees in mating with available queens.

Eventually, the researchers hope to identify certain habits of the Africanized bees that can then be turned against the insects. For example, if the bees are inclined to mate in certain areas of a flyway, com-

mercial beekeepers could move their breeding grounds elsewhere.

Whatever the success of this modern warfare, it looks as if the Africanized bees will be here to stay, so accommodation may prove the ultimate line of defense. Explains Ms. Collins: "A small percentage of Africanized bees, say 10%, would be acceptable."

#### FROM THE EDITOR:

This is just the beginning of the publicity the beekeeping industry is about to face. I'm sure that most of you have been asked about the "killer bee" when people have found out that you are a beekeeper. When you are confronted with questions about the "killer bee", a good answer is to say that the "killer bee" lives in Hollywood, and the Africanized Bee is a honeybee related to our European Honeybee that lives in South America. At all times give facts as you know them, not sensationalism. We all will be affected by the arrival of the Africanized bees, and will have to learn to adjust our methods of beekeeping. Years ago the same publicity was given to American Foulbrood, and now we have new challenges. The most important thing for you to do is to keep well informed and current in your beekeeping reading material. Even those of you with only one hive will have to stay on top of current developments. Work hard to spread the word about the goodness of the honeybee to all you come in contact with. After all, it is the thing that brings us all together, our love for the "honeybee".

I recently had the privilege to represent Missouri Beekeepers as a delegate to the nominating committee of the National Honey Board. I went to Denver the last week of August wondering "why me": exhausted after my State Fair experience and feeling totally uneducated about the "workings" of the National Honey Board. I wish all of you could have had shared my experience. I was sitting at the same table with beekeepers that I have held "in awe" the last few years such as Troy Fore and Binford Weaver. I came home with the feeling that the people working at the National level are friendly, considerate beekeepers who are working hard to make "Honey" the most talked about food in America.

# News Release

National Honey Board  
9595 Nelson Road, Box C  
Longmont, Colorado 80501  
303.776.2337

September 12, 1988  
FOR IMMEDIATE RELEASE

For more information contact:  
Mary Humann (303) 776-2337

The Foreign Agricultural Service of the USDA has approved the National Honey Board's request for \$500,000 in Targeted Export Assistance (TEA) funds for 1989.

These funds are provided by the U.S. government to help offset adverse effects of unfair foreign trade practices on U.S. agricultural exports.

The Honey Board will use the funds to develop export demand for U.S. produced honey in Europe, the Middle East and the Far East.

"Our primary efforts will be in West Germany, Saudi Arabia and Japan," said Dan Hall, manager of the National Honey Board.

The Honey Board's export development program will be launched October 1. The Board will begin by conducting market research, Hall said.

In addition, the Board plans to develop multi-lingual promotional materials, to participate in international trade shows and to sponsor an export sales seminar to keep the honey industry informed.

"Our goal is to increase U.S. honey export sales from 3 percent to 15 percent of the U.S. honey production," Hall explained. "We will develop a market for premium U.S. honey and honey products in select countries."

#mrh#



6-A

National Honey Board

DATE: JULY, 1988

TO: HONEY PRODUCER/PACKERS, HANDLERS,  
IMPORTERS & BROKERS

FROM: DAN HALL, MANAGER

RE: UPCOMING PROMOTIONS

*Dan Hall*

HONEY BOARD TEAMS UP WITH LIPTON HERBAL TEA

"Sweet things happen when you mix a natural pair"... a natural pair like Honey and Lipton Herbal Tea!

In October and November, full page 4-color ads will tell your consumers about this natural pair. Watch for the ad to appear in Better Homes and Gardens, Family Circle, People, Good Housekeeping, Good Food, Ladies Home Journal, Woman's Day, Modern Maturity, Redbook, and Reader's Digest.

A coupon for 5 cents off any brand of honey will be placed in 2.5 million specially marked Lipton Herbal Tea packages beginning in mid-September.

In addition, Lipton Specialty Tea free-standing displays will feature 50 cents off honey coupons with proof of purchase of any two Lipton Specialty Teas. As with the inpack coupons, these coupons can be used for any brand of honey and will be redeemed by the National Honey Board. Look for these displays to be in your supermarket between October and December.

Retailers who set up special displays for honey and/or Lipton Herbal teas or who feature honey or Lipton Herbal Tea in their newspaper ads will have a chance to win sweet giveaways. Enclosed is a flyer which explains the merchandising contest sponsored by the National Honey Board and Lipton Herbal Tea. Every retailer who scores a point has a chance to win -- get your retailers geared up for the contest now!

JUL 14 1988

## QUESTIONS & ANSWERS

### ABOUT NATIONAL HONEY BOARD

#### PROMOTIONS & MATERIALS

##### HONEY COUPONS

- Q. Who pays for the cost of redeeming honey coupons?
- A. The National Honey Board.
- Q. If a farmer's market or roadside stand accepts coupons, how can they be reimbursed?
- A. Simply mail the coupon to the address specified in the part of the coupon under the headline Retailer. It is recommended that you submit coupons in batches of 10 or 20 or so.

##### LIPTON/DISPLAY CONTEST

- Q. Who can enter?
- A. The contest is open to any retailer who sets up a honey and/or Lipton Tea display or places a honey and/or Lipton Tea ad between September 19, 1988 and February 28, 1989.
- Q. Why is the contest winner being selected by drawing this year?
- A. This method was chosen to help insure that smaller retailers have an equal chance of winning. The more points earned by a retailer, the better his chances of winning.
- Q. How will we know who the winners are?
- A. All winners will be notified in writing after selections have been made. In addition, a complete list of winners will be published by the National Honey Board.
- Q. Does a store circular count towards contest points?
- A. If the circular is distributed in the store trading area in a way similar to a newspaper or advertiser, it counts the same value as a newspaper ad.

## LIPTON/DISPLAY CONTEST (CONT'D)

- Q. Can store public address system announcements count toward contest points?
- A. If the entry is accompanied by a notarized affidavit indicating dates and times when the announcement played, points will be awarded the same as a newspaper feature.
- Q. What if the store has a policy against contest prizes?
- A. If the policy is absolute, there is nothing which can be done. Some stores, however, will allow contests if the prize is made available for use as an employee incentive - "employee of the year" for example. Others will allow the contest if the prize is donated to charity. It's always best to determine if it is possible to find a point agreement which lets them participate.
- Q. When will the Lipton shippers appear in the store?
- A. Lipton tells us they can appear anytime after October 1. However, they anticipate the majority will appear after November 1, when Winter/Holiday promotions begin. A total of 4,500 shippers will be distributed.
- Q. How do we know that stores leave the display up for a week?
- A. Since most displays require considerable effort to set up and take down, most retailers will leave a display up for a week or more as a matter of course. If the display was represented as having been up for several weeks, the National Honey Board will attempt to verify the time it actually was up.
- Q. In which Lipton Tea boxes will the coupons appear?
- A. In Lipton Herbal Teas: Gentle Orange, Quietly Camomile, Lemon Soother & Cinnamon Apple.
- Q. What are Lipton Special Blend Teas?
- A. These are teas which are herbal or have a flavor based in a fruit source other than traditional tea. With the recent concerns about caffeine and other health issues, these teas which usually don't contain caffeine have experienced a substantial growth in popularity.

## LIPTON/DISPLAY CONTEST (CONT'D)

- Q. Can I contact the local Lipton sales representative and develop a joint sales call program?
- A. Both Lipton and the National Honey Board require that all retail calls be made independently. This is to help insure that all industry members have an equal opportunity to participate.

## OTHER QUESTIONS & ANSWERS

- Q. Why does the National Honey Board do joint promotions with companies such as Lipton and Bisquick?
- A. When we are able to find a compatible partner, these co-operative promotions can more than double the amount of advertising and promotions.
- Q. How can I use the ad slicks?
- A. One of the best ways is to use them as a planning tool when you're calling on an account. Use the advertising materials as a way of beginning a conversation about scheduling a tie-in ad or point of purchase display. Try to get the account to commit for an ad date, and then leave the materials for his use.
- Q. Can I put the Board's bear logo on my package?
- A. The Board's honey bear logo is not for use on individual brand packages. This trademark logo is intended for the National Honey Board's generic use in promoting all uses of honey.

National Honey Board



*HONEY HOTLINE:*

**1-800-356-5941**

In California call (415) 340-8311

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For technical data and assistance with product formulations, call the Honey Hotline or contact:  
National Honey Board, Food Technology Program • P.O. Box 281525 • San Francisco,  
California 94128-1525 U.S.A. • Telex: 9102401819TJP-UQ • Telefax: 415-340-8568

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1988 MISSOURI STATE FAIR

APICULTURE

Individual Competition

<u>Class</u>	<u>Number Entered</u>
1	1
2	1
3	5
4	3
5	2
6	2
7	2
8	19
9	13
10	2
11	3
12	3
13	2
14	7
15	3

68 Entries

Group Competition

<u>Class</u>	<u>Number Entered</u>
1	1
2	1
3	2
4	4
5	3
6	3
7	3
8	21
9	18
10	2
11	4
12	2
13	4
14	10
15	1

79 Entries

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HONEY COOKERY

<u>Class</u>	<u>Number Entered</u>
17	0
18	1
19	2
20	3
21	3
22	1
23	3
24	4

17 Entries

# 1988 MO. STATE FAIR HONEY BOOTH

## INCOME:

Total Sales	\$ 5,259.25	
Cost of Sales	<u>3,500.60</u>	
GROSS PROFIT		\$ 1,758.65

## EXPENSES:

Booth Rent	\$ 350.00	
Fair Passes (Gate & Auto)	134.00	
Sales Tax	302.32	
Sedalia Cold Storage	30.00	
Meals	96.00	
Lodging	200.00	
Supplies	87.09	
Phone Calls	<u>23.34</u>	
TOTAL EXPENSES		<u>1,222.75</u>
PROFIT		\$ <u>535.90</u>

## 1988 APICULTURE EXHIBIT

CATEGORIES	AVAILABLE	GAVE AWAY	TURNED BACK TO FAIR
Individual Competition	\$612.00	\$380.00	\$232.00
Group Competition	\$612.00	\$371.00	\$241.00
Honey Cookery	\$277.00	\$141.00	\$136.00

MISSOURI STATE FAIR APICULTURAL EXHIBIT

1982

11 people entered 25 exhibits

1983

23 people entered 51 exhibits

1984

21 people entered 86 exhibits

1985

15 people entered 43 exhibits

1986

9 people entered 16 exhibits  
1 person entered 4 classes  
2 people entered 3 classes  
6 people entered 1 class

1987

Individual Competition

30 people entered 92 exhibits

Group Competition

25 people entered 51 exhibits

1988

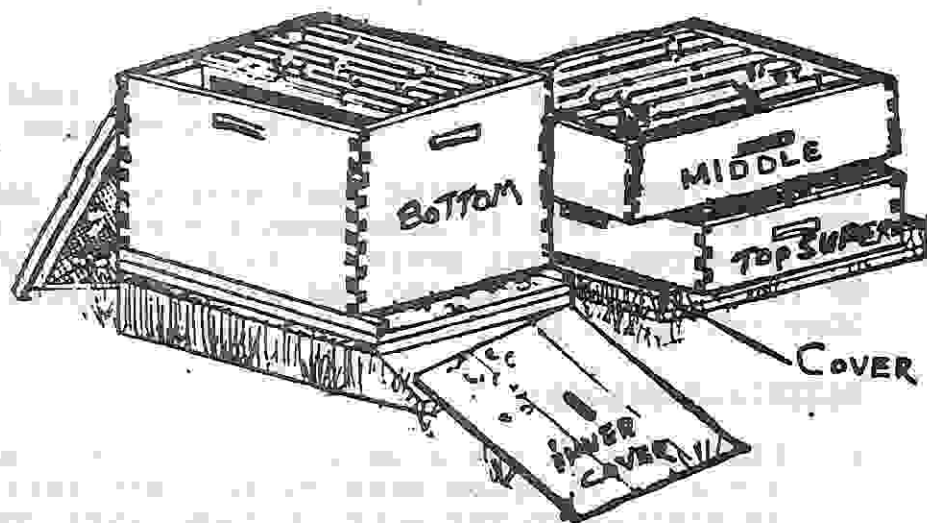
Individual Competition

23 people entered 68 exhibits

Group Competition

29 people entered 79 exhibits

# In The Beginning...



What to do now for good winter survival!

Check every hive by hefting the back of the brood boxes. Make sure that each hive has at least fifty pounds or more of honey stored. If not feed with liquid or candy feed. Recipe for candy feed follows this article.

To prevent Nosema, feed each colony one gallon of medicated sugar syrup. To do this, it is recommended that you mix one teaspoon (rounded) of Fumagillan with one gallon of 2:1 sugar syrup.

To prevent American Foulbrood, sprinkle terramycin mixed with powdered sugar on the outer frames of the brood chamber. Follow directions on the package. Terramycin can be purchased at MFA's or other feed stores, or from your bee supply catalog. Do not sprinkle on open brood cells, and do not have any honey supers on.

Hives should be up off the ground, tilted slightly forward, and given a upper entrance. Moisture is one of the main causes of winter colony loss.

Take your winter losses in fall rather than spring. It is best you unite any weak colonies using the newspaper method now.

All hives should have entrance reducers put on before the first frost. In rural areas, you may also have to staple one-half inch hardware cloth to the front of the hive. Mice have been known to chew wooden entrance reducers. I also use carpet tack-strips nailed to the front of the bottom board to discourage skunks.

To prevent wax moth damage to empty super, stack your supers in a covered shelter placing a piece of paper on the frames of every fourth super. Put a handful of Paradichlorabenzene crystals on top of each piece of paper. The fumes are heavier so will drift to the bottom of the stack. Put a cover on the top of the stack, and tape closed any holes in the supers. It is wise to add more moth crystals two to three weeks later.

Start planning for next spring! Order your new equipment now.

\*\*\*\*\* SUGAR CANDY RECIPE (BEE FEED) \*\*\*\*\*  
SIMPLIFIED VERSION

THIS IS THE CANDY RECIPE THAT MANY OF US USE TO FEED OUR BEES DURING THE WINTER. THIS IS ALSO GOOD FOR PACKAGE BEES AND SWARMS THAT YOU ARE STARTING IN THE SPRING. THIS CAN BE PUT ON TOP OF THE HIVE ANYTIME OF THE YEAR, EVEN DURING THE WINTER MONTHS, AND THE BEES WILL TAKE DOWN THE SUGAR AND STORE.

**MATERIALS NEEDED:**

1. FEED TRAY 16 1/4 x 20 x 1 1/2 INCHES. BOTTOM SHOULD HAVE A HOLE 2 " x 4" TO ALLOW BEES TO GET INTO TRAY FROM THE BOTTOM. THIS HOLE IS SIMILAR TO THE HOLE IN YOUR INNER COVER.
2. POT. LARGE ENOUGH TO HOLD SUGAR AND WATER. MIXTURE WILL EXPAND WHILE BOILING. THIS RECIPE IS FOR ONE (1) TRAY OF CANDY. IF YOU HAVE A POT LARGE ENOUGH YOU MAY COOK LARGER BATCHES BY JUST MULTIPLYING THE RECIPE BY THE NUMBER OF TRAYS YOU WANT TO MAKE. DON'T FORGET THAT THE POT WILL GET VERY HEAVY. A DROPPED POT WOULD MAKE ONE BIG MESS.
3. LARGE MIXING SPOON.
4. CANDY THERMOMETER. (OPTIONAL). NOT NEEDED IF YOU FOLLOW THE INSTRUCTIONS BELOW.
5. MEASURING SPOON 1/4 TEASPOON. (OPTIONAL) I NO LONGER USE THIS BECAUSE I FIND IT UNNECESSARY TO USE CREAM OF TARTAR.
6. 15 POUNDS GRANULATED SUGAR. (CLEAN OR DIRTY, BEES DON'T CARE)
7. 3/4 TO 1 FULL QUART OF WARM WATER. TO GET THE BEST RESULTS JUST A LITTLE LESS THAN 1 QUART OF WATER.
8. 1/4 TEASPOON OF CREAM OF TARTAR. (OPTIONAL)

**DIRECTIONS:**

1. MIX SUGAR AND WATER UNTIL THOROUGHLY DISOLVED. I FIND THAT IT WORKS BEST TO GO AHEAD AND START HEATING THE WATER AND ADD THE SUGAR SLOWLY ONE 5 POUND BAG AT A TIME. DON'T ADD THE SECOND BAG UNTIL THE FIRST BAG IS DISOLVED, ETC.
2. HEAT MIXTURE TO 230 DEGREES F. AND ADD CREAM OF TARTAR. YOU REALLY DON'T NEED TO USE A THERMOMETER. JUST WATCH THE MIXTURE CAREFULLY AND OBSERVE THE BUBBLING. WAIT UNTIL THE MIXTURE STARTS TO BUBBLE (WHICH INDICATES BOILING) AND LET THE CANDY COOK A FEW MINUTES LONGER. BE CAREFUL THAT IT DOES NOT BOIL OVER. TURN THE HEAT DOWN A LITTLE IF NECESSARY TO ALLOW THE CANDY TO COOK A FEW MINUTES AT HIGH TEMPERATURE WITHOUT SPILLING OVER THE TOP OF THE POT. THE ADDITION OF CREAM OF TARTAR IS SUPPOSE TO MAKE THE MIXTURE HARDEN BETTER, BUT I FOUND IT MAKES NO DIFFERENCE. HARD AS A ROCK IS HARD ENOUGH FOR ME.  
KEEP STIRRING THE MIXTURE WHILE IT COOKS SO THAT YOU GET ALL OF THE LUMPS OUT AND HARD CRUST ON TOP BROKEN UP, ETC.

CONTINUED ON NEXT PAGE.

3. NOW COMES THE DIFFICULT OR TRICKY PART. REMEMBER THIS MIXTURE IS HOT AND HEAVY (IF MULTIPLE TRAYS ARE MADE) SO MAKE SURE THE HANDLES ON YOUR POT ARE STRONG AS WELL AS YOUR BACK AND ARMS.

DON'T FORGET TO COVER THE HOLE IN YOUR TRAY WITH WAX PAPER SO THAT THE CANDY DOES NOT FALL THROUGH TO THE FLOOR. THE PAPER WILL HOLD IT FINE. POUR THE CANDY INTO THE TRAY WHILE IT IS HOT. MAKE SURE YOUR TRAY IS LEAK PROOF. IF YOU HAVE A POORLY CONSTRUCTED TRAY YOU CAN WAIT UNTIL THE CANDY COOLS A FEW MINUTES AND STARTS TO THICKEN, BUT THIS MAKES IT DIFFICULT TO POUR.

AN EXTRA SUGGESTION FOR ADDITIONAL FLAVOR TO MAKE YOUR BEES HAPPY IS TO ADD 1/2 TO 1 PINT OF HONEY BEFORE POURING. THE EXTRA HONEY YOU HAVE FROM RENDERING WAX OR DRAINED FROM CAPPINGS IS GOOD FOR THIS.

4. LET THE TRAY COOL AND HARDEN OVER NIGHT.
5. NOW YOU ARE READY TO FEED YOUR BEES THE CANDY. SCRATCH THE PAPER WITH YOUR HIVE TOOL BEFORE PLACING ON TOP OF THE HIVE. THIS TRAY REPLACES YOUR INNER COVER. THE TRAY SERVES AS AN EXCELLENT INNER COVER AFTER THE BEES REMOVE ALL OF THE SUGAR. PLACE COVER ON TOP OF HIVE TO COVER THE CANDY TRAY. RETURN LATER TO CHECK THEIR PROGRESS AND YOU WILL FIND THAT THEY DO A NEAT JOB WORKING IN A NICE CIRCLE FROM THE CENTER. A COLONY VERY LIGHT OF STORES MAY NEED A SECOND TRAY LATER.

#### CANDY FEED: ADVANTAGES AND DISADVANTAGES

by E. R. (Gene) Kaufmann

Over the years, I have used candy feed as well as liquid feed. Candy feed has more advantages than liquid feed, also, the advantages of the candy feed far outweigh the disadvantages of candy feed.

I prefer using candy feed over the liquid feed. If I change from candy to liquid, it is by force rather than by choice. From economical point of view, the high fructose corn syrup can be bought for less than half the cost of sucrose cane sugar; also, fructose corn syrup is becoming more abundant and more available.

#### CANDY FEED

ADVANTAGE NO. 1 Eliminates robbing. I do not recall ever having a robbing problem while using candy feed.

ADVANTAGE NO. 2 Feeding Pollen Substitutes. Candy feed lends itself well to feeding a pollen substitute. Pollen substitutes can be added while the candy is still in liquid form - just prior to pouring into the feed trays. This produces a very attractive way of feeding the pollen to bees. Also, it was a suitable way for feeding Sodium Sulfathiazole (before it was outlawed) as a medication. Sulfathiazole was a stable drug and therefore did not break down from being mixed with the hot candy.

**ADVANTAGE NO. 3** No additional Hive Equipment Needed. The hot candy in liquid form can be poured into the inner cover (the hole in the inner cover must be covered with paper toweling, wax paper, etc., before the hot candy liquid is poured into the inner cover). After it solidifies or hardens, and is cooled-off, it can be given to the bees. The standard inner cover holds about 5-6 pounds in solid sugar weight. For the past several years, I have been using a modified feed tray-inner cover which holds about 13-14 pounds in solid sugar weight. Besides holding more feed for a longer feeding period, I much prefer this deeper modified feed tray-inner cover for other reasons. After the candy is used up and the feeding is finished, the tray does not have to be removed - it serves as the inner cover.

**ADVANTAGE NO. 4** Unsalable honey can be utilized without any danger of spreading any bee diseases. It is the only safe way in feeding any source of honey back to the bees because cooking candy liquid 238°F for 30-40 minutes provides enough heat and time to destroy any bee diseases. Also, it is a good way to use rinse honey water left from washing the cappings, filtering or strainer cloths, screens or extracting equipment

**ADVANTAGE NO. 5** Cold Weather Feeding. Bees have been observed feeding freely on candy feed when the temperature was as low as 11-13 F. It is the only cold weather feed available, with the exception of feeding dry sugar. Dry sugar is an ineffective and the least desired way of feeding bees.

**ADVANTAGE NO. 6** Stores well. Candy feed trays can be made ahead and stored for later use. These feed trays can be stored for an indefinite time without any problem.

**ADVANTAGE NO. 7** Convenience of Handling. This is a big advantage of candy feed. Full feed trays can always be taken along to the beeyards - while doing routine hive manipulations. If a colony is found to be in need of feed, it is a very simple matter of just adding a candy feed tray to the hive.

**ADVANTAGE NO. 8** Not Stored in Supers. Bees do not seem to store the candy feed in the honey supers as they sometimes do with liquid feed. This is probably due to it being a slower feed than the liquid feed. Also, bees leave-off feeding on the candy when a major honey flow has started.

**ADVANTAGE NO. 9** Very Convenient Feed for Queen Rearing. Candy feed serves well while the many manipulations of the cell building colonies are going on. Since it is a slower feed, the cell builders do not encase the queen cells with drawn comb and store it with honey as much as they would with liquid feed.

## CANDY FEED (continued)

**DISADVANTAGE NO. 1** Need Equipment for Making Candy Feed. A container of some sort large enough to cook the candy (size will depend on the amount of candy being cooked). Also, it must be remembered that extra room for expansion of the liquid mixture will be needed during cooking (the liquid will increase approximately 1/4 more in volume towards the end of the cooking cycle). Also, a source of heat is needed that will heat the mixture high enough to turn it into candy (the temperature needed is 238°F or above).

**DISADVANTAGE NO. 2** Cost in Making the Candy. There is a cost of fuel and time in labor involved in making the candy feed. Time-wise it takes around one hour to cook one batch - whether 4 trays or 32 trays are made at one time. Fuel costs vary, depending on the kind of fuel being used and the size of the batch of candy that is cooked. I estimate that it costs around \$2.00 for a 32-tray batch of candy, using L-P gas.

**DISADVANTAGE NO. 3** Bees are Attracted to the Candy Making Area. This can cause a real nuisance problem if precautions are not taken while making the candy. To prevent the problem from happening, the candy must be made far enough away from any bee colony - or the candy must be made during night time when the bees are not flying - or during cold weather when the bees are not active at all. Cold weather is a good time to make the candy trays. They can be made, stored, and be ready for use at a later time.

**DISADVANTAGE NO. 4** Medication Cannot be Fed with Feed. More unstable drugs, like terramycin, are not suitable for using with candy feed. The high temperatures cause the unstable drugs to break-down during cooking time.

\* \* \* \* \*

AFRICANIZED bees will probably reach Brownsville, Texas in late 1989. In the United States the bees should become permanently established in areas with mean high temperatures of at least 60° F for January. This isocline encompasses coastal California as far north as Hayward; the lower half of Arizona and Texas; most of Louisiana; the southern halves of Mississippi, Alabama, Georgia, and South Carolina; a small portion of North Carolina; and all of Florida. Within this area there are three regions where the density of the feral populations and the number of stinging incidents is likely to be high: Brownsville and Corpus Christi, Texas; Southern Louisiana including New Orleans; and southeast Georgia and all of Florida. Serious problems with feral bees also may develop in Galveston, San Diego, and the Los Angeles basin.

The rate of spread of African bees should decrease as they approach their ecological limits and, if unaided by humans, it should take at least 8 years for the feral population to expand from Brownsville to their climatic limits on the coasts.

When disturbed, African bees often respond with such swiftness and intensity that persons caught unaware can receive hundreds of stings within 1 to 2 minutes. Most bee incidents have involved chance encounters with feral bee nests whose location was unknown to the victim.

- Dr. Orley A. Taylor in Georgia "A" Keepers Newsletter

Missouri State Beekeepers Association  
Fall Meeting - October 28-29, 1988  
Community Federal Building  
Mexico, Missouri



AM

- 8:30-9:00 Registration
- 9:00-9:05 Meeting called to order
- 9:05-9:20 Welcome and Introductions
- 9:20-10:00 How Do You Frustrate Your Bees?
- 10:00-10:20 Break
- 10:20-11:00 Proper Method of Using Fluvalinate  
(Apestan Strips) For Detecting Varroa  
Mites
- 11:00-11:45 What Can We Learn From Bee Gums?
- 11:45-1:15 Lunch (on your own)

Mr. Joseph F. Solt  
President, MO Beekeepers  
Association

Mr. Richard F. Trump  
Author, "Bees and Their  
Keepers"

Mr. Joseph Francka  
State Entomologist

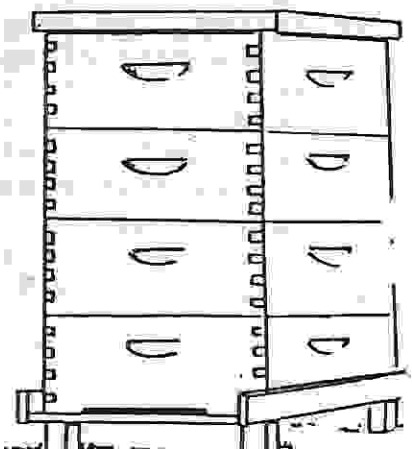
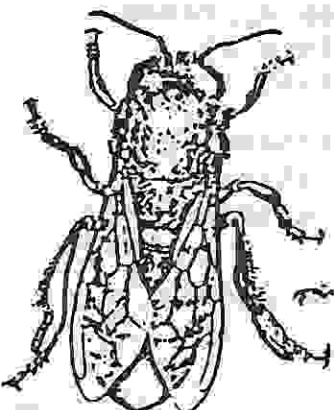
Mr. Richard F. Trump  
Author, Instructor,  
Beekeeper; Iowa State  
University

PM

- 1:15-1:30 State Fair Report
- 1:30-3:00 Displays - Major Bee Supply Dealers  
Mini-Workshops featuring ideas of fellow  
beekeepers
- 3:00-4:00 Business Meeting, Prizes, Adjourn

Mr. Jim Hausam  
Treasurer, MSBA  
and Mr. Joseph Francka  
State Entomologist

ALL are invited to attend the Exective Board  
Meeting on Friday, October 28th at 7:30 p.m.  
at the Community Federal Building.



# Bees and Their Keepers

by Richard F. Trump, former adjunct instructor, Dept. of Entomology, Iowa State University, and award-winning biology teacher; author of biological publications, including more than 19 articles and reviews appearing in American Bee Journal

Gentle humor and simple elegance mark this book of abundant information about honeybees interspersed with amusing, educational observations by the author about bees as well as the people who keep them.

Recollections of beekeeping experiences with fellow beekeepers, scientists, and students frame a wealth of fascinating facts concerning the history of the honeybee, the characteristics and behavior of the three castes of honeybee, and the evolution and present state of beekeeping science.

More than 30 black-and-white photographs along with references for further reading complement this special book that is both a learning experience and a literary delight!

Contents: *Those Wild Bees! How to Tell a Bee from the Keeper! The Hoarders! The Wax Workers! The Sting! A Whiff of Smoke! Of Kings and Queens! Bee after Bee! Hive after Hive! How Bees Know Who's Who! How Bees Know What's What! The Quiet Language! To Frustrate a Bee! Winter Crisis! A Better Bee?! A Better Keeper?! A Sampling of Nectars! Gum Robbers! A Gathering of Keepers! Of the Bee and Me! Selected References! Index*



1987, 172 pp., 5 1/2 x 8 3/4, illus., hardcover, #0214-8, \$17.95

"If you want to see for yourself the aerial mating that escaped so many illustrious eyes, obtain a virgin queen. Tether her with thin nylon filament to a blimp or a high tower. Mating doesn't occur at low elevations. She will fly free without flying away. If you are in one of those areas where drones congregate during the mating season, they will find her. Watching from a convenient perch, you can see the drones in a cometlike stream, attempting to gain a favorable position. The successful drones—there may be more than a dozen matings by different drones—will complete their function in a brief, explosive contact and fall backward to die.

"If you are unable to come by a virgin queen or a blimp, perhaps you can watch Norman Gary's movie, in which he narrates what he did and what he saw....

"After my class had seen this film, one of the students asked, 'Do you really mean that a drone dies after mating the very first time? I think that's awful.' But that remark prompted another to say, in an exaggerated whisper, 'The way to go!'

"Well, life is a bit uncertain for the queen, too, who must find her way home and devote the rest of her time to laying eggs. So it is with kings and queens." (from Chapter 7, "Of Kings and Queens")

## Other titles. . . .

### A Scanning Electron Microscope Atlas of the Honey Bee

Eric H. Erickson, Jr., Stanley D. Carlson, and Martin B. Garment. Features a stunning collection of photomicrographs of the anatomy of queens, workers, and drones, accompanied by line drawings and lower magnification photographs, all fully captioned. Also includes 28 additional labeled anatomical drawings, a glossary of 247 anatomical terms, and references for further reading. 1986, 292 pp., 9 x 12, illus., hardcover, #0546-5, \$51.95

### Biological Illustration: Techniques and Exercises

John C. Downey and James L. Kelly. Offers 36 drawing exercises that teach how to create attractive, accurate illustrations for use in all areas of biology. 1982, 126 pp., 6 x 9, illus., paper/plastic comb., #0201-6, \$12.95  
Teacher's Guide: 38 pp., 6 x 9, paper, #0202-4, \$4.00

\*\*\*\*\*  
\* ATTENTION -- SPECIAL NOTICE -- ALL MOTEL ROOMS ARE FULL IN MEXICO, MO \*  
\* ARE SOLD OUT. PLEASE CALL ONE OF THE FOLLOWING MOTELS FOR A ROOM. THEY \*  
\* ARE ABOUT 30 MINUTES FROM MEXICO. \*  
\* 1. RAMADA INN IN MOBERLY, MO. 916-263-6540 \*  
\* 2. NOLLS MOTEL IN MOBERLY, MO. 816-263-5000 \*  
\* 3. WESTWOODS MOTEL IN FULTON, MO. 314-642-5991 \*  
\* THE MISSOURI MILITARY ACADEMY IS HAVING IT'S HOMECOMING, PLUS IT IS THEIR \*  
\* 100TH ANNIVERSARY. SO, ALL OF THE MOTELS ARE FULLY BOOKED THAT WEEKEND. \*  
\*\*\*\*\*

All are invited to attend the Executive Board Meeting at 7:30 p.m. on Friday, October 28th at the Community Federal Building at Mexico, Mo.

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Restaurants in Mexico include Hardee's, Golden Corral, Pizza Hut, Kentucky Fried Chicken, Dairy Queen, McDonald's and Dean's Fried Chicken.

Please check your last newsletter for the maps of Mexico, Missouri.

MISSOURI STATE BEEKEEPERS ASSN.  
314 Quinmoor Drive  
Ballwin, Missouri 63011

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