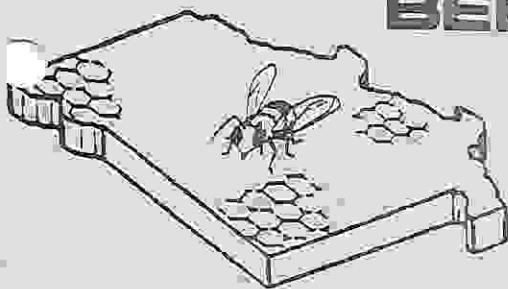


MISSOURI STATE BEEKEEPERS ASSOCIATION



PRESIDENT
Chester Crain
1216 West 38th
Kansas City, Mo. 64111
(816) 561-3502

SECRETARY
Mike Rolling
Rt. 2, Box 81-A
Ozark, Mo. 65721
(417) 725-3449

1ST VICE PRESIDENT
Dr. Flerzoy Jones
1215 Subella Drive
Columbia, Mo. 65201
(314) 445-5769

TREASURER
Truman C. Hardin
1829 W. Washita
Springfield, Mo. 65807
(417) 866-2602

2ND VICE PRESIDENT
Louis Smith
4301 Walnut Tree
St. Charles, Mo. 63301
(314) 441-3780

EDITOR
Carol Boeckmann
619 Mandelsohn Drive
Kirkwood, Mo. 63122
(314) 821-1856

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QUARTERLY NEWSLETTER
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NUMBER 3

DEAR BEEKEEPERS,

Hope you had a honey of a summer!! . . . Reports from around the State indicate that the crop is less than in recent years and definitely darker in color, but that it has a good flavor.

The Fall State Meeting will be held on Saturday, October 20, from 8:30 a.m. to 4:00 p.m. in the Empire Room #309 in the Campus-Union Building at Southwest Missouri State University in Springfield. (A map is printed on page 17.)

The featured speaker will be Dr. Norman Gary, professor of entomology at the University of California - Davis. An autobiographical sketch sent by Dr. Gary is printed on pages 4 and 5. The topics to be presented are

1. Bees in the media . . . behind the scenes - This lecture will focus on the impact of television and the film industry on beekeeping.
2. New and old methods for finding queen bees - Anyone who has to find a queen will be pleased to see that there are new methods, including a queen finding machine that Dr. Gary recently patented and which will soon be on the market.
3. Killer bees and their threat to beekeeping in the United States - An update on the latest developments in the spread of the Africanized bees and their potential impact on beekeeping.

See page 19 for the complete Saturday agenda.

On the prior Friday evening, October 19, the State Association is sponsoring a WORKSHOP ON PRACTICAL BEEKEEPING PROBLEMS - AN EVENING WITH DR. NORMAN GARY. This workshop will be held from 7 pm to 9:30 pm in Room 1 of Temple Hall at Southwest Missouri State. (See map on page 17.) This workshop is offered free.

The workshop will cover practical beekeeping problems and special topics such as

1. Prevention of bee stings - The basis of stinging behavior will be explored. Then various strategies for preventing stings will be discussed. Beekeepers who attend should be able to eliminate up to 90% of the stings they previously considered to be normal.
2. Queens and requeening - The most important element in beekeeping is maintaining queen quality. The focus will be on queen problems, judging queens, introducing and rearing them.
3. Problems experienced under Missouri conditions - Practical questions will be given straightforward answers to solve problems that don't seem to be in the text books.

So be sure to mark your calendars for the STATE MEETING on SATURDAY, OCTOBER 20, and the WORKSHOP on FRIDAY EVENING, OCTOBER 19!!!

ACCOMODATIONS FOR OUT-OF-TOWNERS----

The BEST WESTERN RAIL HAVEN motel located on the southwest corner of St. Louis and Glenstone in Springfield has given us some very attractive rates for the State meeting. The rates shown below are based on at least ten (10) rooms to be used by our members.

1 person	\$19.00	
2 persons	26.00	1 queen or twin beds
3 persons	29.00	2 queen beds
4 persons	32.00	2 queen beds

When you make your reservation or register, please indicate that you are a member of the State Beekeepers in order to get the above rates. Early reservations would be greatly appreciated. The mailing address is : 203 South Glenstone, Springfield, Mo. 65802. The phone number is (417) 866-1963.

There is a restaurant next door and many others up and down Glenstone. Glenstone is city route 65 and can be used by going south off I-44 or by using 65 and 60 entering Springfield from the south or east.

To get to the University from the Rail Haven, go west on St. Louis street to National Avenue and turn left, continuing south to the University. If you prefer to go south on Glenstone, proceed to Grand and turn right to National Avenue with the Southeast corner of the campus at that corner. Either route the distance is about 1½ miles. (See map on page18.)

PARKING AT THE UNIVERSITY

There should be no problem in parking on the University lots or streets on Friday evening or Saturday. The University asks that you observe the signs on the streets and lots. The reserved parking areas are open after 5:00 pm on Friday and all day Saturday.

From the Campus map you will notice that there are no parking lots adjacent to the Campus-Union but there are several within a block to the east - namely, next to the Bookstore and the Health Center. Also across the street the Church of Christ has opened its lot for your use - enter from Monroe and exit south on Madison being sure to turn left since Madison is an east-bound one-way street. And the lot on the corner of Harrison and National can be used. Entrance to this lot is from Harrison. Campus Security requests that you respect all signs and no parking areas.

ATTENTION!!!!

All individual beekeepers or beekeeping supply companies!! If you wish to sell items during the course of the State Meeting at the University, you must contact the Campus-Union and arrange a contract with the University. This can only be done by you, not the Beekeepers Association. The contract usually involves the payment of a flat fee or a percentage of the gross. Call (417) 836-5885.

MISSOURI APICULTURE LAW

Two proposed changes in the Missouri Apiculture Law (Bee Law) will be discussed and approved or disapproved at the Fall State Meeting. The proposed changes are

- 1) The addition of the word "mites" to the disease section.
- 2) The inclusion of the illegal movement of bees out of quarantine under the penalty section.

Did you know that out of the 50 States Missouri ranks 11th in honey production?!!

* * * * *

A BIOGRAPHICAL SKETCH OF NORMAN E. GARY

Dr. Gary, a native of Ocala, Florida, became a hobby beekeeper in 1949 and began commercial beekeeping in 1953 in Florida. He received the BS in Agriculture with honors in 1955 from the University of Florida. He majored in Entomology as an undergraduate. He left Florida in the summer of 1955 to become a deputy apiary inspector in upstate New York for one season. During the next four years he studied at Cornell University at Ithaca, New York, and received a Ph.D. in apiculture in 1959. Immediately thereafter he joined the staff at the USDA Bee Research Laboratory at Madison, Wisconsin, for one research season. He then returned to Cornell University for three years of advanced research on honey bee biology sponsored by the US Public Health Service. During this time he discovered sex attractant chemicals (Pheromones) that attract drones to the queen bee during the mating flight. He recorded on film the first observations ever made of mating behavior in the honey bee.

In 1962 Dr. Gary accepted a Professorship in the Department of Entomology at the University of California at Davis. Since that time he has specialized in research on the behavior of honey bees in order to develop new information that would enhance the utilization of honey bees for pollination, honey production, and as a recreational resource. Much of his research has concerned the flight range and distribution of drones and queen bees, generating knowledge helpful for controlling bee breeding. He has also conducted research on the foraging range, distribution, and preferences of honey bees, helping to solve problems dealing with the pollination of agricultural crops.

In 1974 Dr. Gary received the J.I. Hambleton Award for outstanding research achievements - an award presented each year to the outstanding apicultural scientist in North America. It was based primarily on the development of a novel research method for documenting distribution and foraging range of bees, thereby promoting more efficient utilization of bees for pollinating agricultural crops.

Dr. Gary recently investigated the biological effects of microwaves on invertebrates, especially honey bees. This is part of a Department of Energy research project on Solar Power Satellite system that someday may provide most of the nation's electrical energy.

In 1981 Dr. Gary invented a vacuum device to remove queen bees rapidly from colonies that are being requeened. Other works include research on the impact of the medfly control program on honey bees and the effects of certain pesticides on bees.

In addition to research activities, Dr. Gary teaches courses, seminars, and workshops in apiculture. Dr. Gary actively promotes hobby beekeeping. He is one of three professors who comprise the teaching and research staff of the unique Bee Biology Facility, located at the University of California at Davis. He is responsible for supervising several graduate students in entomology and apiculture. He also organized and taught courses on insect behavior and on the use of television for research and teaching purposes.

Dr. Gary was a member of the National Research Council team of scientists sent to Brazil during the fall of 1971 to study the Africanized Bee in order to evaluate its potential threat to the U.S. Agriculture and to public health. He served as photographer, producer, consultant, or technical advisor for several 16 mm and 35 mm films on honey bees that have been shown on network television. In 1973 a plaque was awarded to Dr. Gary by the Latham Foundation (Oakland) in recognition of his contributions in the production of honey bee films that won several national and international awards. One such award was the John Muir Award for the "finest cinematographic effort in life sciences and ecology, as judged at the National Educational Film Festival. The Golden Eagle Award was given for the same film at the Cine International Film Festival.

More recent television network film productions include serving as technical advisor on a half-hour bee film narrated by William Conrad, that was shown on WILD, WILD WORLD OF ANIMALS (CBS). Another film made for ANIMALS, ANIMALS, ANIMALS (ABC) featured aspects of Dr. Gary's research and teaching. In the fall of 1976 he served as Technical Consultant and acted in a documentary NBC program IN SEARCH OF THE KILLER BEES, narrated by Leonard Nimoy. Since that time he had acting roles and/or bee sequences on TV Network shows such as THAT'S INCREDIBLE, PM MAGAZINE, THOSE AMAZING ANIMALS, LITTLE HOUSE ON THE PRAIRIE, HOW THE WEST WAS WON, CHIPS, and THE MERV GRIFFIN SHOW. Overall he has appeared on approximately 75 shows.

Dr. Gary is the author of approximately 85 scientific papers and popular articles. He is also Associate Editor of BEE WORLD, a journal published by the International Bee Research Association, and Associate Editor for SPACE SOLAR POWER REVIEW.

Dr. Gary is a member of the following organizations:

The Western Apicultural Society (Organizer and President
1977-1978)

Entomological Society of America
Pacific Coast Entomological Society
American Registry of Professional Entomologists
International Bee Research Association
International Union for the Study of Social Insects
(President 1968)
American Association for the Advancement of Science
American Beekeeping Federation
American Association of Professional Apiculturists
Animal Behavior Society
Screen Actors Guild
American Federation of Television and Radio Artists
American Federation of Musicians

Aside from the above professional interests, Dr. Gary is active as a public speaker and frequently appears on TV and radio programs. He performs in numerous professional musical groups, including a Dixie Land Jazz band, a traditional German band, and jazz combos. He plays clarinet, alto and tenor sax, and flute. Hobbies include backpacking, cross-country skiing, fishing, tennis, and raquetball. He is married (Kay) and has 2 children.

* * * * *

STATE FAIR

State Fair attendance this year was more than last year but still not outstanding. However, our honey display and honey cookery display were very outstanding. There was more cookery than cases to put it in. The honey display included five store displays, six observation hives, and many displays of the various types of honey and wax. In the display area, demonstrations were given using an observation hive mounted on a moveable stand, an extractor, empty frames, and an uncapping knife. The observation hive was rolled to the railing by the beekeeper demonstrating and huge crowds developed. The beekeeper told about our association and the various locals throughout the state. A program was presented telling about the bees in general and how nectar is stored. Then using the knife, frames and extractor the beekeeper told basically how we process our honey and what makes it look and taste different from honey bought in the grocery store. We also covered the different colors and flavors of honey, explaining several ways to handle granulated honey. Questions were answered and everyone was invited to our booth for a sample of good Missouri honey. Questions concerning cooking with honey were referred to my wife, whom a supervisor at the Home Economics Department at the Fair refers to as "Jean the Honey Lady", and to other ladies working in the booth. As you can see this year's booth was different and required more manpower and a united effort from all who donated their time. We believe this work paid off by the amount of interest shown by those people who attended the Fair.

Charles Wills and Truman Hardin once again lent their support, time, and effort to help set-up the booth at the beginning and to dismantle everything at the end of the Fair. These gentlemen have been the backbone of the State Fair booth and deserve our thanks for their participation and hard work, without which our booth would not have developed.

The best booth in the world needs good people to donate their time and effort; otherwise, that booth will fail. We were privileged that the following people supported the State Beekeepers efforts by donating their time and talents to the success of our booth:

Charles Wills, Truman Hardin, Robert Willingham, Lee Scherrer, Charles Pessoni, Glenn Davis, Jay Burnett, Craig Oliver, Gerald and Pat Gifford, Al Schwendemann, Vernon and Goldie Reynolds, Jan Hesse, Oscar and Nelda Bubach, Charles Perrin, Clarence Vogeller, Earl and Judy Murphy, Walt Bigelow, Clayton and Louise Johnson, Tom and Brenda Dixon. In addition some people, due to their expertise in certain "self-explanatory" areas, deserve a separate category. "Cut-comb" V.O. Dodge, "Big-jar" Rus Nelson, "Squeeze-bear" John Walther, "Gallon" Jim Thaxter, and a tie for "Chunk-Honey" title with Louis and Marilyn Smith and John and Shirley Wilson.

Throughout the Fair these people, not only worked together, but also joked and teased each other. This made for a more enjoyable time for all. We appreciate their willingness to help at the booth.

Dadant and Sons in Hamilton, Illinois, very graciously loaned (on consignment) a new extractor and stand for our use in the demonstration area of our display. They also furnished hand puppets and candles to be sold in the booth. We appreciate the help extended to the Missouri Beekeepers Association by Dadant and Sons and hope in years to come we can continue to work together at future Fairs.

Honey cooking was again demonstrated every morning by my wife Jean at the Home Economics Building. Wives of beekeepers assisted in the demonstrations and helped to hand out recipes and samples of the goodies made that morning. Thanks again ladies for your help in promotion cooking with honey.

A question was asked by visitors when I was demonstrating that I could not answer. The question was "If the honey displayed here is produced by some of the beekeepers that are members of the State Association and there are over 650 members, why didn't more or all members display their honey?" Let's all try, if at all possible, to display honey next year at the Fair and to support the State Fair Chairman by volunteering to work in the booth.

Jay and Jean Tohtz
1984 State Fair Chairmen

* * * * *

WELCOME! - SOUTHEAST MISSOURI HONEY PRODUCERS

A new local association has been formed in the Bootheel - the Southeast Missouri Honey Producers (SEMO). Dr. Flerney Jones has spent a great deal of his time and effort guiding the area beekeepers in the task of forming an association. In August 13 of the local beekeepers joined the State Association. The members come from Poplar Bluff, Donaphin, Grandin, Qulin, Dudley, Malden, Neelyville, and Campbell. For further information, please contact Mr. Glen Thornton, Rt. 6, Box 270-U, Poplar Bluff, Mo. 63901. And again, welcome to these new members and their association!!!

The total number of local associations in the State of Missouri now comes to 20!! In the past 21 months five local associations have come into existence.- Honey Producers of Mid-Mo, Lincoln County Beekeepers, Missouri Valley Beekeepers, Prairie Country Beekeepers, and SEMO Honey Producers!!

As of September 15 the 1984 membership for Missouri State Beekeepers totals 627. Of that total, 323 members have joined since 1982. That means 52% are new to the Association since 1982. We are truly a growing Association!!!

* * * * *

1984 Missouri State Fair HONEY BOOTH REPORT

EXPENSES

Beginning inventory

27 - Root STARTING RIGHT	@ \$1.27	\$34.29
15 - Dadant FIRST LESSONS	1.32	19.80
60 - Gojmeric HONEY	3.00	180.00
599 - Kelley HONEY RECIPES	11.77¢	70.50
26 - B. C. HONEY RECIPES	.85	22.10
89 - Gold honey servers	.25	22.25
5 - Wood honey servers	.48	2.40
288 - Muth bottles, empty	.91	262.08
29 - Japanese honey pots	3.96	<u>114.84</u>

\$728.26

Purchases - 1984 for stock

100 - Kelley HOW TO	1.12	112.00
60 - Jarvis FOLK MEDICINE	1.84	110.40
100 - California HONEY NATURALLY	.75	75.00
300 - Gold honey servers, plastic	.25	75.00
120 - Mini honey servers, plastic	20.83¢	25.00
72 - Wood honey servers	.48	34.56
40 - Bee coloring books	.27	10.80
100 - lbs. honey candy	1.35	135.00
20 - prs Bees wax candles	2.62	52.40
6 - Bee puppets	3.45	20.70
100 - Wax cakes		15.00
1 - 2-frame Extractor & stand		<u>141.45</u>

\$807.31

Osage Honey Farm

208 - 4 1/4" Cut comb	@ \$1.255	261.04
120 - 1 1/4# Comb in jars	1.56	187.20
48 - 2 1/2# Comb in jars	3.125	150.00
432 - 12 oz. Bears with honey	.70 1/2	303.48
312 - 1 lb. Extracted honey	.89	277.68
180 - 2 lb. " "	1.65	297.00
60 - 4 lb. " "	3.18	190.80
16 - gals. " "	8.29	132.64
250 - Empty bears	.20	50.00
288 - lbs. honey for Muth bottles	.67	<u>192.96</u>

\$2042.80

Less 24 cut comb returned

- 30.12

\$2012.68

Miscellaneous Expenses

Booth contract	350.00
Plastic stirrers & bags	23.15
Phone calls for stock	33.71
Honey for sampling	8.29
Mileage - Wills - stock from Spfd to Sedalia and second trip for return stock to Spfd	44.80
Sales tax paid (cash)	207.64
Bank money order	5.00
Trailer & permit parking - Tohtz	75.00
Seasons passes (2) Tohtz	30.00
Supplies - honey promotion, cooking demos	<u>46.80</u>

\$824.39

EXPENSES from previous page
 Beginning inventory
 Purchases - 1984 for stock
 Osage Honey Farm
 Miscellaneous expenses

\$ 728.26
 807.31
 2012.68
824.39

TOTAL EXPENSES

\$4372.64

REMAINING INVENTORY

51 - Kelley HOW TO	@ \$1.12	\$57.12
14 - Root STARTING RIGHT	1.27	17.78
5 - Dadant FIRST LESSONS	1.32	6.60
56 - Gojmeric HONEY	3.00	168.00
24 - Jarvis FOLK MEDICINE	1.84	44.16
210 - Kelley HONEY RECIPES	11.77¢	24.72
4 - Japanese honey pots	3.95	15.80
9 - Gold honey servers	.25	2.25
13 - Mini honey servers	20.83¢	2.71
12 - Wood honey servers	.48	5.76
18 - Bee Coloring books	.27	4.86
48 - Wax cakes	.15	7.20
8 - pr. Beeswax candles	2.62	<u>20.96</u>

Less remaining
 inventory 377.92

ADJUSTED EXPENSE \$3994.72

INCOME OR SALES

Booth sales \$3914.55
 Cash sales to members
 at close of day Oct.
 25 & 26 at cost 665.04

Less starting cash

\$4579.59
- 104.00

\$4475.59
-3994.72

PROFIT

\$480.87

Submitted by Jay and Jean Tohtz, Chairmen
 T. C. Hardin, Treasurer

(Acarapis woodi) Acarine mite

If you have read any of the bee magazines or newspapers or if you have attended any beekeepers meetings in the last three months, you know that "APHIS (Animal, Plant, Health Inspection Service) has confirmed that three colonies of honey bees in Weslaco, Texas (on the Mexican border) were discovered to have been infested with *Acarapis woodi* - otherwise known as the Acarine mite. These pests, hitherto unestablished in the U.S., were detected on July 3rd during a routine survey by APHIS."¹ Since July 3rd APHIS and the USDA Bioenvironmental Laboratory in Beltsville, Maryland, have done extensive testing of samples, and update has followed update with a Federal quarantine and control program now in effect.

What is the Acarine mite? The mite is a microscopic arthropod which lives in the trachea of the honey bee and is identified with Acarapis Disease, sometimes called the Isle of Wight Disease.

"This is a disease that was first found on the Isle of Wight, south of Great Britain, in 1904. It continued from year to year until it came very near wiping out all the bees on the island. It was feared that it might get on the mainland of England, and in 1907 it did make a start there. At first but little attention was paid to it, but the beekeepers of the British Isles learned that it was very serious ."

"Only adult bees are affected. Mated female mites leave the trachea and transfer themselves to other bees upon contact, preferably young bees less than 9 days old. Once bees are 9 days old, their spiracles (openings into the trachea) remain closed and the mites can't get inside. Five to seven eggs are laid once the female enters, and in about two weeks a mature mite results.

"All stages of the mite (egg, larvae, nymph, and adult) are found in the tracheae. They must live on the host. Without it they would die within a few hours.

"Acarine disease does not outright kill bees or colonies but can indirectly cause them to die from lack of vigor and decreased winterability. Spring dwindling could be a problem for those colonies that do survive the winter. The symptoms are similar to those of nosema disease and bee paralysis."³

¹ GLEANINGS IN BEE CULTURE, August 1984, page 402.

² ABC and XYZ of BEE CULTURE (1975), page 212.

³ Mississippi State Beekeepers Newsletter, February 1983, pages 1 & 2.

The symptoms of Acarine disease are as follows:

"A few bees will be crawling out of the hives the same as when attacked by bee paralysis, crawling up spears of grass. If they can fly at all, it is but a few feet. Sometimes the smaller or larger wings on some specimens seem to be out of joint . . . The bees sometimes lose the use of one or more pair of legs, or drag their hind legs, though the others may be more or less vigorous. They become listless and cluster in bunches around the entrance of the hive . . . In many cases they seem to be quite normal in their appearance, differing only in behavior. As the disease advances the crawling bees will drag their abdomens on the ground, seeming not to have the power to carry them as they ordinarily do. As it progresses further, every bee in the hive will be involved, and finally the cluster will be reduced to just a few in the hive centering around the queen."⁴

"Acarapis seems to have worse effects on bees in colder climates than it does in warmer climates. Therefore, while it is considered a pest in subtropical or tropical countries, it is life threatening to colonies where winters are severe. It interferes with the gas exchange in the host and in some cases also can deprive nourishment from the host's blood, according to THE HIVE AND THE HONEY BEE."⁵

The following columns have been taken from the article "Acarapis woodi Mites Found in Three Texas Locations; Beekeeper Cooperation Praised" in the August 1984 issue of the AMERICAN BEE JOURNAL, pages 565 and 566.

ACARAPIS WOODI mites have been discovered near Weslaco, Texas, a town in extreme southern Texas, Harris County, southeast of Houston and Pecos County in West Texas. All three finds were from bees owned by the same apiarist. The original samples of suspect bees were taken during a routine inspection July 3 by a Brownville inspector who immediately sent them to the USDA Bioenvironmental Laboratory in Beltsville, Md. There, Dr. H. Shimanuki and his staff confirmed that the bee samples were, indeed, infected with *Acarapis woodi* mites. Apparently, the commercial beekeeper, Waylon Chandler Apiaries of Weslaco, also raised queens for sale and had over 60 hives right along the Rio Grande which he wanted inspectors to check. This is where the mites were found. Mites have only been found in this one beekeeper's operation. We stress that to date no other mites have been found in other beekeeping operations. No bees are being permitted to be moved outside the inspection areas.

In the second finding near Houston, APHIS officials have issued another Emergency Action Notification (EAN) which means beekeepers cannot move colonies out of the area. The area encompasses 4 miles out in all directions along a 10-mile strip where colonies are scattered. The bees were thought to have been in the Baytown area, southeast of Houston, for about a month when this second finding was made in mid-July.

At press time we also heard of a third finding in a west Texas location of the same beekeeper. The Pecos County discovery area contains relatively few other beeyards, so checking should go rather rapidly.

Dick Cowden, the staff officer for the Animal and Plant Health Inspection Service (APHIS) in Hyattsville, Md., said that immediate measures have been taken to contain the infestation. Emergency teams of APHIS have been practicing for just such an occurrence and they were ready to react quickly. In fact, this very beekeeper's colonies had been checked before with negative results. In follow-up testing, however, the mites were found in one outyard along the Rio Grande. APHIS deserves much credit for its diligent work and decisive action. Beekeepers are being praised by government officials for their cooperation and help during this pest emergency.

⁴ ABC and XYZ of BEE CULTURE (1975), page 212.

⁵ AMERICAN BEE JOURNAL, August 1984, page 566.

After the initial Weslaco sample was confirmed, several more samples in the same apiary were found to be infected with the mite. Steps were taken immediately to conduct a thorough survey of bees in the area. Since this part of Texas is a big migratory area, those beekeepers who had bees in the area, but have since moved them elsewhere, are asked to contact their state apiary inspectors or the Beltsville Bee Laboratory about sending bee samples for inspection. Through state inspection records, many of these migrators already have been located.

Cowden said the infected bees probably would be killed. Officials have set sampling boundaries in the areas and local beekeepers have been notified of the circumstances. A survey is also being conducted on the other side of the border in Mexico to discover the extent of infestation there, Cowden said. Acarine disease has previously been documented in many parts of Mexico.

Folbex VA strips (bromopropylate impregnated paper) are currently being used in Mexico to control infestations of the mite. Folbex VA is not registered for use in the United States, but Cowden said that necessary emergency steps could be taken for an exemption, if necessary, to use it in combating the *Acarapis* mite. Then, normal EPA registration would be applied for to obtain permanent registration of the Folbex strips.

Surveys in other areas where South Texas bees

have been moved are also taking place. In other words, it is very possible that mite surveys will be pursued in other states. Cowden reiterated that officials hope these are isolated infestations. However, if mites are found elsewhere, control measures would have to be re-evaluated. For example, if mites were found over a large part of the state, no attempts would be made to destroy all infected colonies. Rather, control measures such as the Folbex VA strips would be encouraged.

Acarapis mite infestation is much easier to eliminate in an individual colony than say, for example, American foulbrood, whose spores contaminate the whole hive. Cowden said disinfection measures would primarily consist of destroying all bees and brood and then using some means to make sure that no mites remained in an empty hive. Since the mites cannot live outside the bee for long, their control would be easier, Cowden said. The mites are mainly spread by the beekeeper who mixes bees together, as well as through drifting, robbing and swarming.

Cowden urged beekeepers not to take any drastic steps before more information could be determined. For the moment, Texas beekeepers have been informed of the situation. Representatives of national beekeeping associations have been notified, as well as all connected officials.

The following columns are taken from the September issue of the *AMERICAN BEE JOURNAL*, pages 633, 634, and 681.

***Acarapis woodi* Mite Discovery Brings Federal Quarantine and Control Program Into Effect**

IT'S OFFICIAL now — the federal government has issued a quarantine of six mite-infected areas of Texas. This means that no honey bees can be moved out of those areas for any reason until the order is lifted, except in special cases where colonies are being moved to a "regulated" area in the Lower Rio Grande Valley. However, nonrestricted Texas areas (which is most of the state) can continue to transport bees and ship package bees and queens out of state. This comes as a relief to many package bee and queen producers in Texas who were worried that they would not be allowed to ship package bees and queens to their out-of-state customers. It also is good news to those migratory beekeepers who have bees in northern states and normally winter them in Texas.

Federal Quarantine supersedes more restrictive state quarantines

This federal quarantine supersedes all state quarantines which had earlier been enacted, even those which are more restrictive. There is apparently some confusion on this point even among government officials and we want to make it clear that states cannot exclude bees from nonquarantined areas of Texas now that this federal quarantine has been enacted, according to Animal and Plant Health Inspection Service (APHIS) officials. This legal point was made clear during the Med fly pest crisis in California. The courts have ruled that states cannot enact laws more restrictive than the federal law in these cases.

Georgia, for example, instituted an "absolute quarantine" on the movement of honey bees into or through the state on August 6. This exclusion order applies to all states and is to last until October 31, 1984 at which time the situation is to be re-evaluated, according to James Harron, chief apiary inspector for the state. Harron told *ABJ* that, "We just can't take a chance of mite-infected bees being moved into the state." Georgia, of course, is a major producer of package bees and queens. We understand from APHIS that the Federal Quarantine invalidates this Georgia exclusion order as far as Texas bees from nonquarantined areas are concerned.

Before the Federal Domestic Quarantine went into effect August 6, several other states also had enacted exclusion orders on Texas bees. Louisiana officials had placed a 120 day embargo on Texas bees, while officials in Mississippi, Florida and Arizona had placed exclusion orders into effect or were in the process of doing so. Betty Haas, director of Exclusions for California, said her office also had placed a temporary border state exclusion on bees from Texas until the federally mandated interstate quarantine went into effect. We stress again that all of these state exclusion orders have now been superseded by the Federal Domestic Quarantine of the six relatively small areas of Texas.

Canadian officials, as we mentioned last month, have placed a temporary exclusion order on all bees from Texas. This order is for three months at which time the situation will be re-evaluated in light of current information. A three-month ban would not have

measurable effects on Canadian bee purchases since their season starts much later. "Shippers from the United States will be required to provide Canadian Customs with a certificate, signed by a U.S. government official, naming the state of origin of any bees shipped," according to Louise M. Zwanepeol, editor of the Alberta *SKEPAC*, writing in the August issue of that publication. "This will permit Canada Customs to clear shipment from other parts of the United States immediately." In the article, Mervyn Abrahamson, president of the Canadian Honey Council, said the Council recommended the three-month ban to allow U.S. Department of Agriculture personnel time to complete their inspections and carry out control measures. "Provincial apiculturists are being urged to be on the alert in all routine inspections. The Council is forming a committee to draw up proposed action plans, based on recommendations from the professional apiculturists, and the beekeeping community, to be presented at the Council's annual meeting in Victoria in November." In a phone conversation with Abrahamson, *ABJ* learned that this restriction will automatically lapse at the end of three months unless there is reason for its being renewed.

We understand from APHIS information people that bees within one-half mile in any direction from the mite finds are being destroyed. This is good news to many Texas beekeeping industry people who met with APHIS officials in Brownsville, Texas, August 7

to make their feelings known. The actual restricted areas around the six mite finds encompass a larger area. Honey bees in these areas, but outside the 1/4 mile eradication area may be moved in sealed trucks to the "regulated" area of the lower Rio Grande Valley. In this "regulated" area mites will be controlled with chemicals (Folbex VA) rather than the colonies being totally destroyed. This decision was made since mites exist in large numbers just across the border in Mexico and total eradication would be impossible due to constant reinfestation from Mexican bees. If the Mexicans can be convinced to begin their own eradication program, then perhaps some day the mites also can be eliminated from the Lower Rio Grande Valley, according to APHIS officials. Right now, honey bees are needed in the area for pollination, so beekeepers will be allowed to transport bees there from other restricted areas under closely supervised conditions. This is a one-way trip. Once the bees go in, they will not be allowed back out.

The six infestation areas which have been placed under Emergency Action Orders (EAO) are, according to APHIS: 1) a 150 square mile area in the Baytown and Houston area of Harris and adjoining Chambers County 2) a 180 square mile area west of Beesville in Live Oak and Bee Counties 3) a 25 square mile area in Briscoe and Hall Counties around the town of Turkey 4) a 38 square mile area northeast of Plainview in the area where Swisher, Hale and Floyd counties intersect 5) one ownership in Pecos County 6) beekeepers in the counties of Cameron, Willacy, Hidalgo and Starr in the Lower Rio Grande Valley. There also have been finds in feral colonies along the Rio Grande. As of mid-August, 10 different owners of bees have been involved, according to APHIS. Two of the finds in the Baytown area have not been linked with the original find in the Chandler Apiaries operation.

All sources continue to indicate that mites have not been found in any other state in the United States. All tests on bees moved from the Rio Grande area to other states by migratory beekeepers had been negative when this was written in mid-August. Tests have been run on bees in Minnesota, Washington, Michigan and several other states.

Mexican cooperation helpful

Harvey Ford, deputy administrator with APHIS, has met with Mexican officials trying to get a joint mite eradication program started. The *Acarapis* mite is now widespread in Mexico. It has been found in heavy concentrations on the other side of the Rio Grande Valley where the first U.S. detection was made. Also it has more recently been found on the Mexican side of the border shared by New Mexico. However, no mites have been found on the Mexican side of the border across from the El Paso and Big Bend areas of Texas. Until an agreement can be made with Mexican officials, the best that can be hoped for in the Lower Rio Grande Valley is merely to control the mite. Folbex VA and several other chemicals have been used with success in other countries to control mite populations and it is assumed that emergency action will permit use of chemical controls in the "regulated" area until permanent registration of *Acarapis* mite controls can be achieved. Mexican officials are continuing their survey of Mexican states bordering U.S. states to see where else the mite can be found.

Pleased with mite eradication measures

In an encouraging note, Joe Mercer, president of the Texas Beekeepers' Association, said, "I finally think we're getting things solved." He was referring to the August 7 meeting between Texas industry leaders and APHIS officials in which eradication and control procedures were decided. Mercer was especially pleased that colonies in the quarantined areas would be allowed to be moved to the "regulated" area of the Lower Rio Grande Valley. He was referring to those colonies not in the 1/4 mile kill areas, but still in designated EAO areas. Mercer said that the obvious fear beekeepers have of moving their colonies into the Rio Grande "regulated" area "on a one way trip" would make for an extreme shortage of pollinating bees in the Valley, so this movement of bees from other EAO areas would help. He estimated the shortage of bees would be in the neighborhood of 10,000 to 20,000 colonies.

In speaking about the Federal Domestic Quarantine, Mercer said, this not only prevents the spread of the *Acarapis* mite, but it "protects Texas beekeepers." By establishing the EAO areas, "this allows the rest of the state to survive." He was referring to the fact that noninfested Texas areas would be allowed to continue to ship package bees and queens, as well as move their colonies as needed.

Mercer was unsure how long restricted areas in Texas would be under federal quarantine. Rumors have put the quarantine time anywhere from one to

two years, but no one knows for sure. Much will depend on how quickly APHIS and state officials can eradicate mite infestations and check all other colonies in the restricted areas. Then, of course, there will have to be a period of waiting to see if more colonies are infested with the *Acarapis* mite. Beekeepers in the Plainview quarantined area are especially concerned because colonies do not winter well there and if the quarantine lasts one year, it will mean a high winter loss, Mercer said.

"There is no reason to believe that the mite is anywhere else except in the areas which already have been restricted, according to Mercer. "You'd be amazed at how extensive their detective work has been," Mercer said in referring to the APHIS people. Package bees and queens can still be shipped from most of Texas under the Federal Domestic Quarantine to anywhere else in the United States, he said. "There's

probably going to be a lot of people who don't realize that most of Texas is mite free and can still legally ship package bees and queens. Our industry in Texas could really be hurt and there is no reason for it," Mercer said. "Our stance is that we've found the mite and will wipe it out of every area except the Rio Grande Valley 'regulated' area. We hope people will understand this," Mercer said. "Texas will be a good test area for the nation." He was confident that the mite eventually can be eliminated. If the Mexicans cooperate in getting rid of the mite on their side of the border, "we could even eradicate the mite in the Rio Grande Valley 'regulated' area." Mercer believes the Folbex VA acaricide could be extremely effective in controlling and even eliminating the mite eventually in the Lower Rio Grande Valley. The biggest problem now will be to get an okay to use the chemical which has not been registered for use in the United States. "The EPA is extremely leery about granting emergency exemptions," Mercer said. Even after an emergency exemption has been granted, normal registration procedures will have to be started to obtain permanent use of the acaricide.

"The most recent development is that a confirmed kind of the mite has been reported from New Iberia, Louisiana. Again this infestation apparently came from the same original source in Weslaco, Texas, through a shipment of queens purchased in the spring of 1983. Without waiting to determine the extent of this infestation, Louisiana authorities have already started killing bees while sampling is being done to define the boundaries.

"This Louisiana infestation too is probably an isolated one and APHIS officials are confident that it too can be eradicated so that Louisiana will again be free of this pest.

"One of the continuing concerns is that heavy infestations in several different areas have already been found on the Mexican side of our common border. Some of the recent results of sampling show heavy infestations due south of El Paso, Texas. More recently heavy infestations were confirmed in Mexican bees just south of Nogales, Arizona! Such reservoirs, of course, mean that we live with a constant threat of new or addition introductions from these sources."⁶

An update on the Acarine mite situation will be given during the Fall State Meeting.

⁶ The American Beekeeping Federation Newsletter, August 24, 1984, page 2.

The following article is the first in a series of eight excellent MISSOURI BEEKEEPING TIME CAPSULES by Mike Roling. For the past two years Mike has been researching, compiling, and synthesizing information on various aspects of Missouri beekeeping and beekeepers. Those who attended the March 1982 State Meeting received a preview of Mike's work in his presentation "Historical Notes of Beekeeping in Missouri".

MISSOURI BEEKEEPING TIME CAPSULE

Early Beekeeping

The year was 1868. Most of the land in central Missouri was claimed and settled. The Civil War was over, and President Lincoln had been killed less than four years ago. The "movable comb hive" had been introduced and in the public eye for approximately fifteen years.

A correspondent for a St. Louis based agricultural newspaper was near Boonville, Missouri, traveling through the area on business. He considered himself a "progressive" beekeeper, and by today's standards would probably be a very good beekeeper. Here are a few aspects he "knew" concerning bees and beekeeping. Worker bees carried pollen on their hind legs and secreted wax in the form of scales between the rings of their abdomen. Drones were unable to sting. Queens produced eggs. Occasionally, queens encountered reduced areas to lay eggs because the hive was chuck-full of honey. The solution: remove some outside frames and one or two center frames and substitute empty frames in their place. Natural swarming could be stopped entirely. Divide your bees and have the "job done with". Bees consumed about sixty pounds of honey to make enough comb to fill an ordinary sized hive. In order to winter bees, if they were to remain on their summer stands, provide thirty-five to forty pounds of honey so they do not perish for want of enough food. Absorbent material should be placed over them in the cap of the hive to keep frost out. If they were to be put into winter quarters, then provide a dry, cool, dark place and leave them fifteen to twenty pounds of honey.

While on his travels, he decided to visit beekeepers on the way. His initial reactions appeared in two separate publications of the agricultural paper. His reports indicated a general lack of knowledge of beekeeping fundamentals: drones with the ability to sting worse than kings. Bees brought wax to the hive on their hind legs and bees were generally kept in old gums. Above all, he was irritated with nearly two thirds of the (so called) beekeepers of Missouri that destroyed their bees with fire and brimstone to rob them of their stores. This he considered cruel and labelled them as "bee sacrifices". He went further in his condemnation by saying: "... over four hundred "pious" old codgers, ... informed me that they killed their bees ... and I believe all the conscience every one of them had could be put in a mosquito's eye, and then it would not make him wink".

"Perhaps the black honey and sour bee-bread mixed promiscuously with larvae, dead bees and embryo moth miller, or worms, the whole scented with the fragrance of brimstone . . . may be pleasing to their taste . . ." Finally, he suggested a society be formed for the prevention of cruelty to the honey bee.

Free advice, suggestions of apicultural humane societies, and gross attacks on practices of large numbers of beekeepers ought to bring a curt reply. Journals and newspapers of the time were most willing to deal with controversies, and this case was certainly no exception. Our respondent, we find, was from the central portion of the state. Maybe peeved at the attack on a fellow regional beekeeper or maybe feeling defensive for his own management techniques, his contentions were numerous. For example: most people kept bees for profit not for pleasure. Therefore, they should be able to dispose of them in the most profitable manner. Besides, what farmer didn't kill cattle, hogs, sheep, or poultry. For that matter, look at the poor drones. They were eliminated by their own kind. A second argument advanced went like this: If a farmer had one hundred old-fashioned box hives, he could attempt to sell the entire hive and realize five dollars for each -- top dollar. That would produce five hundred dollars, and it would be a difficult task requiring a great deal of time. However, this particular year, the writer claimed, a colony could produce fifty pounds of honey. Therefore, at twenty cents per pound, the beekeeper could realize on thousand dollars. That would net five hundred dollars over selling the entire bee yard. In addition, selling the honey would be less difficult and less time consuming. If this strategy wasn't enough for you to see the light, consider this argument. He was no "gumster". He kept bees in movable comb hives and thought himself to be a scientific "apiarian". His colonies that year averaged over fifty pounds of nice, clean honey worth twenty-five cents per pound. Some of his hives had, in fact, produced sufficient surplus honey to net twenty-five dollars. Besides the surplus honey, he contended, he could kill the bees in these hives and sell the honey for more than he could get for bees, hives, honey, and comb sold as a unit. Now, brother beekeeper, what have you to say to that?

Obviously, the instigator of this exchange was not without words and chose to respond less the reader thought the charges unanswerable. These bee-killers were afraid of their bees; they simply would not own up to this charge. Sure, they handled swarms, but everyone knew that bees in a swarm were filled with honey and could do no harm. The contention that cattle, hogs, and sheep were killed was unfair since those animals were created for consumption as food for man. The argument concerning drones was really too ridiculous to consider except for these random thoughts. Drones were meant to fertilize the queen; if this service was not performed, then they would be left to consume honey during the winter, impairing the chances of the whole colony surviving. Talk about loss of time selling box hives, how about selling brimstone honey? It's real fine!? Why he could show you a merchant in St. Louis on Broadway with seven thousand pounds of brimstone honey for sale

(continued on page 20)

Southwest Missouri State University Springfield, Missouri

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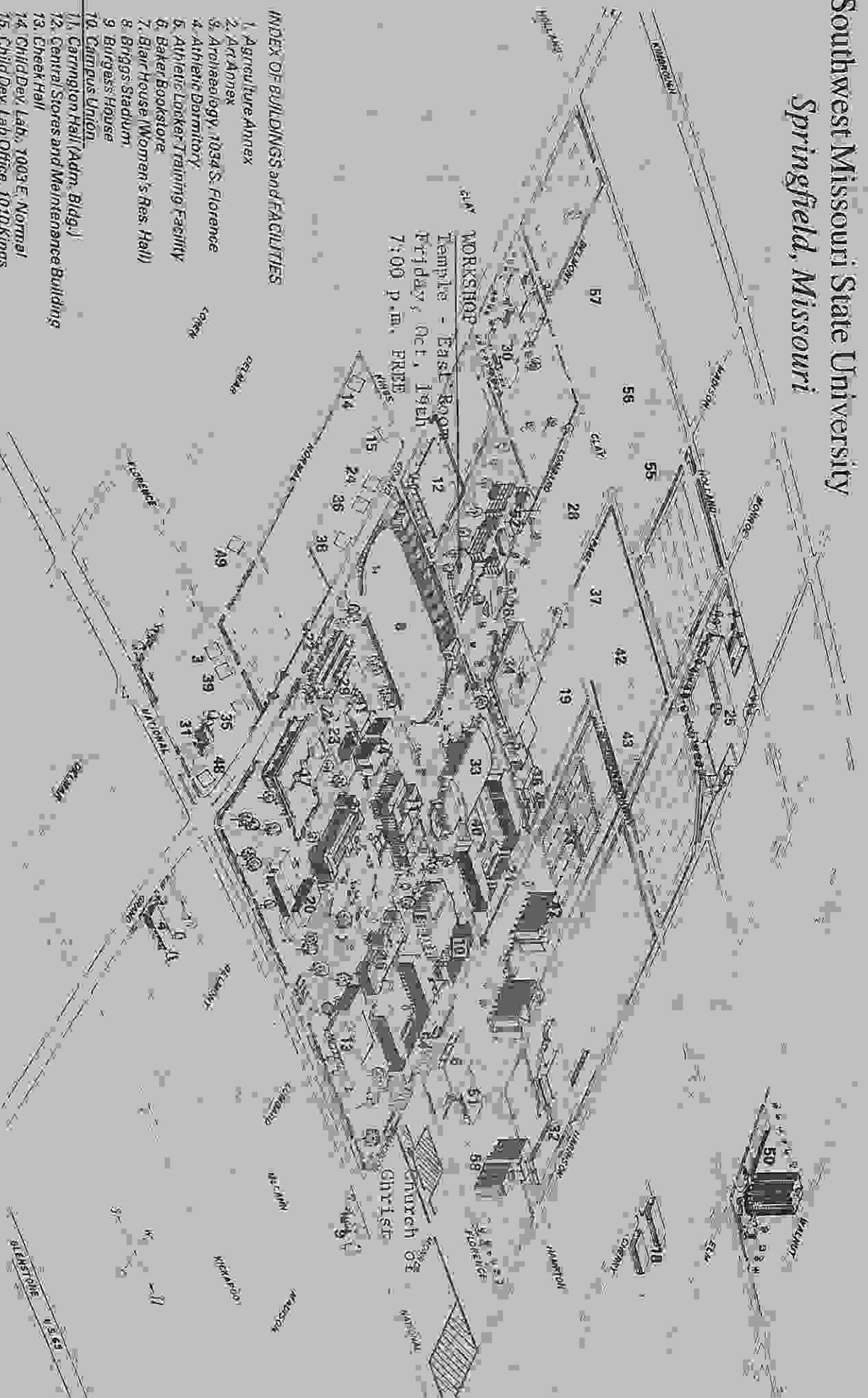
INDEX OF BUILDINGS and FACILITIES

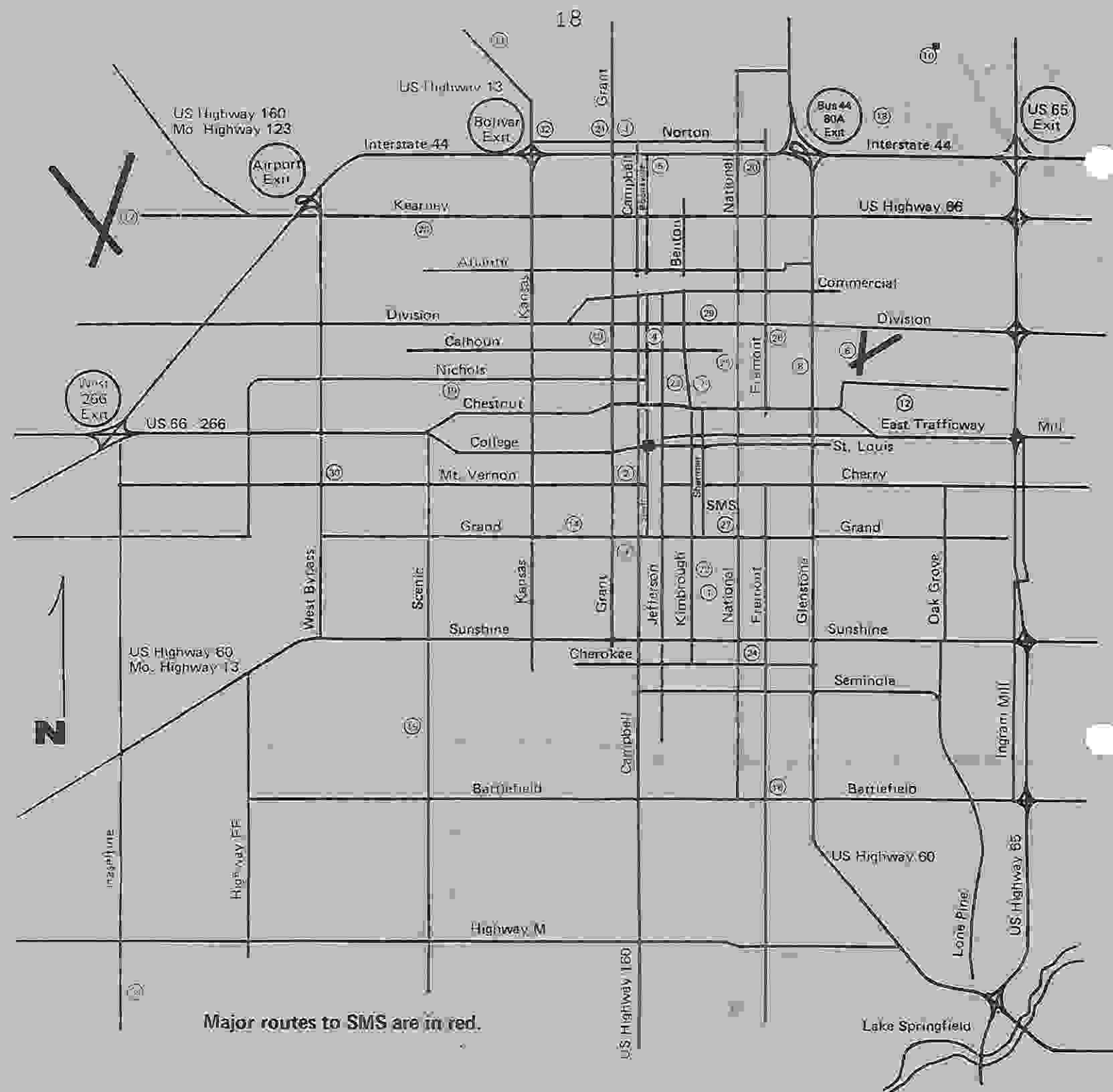
1. Agriculture Annex
2. Art Annex
3. Archaeology, 1034 S. Florence
4. Athletic Dormitory
5. Athletic Locker Training Facility
6. Baker Bookstore
7. Blair House (Women's Res. Hall)
8. Briggs Stadium
9. Burgess House
10. Campus Union
11. Carrington Hall (Adm. Bldg.)
12. Central Stores and Maintenance Building
13. Cheek Hall
14. Child Day Lab, 1003 E. Normal
15. Child Day Lab Office, 1010 Kings
16. Closed Stack Library
17. Craig Hall
18. Dogwood Apartments
19. East Field (Dollison and Madison)
20. Ellis Hall
21. Freutenberger Res. Hall
22. Grand Street Underpass
23. Greenhouse
24. Guidance
25. Guidance, 1008 Grand
26. Hammann Student Center
27. Hammann Fountain

27. Hill Hall
28. Hockey Field (Lombard, Clay, Page, Dollison)
29. Karts Hall
30. Kemper Hall
31. KSMU Radio Station 101.5 S. National
32. Laboratory School, Greenwood
33. McDonald Arena
34. Meyer Library
35. Music, 1020 S. Florence
36. Band House, 1010 Grand
37. North Field (Dollison and Page)

38. Nursing, 1030 E. Grand
39. Ozark Studies Archaeology, 1030 S. Florence
40. Pool
41. Power House
42. Practice Fields
43. South Field (Page and Dollison)
44. Pumphill Hall
45. Recreation and Leisure Studies
46. Stiehl Hall
47. Shannon House (Men's Res. Hall)
48. Speech and Hearing Clinic, 1008 S. National

49. Speech Annex, 1111 E. Normal
50. Sunville Tower
51. Taylor Health Center
52. Temple Hall
53. Tennis Courts (E. Courts, W. Courts)
54. Wells House (Women's Res. Hall)
55. West Field #1 (Clay & Madison)
56. West Field #2 (Clay & Lombard)
57. West Field #3 (Clay & Thorn)
58. Woods House (Women's Res. Hall)





Springfield, Missouri

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|----------------------------|-----------------------------------|-----------------------------------|
| 1. Art Museum | 12. Glenwood Park | 23. Public Library |
| 2. Park Central Hospital | 13. Grant Beach Park | 24. St. John's Hospital |
| 3. Central Bible College | 14. Harry Carr Park | 25. Silver Springs Park |
| 4. Cox Medical Center | 15. Horton Smith Golf Course | 26. Smith Park |
| 5. Doling Park | 16. Meador Park | 27. Southwest Missouri University |
| 6. Downtown Airport | 17. Municipal Airport | 28. Tom Watkins Park |
| 7. Drury College | 18. Municipal Golf Course | 29. Washington Park |
| 8. Evangel College | 19. Nichols Park | 30. Westport Park |
| 9. Fairlight Park | 20. Osteopathic Memorial Hospital | 31. Wilson's Creek Battlefield |
| 10. Fellows Lake | 21. Ozark Empire Fairgrounds | 32. Zoo Park |
| 11. Fulbright Springs Park | 22. Phelps-Grove Park | |

MISSOURI STATE BEEKEEPERS' FALL MEETING

Southwest Missouri State University
Campus-Union, Empire Room #309

Saturday, October 20, 1984
Springfield, Missouri

- A.M.
- 8:30 - 9:00 Registration - no fee
 - 9:00 - 9:05 Meeting called to order by President Crain
 - 9:05 - 9:10 Invocation
 - 9:10 - 9:20 Welcome and the Introduction of State Officers,
Local Associations and their Officers
 - 9:20 - 10:15 BEES IN THE MEDIA by Dr. Norman Gary
 - 10:15 - 10:45 Coffee break
 - 10:45 - 11:30 NEW & OLD METHODS FOR FINDING QUEEN BEES by Dr. Gary
 - 11:30 - 12:00 Liaison Report and State Fair Report by Jay Tohtz
- P.M.
- 12:00 - 1:30 Lunch
 - 1:30 - 2:30 KILLER BEES AND THEIR THREAT TO BEEKEEPING IN THE
U.S. by Dr. Gary
 - 2:30 - 3:00 Question and Answer Period
 - 3:00 - 3:45 Business Meeting And Elections
 - 3:45 - 4:00 Attendance Prizes and Closing

WORKSHOP ON PRACTICAL BEEKEEPING PROBLEMS - AN EVENING WITH DR.
NORMAN GARY

Southwest Missouri State University - Temple Hall, Room 1
Friday Evening, October 19, from 7:00 to 9:30 pm

This workshop is offered free. No prior registration needed.

MISSOURI STATE BEEKEEPERS EXECUTIVE BOARD MEETING to follow the
workshop. All are welcome.

OUT-OF-TOWNERS ACCOMODATIONS

Best Western Rail Haven Motel (Southwest corner of St. Louis and
Glenstone)

Make reservations early and be sure to mention that you are with
the Missouri State Beekeepers at the time of registration and
check-in. Mailing address is 203 South Glenstone, Springfield, Mo.
65802. The phone number is (417) 866-1963. Room rates are found
on page 2 of this newsletter.

which he could not sell at any price. Even if you strained the honey, you would still have the taste of bee-bread, moths, worms, cocoons, and dead carcasses of bees. While on this topic of time, think of how long it took to torture one hundred stands of bees to death to remove the honey. And, whoever heard of a farmer knowing so little about bees that he accumulated a hundred gums of bees. Finally, the author closed with one last indignant pot shot:

"Perhaps Mr. Greene has allowed his bees to fill their hives so full of honey that they cannot winter safely -- as too much honey is just as bad, if not worse, than too little; hives with few bees and plenty of honey are not worth much the following season: and he now wishes to dispose of them; and thinking, no doubt, it is a good opportunity to advertise without paying the printer -- replies to my article in order to do so. Got any more brickbats to throw this way brother Greene?

Perhaps this brief exchange is not the most edifying example of an intelligent exchange of ideas. At the same time, it gives us an intimate glimpse of the state of beekeeping in the early days of settlement in the midwest. The beekeeping industry was in a dynamic period. New and greatly improved beehives and associated equipment were being introduced. However our correspondent indicates that many of the people interested in bees and beekeeping were severely deficient in the basic biology of the honeybee. On the other hand, the minority had gleaned much from other beekeepers and apicultural papers but tried strikingly different management techniques.

By Mike Roling

MISSOURI STATE BEEKEEPERS' ASSN.
619 Mendelsohn Drive
Kirkwood, Missouri 63122

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