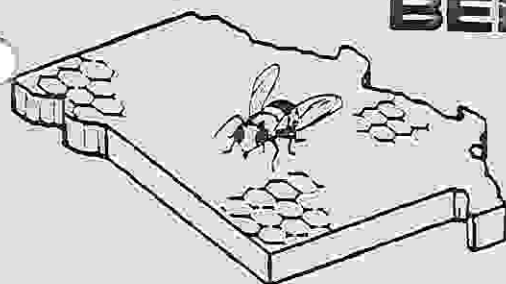


MISSOURI STATE BEEKEEPERS ASSOCIATION



PRESIDENT
Curt Dennis
2415 Johnstown
Florissant, Mo. 63033
(314) 838-4529

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

1ST VICE PRESIDENT
Dr. Flernoy Jones
1215 Subella Drive
Columbia, Mo. 65204
(314) 445-5760

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 Mendelssohn Drive
Kirkwood, Mo. 63122
(314) 821-1856

1986 MISSOURI STATE BEEKEEPERS ASSOCIATION



Photographed by Francis Scheidegger

Officers listed from left to right:

Retiring President	John Walther, Jefferson City (Central Missouri)
1986 President	Curtis Dennis, Florissant (Eastern Missouri)
1st Vice President	Dr. Flernoy Jones, Columbia (Boone Regional)
2nd Vice President	Louis Smith, St. Charles (Two Rivers)
Secretary	Jim Thaxter, Moberly (Boone Regional)
Treasurer	Truman Hardin, Springfield (Ozark Beekeepers)

DEAR BEEKEEPING FRIENDS,

The approximately 115 individuals who attended the Fall State Meeting were treated to the presentations by Dr. Richard Taylor. Dr. Taylor spoke on the topics of "Honey Marketing" and "Intensive Beekeeping". Pictured below is Dr. Taylor as he sold some items and his books at the conclusion of the meeting. He very generously donated \$214 from this sale to the Association to offset some of the \$700 cost of his transportation and accommodations.

THANK YOU VERY MUCH,
DR. TAYLOR, for your
interesting talks
and your generosity!



Photographed by
Francis Scheidegger

Photo by Francis Scheidegger

BUSINESS MEETING MINUTES
MISSOURI STATE BEEKEEPERS ASSOCIATION
Jefferson City, Missouri
October 19, 1985

President John Walthers called the meeting to order at 2:20 p.m. following the conclusion of the program. Minutes of the previous meeting were read. Curt Dennis moved for approval and Don Collop seconded. Motion passed. Truman Hardin presented the Treasurer's Report. Stanley Garton moved for approval, Jim Bieg seconded. Motion passed. Louis Smith, nominating committee chairman, presented the list of nominees for office in 1986 as follows: President-Curt Dennis, 1st Vice President-Dr. Flerney Jones, 2nd Vice President-Louis Smith, Secretary-Jim Thaxter, Treasurer-Truman Hardin, Editor-Carol Boeckmann, Liaison-Jay Tchtz, 3 year board member-George Vanarsdall, 2 year board member-Clayton Johnson, 1 year board member-Mike Roling, Board member-at-large-Don Collop. There were no nominations from the floor. The slate of officers was voted in.

Francis Scheidegger made a motion to give the board of directors power to compensate two scheduled volunteer workers per day for parking and admission fees to the State Fair. The motion was seconded and passed.

Dr. Flerney Jones reported on the signing of a declaration by Governor Ashcroft proclaiming November, 1985, as Apiculture month. This is a common way for the state government to recognize various groups around the state for their contributions to Missouri's well being.

A suggestion was made to have a group lunch at the association's meetings to give members more opportunity to get to know each other.

Craig Oliver commented on the State Fair. The winning comb honey entry at the Illinois State Fair was auctioned for about \$800. Could such an arrangement be made for honey entries from the Missouri State Fair? Joe Francka will check on this possibility.

Truman Hardin reported on the status of the Missouri State Beekeepers Association cook book. It should be available sometime in January. Printing cost is \$2.55 for 1000 books with \$4.75 to \$5.00 as a suggested selling price. He also commented on compiling bulk recipes for distribution to recipients of the government's surplus honey. He felt this would be a good way to promote honey and reduce the amount of money that has been accumulating in the treasury. This could

give the MSBA state and possibly even national exposure.

A motion was made to sell the MSBA cook book to MSBA members at cost. Motion was seconded. A discussion followed and two amendments were suggested; sell the books at 20% above cost to MSBA members, and sell the books at \$.50 over cost. The second was withdrawn. The motion was restated to sell the cook books at 20% over cost to association members when bought through a local association or when picked up at a state association meeting. Neal Bergman seconded. A vote was taken and the motion passed.

As the Kansas State Beekeepers meeting often coincides with the Missouri state meeting, the president suggested changing the MSBA meeting date. Another suggestion was made for the MSBA secretary to contact state associations in Kansas, Iowa, Illinois, Nebraska, and Arkansas for their cooperation in scheduling meetings so meeting dates don't coincide.

The president read correspondence from three different sources looking for information about honey, nutritional value of honey, and beekeepers who would be willing to give a presentation to a school. The president requested help in getting this information.

The president requested that the local associations send names and addresses of their officers and state board members to the MSBA secretary to facilitate communication between the state and local associations.

Truman Hardin nominated Dr. Jones as Beekeeper of the Year for 1986 for his devotion and service to the MSBA and beekeepers in general.

John Walther was recognized for his successful efforts in getting the changes in the bee law passed by the Missouri legislature.

The meeting ended with the drawing of names for door prizes.

Respectfully submitted,


Jim Thaxter, Secretary

FROM YOUR STATE ASSOCIATION SECRETARY

"I would like to request that all local associations send me a list of their officers as elections are held. This will be for use only for MSBA associated business to facilitate communications between the state and local associations. Your cooperation will be greatly appreciated."

Jim Thaxter, Secretary
Rt. 4, Box 60 E
Moberly, Missouri 65270
(816) 263-2694

* * * * *

DUES DUES DUES DUES

Your 1986 dues are now payable.

If you are a member of a local beekeeping association, your state dues of \$3.00 should be paid to your local association. The local association treasurer should forward your name with complete address and zip code to the State Treasurer Mr. Truman Hardin.

If you do not belong to a local association, your dues are \$4.00 and are to be sent directly to Mr. Truman Hardin, Treasurer, 1829 W. Washita, Springfield, Mo. 65807. Make your check payable to Missouri State Beekeepers.

* * * * *

ATTENTION: LOCAL ASSOCIATIONS AND INDIVIDUAL MEMBERS!!!

Your State Association now owns 1 video tape, 3 films, and 13 sets of slides on bees, beekeeping, and related topics. These are available for use by local associations or individual state association members free. If you as an individual beekeeper would like to use these audio-visual aids to teach a class, show to a boy scout troop, or enliven a garden club meeting, please realize that they are available to you.

Send all requests and returns to Mr. Truman Hardin, 1829 W. Washita, Springfield, Mo. 65807.

Reservations are made on a first-come basis. The local association or individual state association member must request the tape, film or slide by title and give a first, second, and third choice date for showing. You will be notified immediately of the date that will fit into the calendar of schedules.

The State pays the outgoing UPS charges and the local or individual will pay the return charge. Insure each slide set for \$40 and films for \$250.

Following is the list of audio-visual aids by title. For a brief description of each check your June 1984 and September 1985 newsletters.

QUEEN REARING VIDEO TAPE with Dr. James E. Tew (75 mins. $\frac{1}{2}$ " VHS)

BEE MANAGEMENT: FALL AND WINTER (10 mins.)
LATE WINTER AND EARLY SPRING (10 mins.)
Both are on one reel.

BEE MANAGEMENT: HONEY HANDLING (17 mins.)

HONEYBEES (67 slides)

BEGINNING BEEKEEPING (73 slides)

BEE MANAGEMENT (71 slides)

THE HONEY HARVEST (73 slides)

NECTAR AND POLLEN PLANTS (80 slides)

LIFE HISTORY AND ACTIVITIES OF THE HONEY BEE (42 slides)

THE AMAZING WORLD OF THE HONEY BEE (46 slides)

THE BEE TREE: NATURAL HOME OF THE HONEY BEE (20 slides)

THE LAST APPLE? BEEKEEPING IN THE 1980's (60 slides)

THE HONEYBEE AND POLLINATION (81 slides)

HONEYBEE DISEASES AND PESTS (60 slides)

HONEYBEES AND PESTICIDES (80 slides)

THE AFRICAN BEE SITUATION IN THE AMERICAS (29 slides)

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MISSOURI STATE BEEKEEPER ASSOCIATION
Financial Report

BALANCE on HAND March 20, 1985

\$7280.99

INCOME

Dues - March 20th thro October 12, 1985	\$943.00
Interest - Checking account	42.97
Farm and Home Money Market	225.30
Book sales - Fair account	13.39
Farm Magazine - Ad	24.00
Money Market account	285.00
Profit - Honey Booth	<u>686.74</u>

2220.40
\$9501.28

EXPENSES

State Meeting - Columbia	\$380.17
Newsletters	581.41
President	44.00
Treasurer	124.98
Slides-\$256.50, Film-35.00, UPS & Mileage 45.81	336.51
Dues refund - Midwestern	30.00
Honey Booth - late phone calls	35.66
Honey promotion	33.50
Am. Beekeeping Federation	20.00
Am. Honey Producers	<u>20.00</u>

\$1606.22
Oct. 12th BAL. 1985 \$7895.06

ASSETS

Checking Account	\$1023.91
Farm and Home Money Market	<u>6871.15</u>

\$7895.06

EXPENSES - for comparison	NEWS- PROGRAMS	LETTERS	PRESID.	TREAS.	SLIDES FILM	MISC.	TOTALS
83-84 Oct to March	831.84	501.83		88.12	460.43	128.77	2030.47
1984 March to Oct.	410.00	229.32	11.43	16.36	169.19	102.46	938.76
84-85 Oct. to March	329.20	552.60		77.10	35.89	92.91	1262.70
1985 March to Oct.	380.17	581.41	44.00	124.98	336.51	103.50	1570.57

DUES paid by Associations - March 20th through October 12, 1985

Boone Regional	7 paid	\$21.00 (15)	Mid Missouri	9 paid	\$27.00 (19)
Central Missouri	5 paid	15.00 (14)	Midwestern	43 paid	129.00 (57)
Dallas County	6 paid	18.00 (11)	North Missouri		(8)
Honey Dippers	5 paid	15.00	Ozarks	13 paid	39.00 (13)
Honey Producers	3 paid	9.00	Ozark Mountain	8 paid	24.00
Eastern	122 paid	366.00	Prairie Country		(14)
Jefferson County	8 paid	24.00 (16)	Southeast	17 paid	51.00
Laclede County	6 paid	18.00 (19)	Tri-County	17 paid	93.00
Lincoln County	5 paid	15.00	Two Rivers	1 paid	3.00 (10)
			Individuals	16 paid	76.00 (12)
				290	\$943.00 (208)

8
CHECK INFORMATION

Check No.	Payee	Programs	Newsletter	Treasurer	Slides Film	Misc.	Honey Booth
449	Larry Hensley		76.06				
450	John Walter					33.50	
451	Boone Co. Ext.	10.00					
452	O'Dell Priest	25.00					
453	Flerney Jones	8.77					
454	T. Hardin			43.90			
455	Beekeep Educ Ser.				256.50		
456	A.I. Root Co				35.00		
457	Voided						
458	P.F.M. Food Ser.	36.40					
459	T. Hardin				12.25		
460	Midwestern -refund					30.00	
461	Am. B.K. Federation					20.00	
462	Am. Honey Producers					20.00	
463	Larry Hensley		18.73				
464	Eastern Assoc.		52.02				
465	C. Boeckmann		27.38				
466	Postmaster St. Louis		50.00				
467	T. Hardin			37.00	8.08		175.00
468	State Fair						72.50
469	Wecolite						75.00
470	Calif. Honey Recipes						84.36
471	Walter Kalley		Pres. 44.00				
472	John Walter						12.55
473	T. Hardin			11.95	1.34		
474	C. Boeckmann		27.66				
475	C. Boeckmann (Dup. check)		50.00				
476	Larry Hensley		35.00				
477	Eastern Assoc.		91.12				200.00
478	Cash - Fair Account						20.00
479	Sedalia Cold Storage						11.25
480	Sedalia Fruit Co						60.00
481	Jim Thaxter						10.80
482	Sedalia Fruit Co						188.57
483	Betty Claxton						107.80
484	T. Hardin						1525.54
485	O'Dessa Ice Cream						1258.06
486	Osage Honey Farm						93.00
487	Craig Oliver						93.70
488	Chas. Wills						
489	Richard Taylor	300.00					
490	T. Hardin			24.94	11.75		
491	John Walther						25.79
492	Jon O'Neal						4.46
493	Larry Hensley		38.15				
494	Eastern Assoc.		106.13				
495	C. Boeckmann		9.16				
496	T. Hardin			7.19	11.59		5.41
		\$380.17	581.41	44.00	124.98	336.51	103.50
							4023.79

FROM AROUND THE STATE

News From Little Dixie Beekeepers Association

The Little Dixie Beekeepers Association of Mexico, Missouri, was formed in November 1984. Don Collop was the driving force behind its organization and was elected as the first president.

LDBA meets four times a year on the third Thursday evening of February, May, August, and November. Attendance over the last year has steadily been in the 20-25 range. Programs so far have included slide sets, presentations by members, and a video cassette presentation on queen rearing by John Walther.

LDBA is off to a hot start and already making a name for itself in the community. The "Shop Mexico" business association is promoting the city as a "Honey of a Town". In conjunction with this, the Chamber of Commerce and many of the local merchants are going to be distributing honey to customers. Collop has done a lot of leg work and promotion to get LDBA into the middle of this program.

There has been a good response from local businesses to buy four ounce cups of honey from the LDBA. Individual members volunteered to donate some honey to the Chamber of Commerce to get the ball rolling. The local news media will publicize the association, and the newspaper will list the names of members.

A four ounce cup is just enough for a tast of honey, but hopefully it will boost peoples' awareness of its local availability and generate some sales for Missouri honey.

Anyone is welcome to attend meetings of the Little Dixie Beekeepers Association. For more information about meeting time and dates, contact Don Collop, Rt. 2, Mexico, Mo. 65265. Phone number is (314) 581-6519.

News From the Mid-Missouri Beekeepers Association

"The Mid-Mo Beekeepers Association members estimate that we averaged about 1/3 of our annual honey crop. We just had too many rains over an extended time."

On the following page is a letter sent to Dr. Flernoy Jones by Nancy Schaub, the Secretary of Mid-Mo, on behalf of the Mid-Mo membership.

October 31, 1985

Dear Dr. Jones:

Why does the UMC extension list the honeybee as a "pest"? More than 95% of the time the honeybee is our best insect friend.

Calling the bee a "pest" produces very bad attitudes about it. The general public is uninformed and naturally afraid of bees and their stinging habits. Labeling the bee as a "pest" does not help us beekeepers or the general public's ideas about bees.

It looks bad for us to have named the bee as our "official state pest".

In the fall meeting we discussed the lack of knowledge and how to inform the public. We need to start by having the UMC extension people to label the bee first as an insect and then as a pest. We need them to change their information to read "stinging and biting insects". If they have to label the bee as a pest have them to do it secondary.

Sincerely, yours,
Nancy Schaub
Rt. 1, Box 261 S
St. James, Mo. 65559

EDITOR'S NOTE: Page 11 is a reproduction of the publication to which this letter refers.

* * * * *

APRICOT HONEY BALLS

Recipe Origin-Unknown

1/2 C	Butter	Pretoast sesame seeds and almonds.
1 tsp	Cinnamon	Place butter in 8" baking dish, Melt in the
1 C	Honey	microwave on High, 1 1/2 - 2 minutes.
1 1/2 C	Quick-Cook Oatmeal	Blend in cinnamon and honey.
1/2 C	Wheat Germ	Add remaining ingredients and mix well.
1/3 C	Sesame Seeds	Cook in microwave oven on High for 7-8 minutes,
2/3 C	Slivered Almonds	stirring every 2 minutes.
2/3 C	Pecan Bits	The mixture should gently bubble when cooking.
1 C	Flaked Coconut	Remove from the microwave and spread onto a
2/3 C	Snipped, Dried Apricots	piece of waxed paper.
		When cool enough to handle, roll into 1" balls.
		Makes 48 decent-sized balls.

Stinging and Biting Pests

Wilfred S. Craig, Department of Entomology, College of Agriculture

1. **Deer fly**—There are several species of these small, grayish brown, biting flies. They are close relatives of horse flies and suck blood from wild animals, horses, cattle, and man. The masses of eggs are deposited on blades of grasses and cattails in marshy areas.
2. **The American dog tick** is not an insect. This tick will attack man, dogs, many wild animals, horses, cattle and hogs. It feeds by inserting its mouth parts into the flesh of the host and taking a blood meal. The feeding activity is seldom painful and may go unnoticed by the victim.
3. There are many species of mosquitoes which will suck blood from man, animals and birds. Some of these species transmit serious diseases such as malaria and yellow fever. The larvae of mosquitoes, often referred to as wigglers or wiggle tails, are frequently present in water catch basins, barrels, stagnant pools and other standing water.
4. **The wheel bug** gets its name from the gear-like structure on its back. It is one of the assassin bugs and is generally considered beneficial since it preys on other insects. A wheel bug can inflict a serious wound if picked up or is accidentally caught in the clothing. The piercing mouth parts can easily puncture skin. An irritant, which is injected, will cause intense pain and may result in severe swelling of the affected area.
5. **The brown recluse spider** is common in many parts of Missouri. The "fiddle-shaped" dark brown marking on the back of the spider is an identification aid. The bite can cause severe pain and a necrosis of flesh at the point of bite. If a person is bitten by this pest it is wise to contact a physician immediately.
6. **The black widow spider** is the only other poisonous spider present in Missouri. The adult spider is black and the female has a red hourglass-shaped marking on the underside of the body. The effect of the venom is usually severe pain and a slight swelling in the affected area. If bitten by a black widow spider contact a physician immediately.
7. The larva of the **Io moth** is rather attractive in coloration. The body has tufts of stout spines and hairs arranged in rows. The spines will penetrate the skin, break off near the tip and allow a poison to enter which causes a burning sensation in the affected area.
8. **Yellow jackets** usually build their paper nests in holes in the soil. The females all have stingers and are willing to use them on any creature that threatens or disturbs the nest.
9. Several species of small bees are referred to as sweat bees. They alight on man to secure moisture, "sweat", from the skin and if they are squeezed or accidentally pressed with clothing may sting.
10. **The honeybee**, a very beneficial insect, will inflict a painful sting if its hive is disturbed or if handled without proper care.
11. **The saddleback caterpillar**, the larva of a rather attractive small moth, has clumps of poisonous spines on its body. When picked up or accidentally rubbed, these spines puncture the skin and discharge a poison. Although somewhat painful, the poison seldom has a serious effect on humans.

An Article Overview: The Mite Problems
by Cynthia House
Trinity Valley Beekeepers Association

Since the past several months are involved in earnest attempts preparing for the spring honey flow with little to no time for reading about current issues, I thought it would be helpful to present an overview of current articles which pertain to all of us.

Honey bees have served as hosts of parasites, diseases, and predators for millions of years. Human association with honey bees, on the other hand is perhaps as old as 25,000 years, but it has only been within the past few hundred years that humans have seriously become dependent on them for their pollinating activities in our agricultural endeavors.

There are 3 mites which have captured our attention over the recent years. These are the *Acarapis woodi*, the tracheal mite, the *Varroa jacobsoni*, the adult and brood mite, and the *Tropilaelaps clareae*, the brood mite. The following table demonstrates the species, native host, original distribution, and present distribution of the various mites.

Table 1. Known mite pests of honeybees.

Species	Native Host	Original Distribution	Present Distribution
<u><i>Acarapis woodi</i></u> (Acarine mite)	<u><i>Apis mellifera</i></u> (The European honeybee)	England, 1921	Most of continental Europe. India, 1957 Belgian Congo, 1959 Argentina, 1968 Columbia, 1980 Mexico, 1980 Texas, U.S.A., 1984
<u><i>Varroa jacobsoni</i></u> (Varroa mite)	<u><i>Apis cerana</i></u> (The Indian honeybee)	Sumatra, 1904 (probably everywhere <u><i>Apis cerana</i></u> is found)	Philippines, 1963 Russia, reported in 1965, but infestation in European Russia probably dates to about 1948 Bulgaria, 1967 Rumania, 1975 Tunisia, 1975 Libya, 1976 West Germany, 1971 (most of Europe now infested) Paraguay, 1971, now found in Brazil, Paraguay, Uruguay, and Bolivia. Northern limit in South America unknown
<u><i>Tropilaelaps clareae</i></u> (no common name)	<u><i>Apis dorsata</i></u> (The giant honeybee)	Philippines, 1961 (probably everywhere <u><i>Apis dorsata</i></u> is found)	No change known

1. *Acarapis woodi*

The tracheal mites spend their entire lives in the honeybee's breathing tubules or trachea, primarily in the largest, which is near the front of the thorax. The mite takes at least 14 days to complete its life cycle and find a suitable new host. It can invade the trachea of only those adult bees under about 9 days of age; and it migrates from its old host, while it is behaving normally to the new one only when the two bees come into physical

contact. Therefore, if it killed or even only incapacitated its host quickly, it could not survive.

There are two observations noted in Britain concerning the infestation of the mites. They noted that infestation causes no outward sign of disease. Infested individuals behave normally and forage actively for nectar and pollen. The second observation was that infestation tends to decline, and it does so most rapidly in a colony when it is actively foraging. The old infested bees from which mites are migrating are busy foraging during a nectar-flow, so they become separated from the susceptible young bees preventing most migrating mites from finding suitable hosts. The few colonies that become severely infested die during the late winter because their infested colonies dwindle faster than usual.

According to Brother Adam, the tracheal mite has one redeeming feature in that infected colonies can be saved by the simple expedient of requeening them with queens of proven resistant stock, provided such colonies are still in reasonably good condition and the requeening is undertaken in time to give them a chance to build again before autumn sets in.

Detection of the tracheal mite has been advanced over the present thoracic sectioning method. The tracheal floatation method allows the rapid examination of many honey bees. The ultimate value of this method as a means of screening for *Acarapis woodi* depends not only on its relative speed and simplicity, but also upon its sensitivity as compared to the other methods.

There is much argument in Europe over the best way to treat the tracheal mite problem; many beekeepers and researchers feel the problem is not too serious. A fumigant that kills the mites but not the bees is widely advertised and has been used with varying success. The best defense against the disease seems to be maintenance of strong colonies.

II. *Varroa jacobsoni*

Varroa mites infest both adult male bees and pupae. Adult varroa mites are brown and about half the size of a pinhead. They can be seen with the naked eye, especially when they are moving. The adult female mites burrow between the abdominal segments on either side of the wax glands and feed on the adult's blood supply. When the mites are ready to lay eggs, they move into brood cells that are about to be capped with preference for drone brood over worker brood. Eggs are laid slowly over a period of several days. The young, developing mites feed on the developing bee pupae. If a large number of mites are present, the bee pupae may be killed and with fewer mites, the bees may live but will be deformed and have shortened life spans. Mating takes place in the cells and the male mites dies soon after because they apparently do not feed. One reason why populations are slow to increase may be due to their frequent inbreeding.

One way to detect the presence of the varroa mite is the use of tobacco smoke which causes the mites to drop off adult bees. With the placement of paper on the bottomboard, the mites are easily seen following the smoke treatment. It is difficult to detect the mite in the brood, but by removing the drone pupae the presence of the mite can be seen. The chief disadvantage to using smoke as an aid to detection is in the lack of control to the dose for the bees which could have a harmful effect on them.

A possible resistance to the varroa mite is suggested by a study in which slow versus fast developing bees were studied. It was felt that a more rapidly developing bee could result in a bee either more resistant to the mite or at least less susceptible to it.

III. *Tropilaelaps clareae*

The brood mite is little known to the American beekeeper and that is probably due because it has not escaped its limited distribution in South-east Asia. But it is essential to learn about this mite because its destructive powers could be far greater than the other two previously mentioned mites. A detailed life history on the mite is not known or the information published.

It is known that the female mites enter an open honey bee brood cell containing a late instar larva with both the worker and drone brood serving as hosts. Observations in Thailand have shown that as many as 14 adult mites and up to 10 nymphal forms may be found in individual brood cells under conditions of heavy infestation, although one to four mites per cell is more typical.

Morphological damage such as deformed wings is frequently observed in the newly emerged adult bees. These deformed bees are normally expelled from the colony by their healthy sister workers. Heavily infested larvae and pupae often are discarded from the colony by the housecleaning activities of the young workers.

An interesting observation is that simultaneous infestations of *T. clareae* and *V. jacobsoni* in *A. mellifera* bees colonies are common in Southeast Asia where both species of mites are found. In dual infestations, adults of both mite species have been observed on the same adult host and in the individual brood cells. When both mite species are found in one brood cell the *T. clareae* is successful in reproducing with a ratio of 25:1 over the *V. jacobsoni*.

Mite control techniques fall into two broad categories of chemical and nonchemical. Two major chemical approaches involve the use of known miticides as fumigants or systemic additives fed to the colony in sugar syrup. The use of miticides is not without problems, however, including toxicity to bees, the potential for development of resistance by mites, and buildup of miticide residues within the colony, to name several of the more serious drawbacks.

Most non-chemical mite control techniques involve a cultural technique which are used in the hope that they will interrupt the natural reproductive cycle of the mites. While non-chemical methods cannot eliminate mites from colonies, they do appear to at least slow mite population growth to a point where infested colonies can maintain a productive state.

I hope the article overview of the major beekeeping publications from January to March 1985 has been of help to you. The information has been obtained directly or indirectly from the following excellent resources.

- Adam, Brother. March 1985. The Acarine Disease Menace-Short-Term and Long-Term Countermeasures. American Bee Journal 163-164.
- Bailey, L. February 1985. Reflections on the Discovery of *Acarapis woodi* in the United States. American Bee Journal 101-102.
- Burgett, Michael and Akrotanakul, Pongthep. February 1985. *Tropilaelaps clareae*, the Little Known Honey Bee Brood Mite. American Bee Journal 112-114.
- Camazine, Scott. February 1985. Tracheal Flootation: A Rapid Method for the Detection of Honey Bee Acarine Disease. American Bee Journal 104-105.
- Morse, Roger A. January 1985. The Mites: What Are They? Where Are They? Why the Concern? Gleanings in Bee Culture 34-35.
- Morse, Roger A. March 1985. Research Review. Gleanings in Bee Culture 128.
- Taber, Steve. March 1985. Resistance to the Varroa Mite Discovered. Gleanings in Bee Culture 34-35.

MISSOURI BEEKEEPING TIME CAPSULE

Horticulture and/vs. Apiculture
by Mike Roling

The title portrays an ambivalent world. This essay will try to demonstrate the trying and satisfying times that our predecessors enduring trying to fuse both worlds for mutual compatability and productivity.

Today there is little argument concerning the benefits of honeybees and many of our crops. Some estimates indicate that the contribution in terms of pollination of crops alone is well worth billions of dollars. Without honeybees, many crops would never set fruit or yields would be significantly reduced.

Publications issued in Missouri reported the beneficial relationship between fruit and honeybees as early as 1855. The Valley Farmer for April of that year recounted a story from a literary journal of Paris: "... bees greatly improve the fructification of fruit trees. Orchards in which several hives are kept always produce more fruit than those in which there are none." The minutes of the Meramec Horticultural Society of 1862 devoted a section of their meeting to a discussion on the honeybee. They recognized the positive results of bees visiting flowers, "... the fact that the very quintessence of all our fruits and flowers would be lost without the labors of the bee is worthy of our attention." A passage contained in an 1883 edition of Colman's Rural World reaffirmed this positive relationship - "A large fruit grower told me that his cherries were a very uncertain crop, a cold northeast storm frequently prevailing when they were in bloom. He had noticed that if the sun shone only for a couple of hours, the bees secured him a crop." Reports of the Missouri State Horticulture Society of 1887, 1891, 1893, 1906, 1909, 1911, and 1912 reaffirm again and again the benefits of the honeybee and fruit and vegetable production.

So! What's the big problem? Where is this ambivalent condition? There were generally two areas of concern expressed regarding bees in the late 1800's and early 1900's. One was the damage of sound fruit such as grapes and peaches, while the second difficulty was the advent of spraying fruit trees and the importance of the timing of the spray on the tree.

The minutes of the 1865 Missouri Horticultural Society contains a rather lengthy debate concerning the "damage" caused by honeybees. "Mr. Mertfeldt: My father and brother have what is termed the Cedar Ridge vineyard, on the Hudson. They cultivate

the Catawba. My brother owns several swarms of bees, and my father informed me that he would have to destroy or sell his bees, for he could not raise grapes with bees. It is a well-known fact that the bees do disturb this grape." Six individuals added to this discussion with five of them being fully opposed to this above "fact". Ultimately a resolution was adopted and approved which called for the appointment of an entomologist by the State legislature to provide the necessary information to the farmers and fruit growers on those insects that could be considered friends or enemies. While this damaged fruit might be thought of as a one time mistaken observation, that was apparently not true. Numerous articles attempted to exonerate the bee, suggesting the erroneous observation persisted. The 1887 Missouri State Horticulture Society contains a report by Miss Harrison in which she states, "Bees never injure sound fruit. In the vineyard where grapes are pecked by birds, stung by wasps, or choked by rains, the bees come in as scavengers to gather up and utilize what would otherwise be lost. If the bee could puncture sound fruit and its instinct led it to do it once, it would do it continuously." The Horticultural Society for 1887 cited experiments by Prof. Riley, "... in which three colonies of bees, brought nearly to the starvation point, were confined with 20 different varieties of grapes on plates. The test was continued for 30 days. The bees showed no more disposition to attack thin-skinned grapes than the others. As long as the skin remained whole they did not harm the grapes. When the skin was broken by violence they took the exposed juice." Reports from the same society in 1890 and 1906 report similar experiences.

Despite the best efforts of the authorities cited above, Mr. A. T. Rodman received no benefit from their opinions. He was "Arrested for Keeping Bees" as reported in the March, 1914 issue of "Gleanings". In the article Mr. Rodman of Kansas City, Missouri, related a series of events occurring in 1912 and 1913. During the summer of 1912, the Kansas City area experienced a dry season as the grapes were maturing. As the grapes were ripening, a heavy rain occurred that caused a rush of sap and the grapes burst open. Once the grapes had burst, the bees commenced to "hull them out". This was explained to Mr. Rodman's neighbor and he was told to pick the grapes immediately. Nineteen thirteen was dryer than the prior year and the birds turned to the ripening fruit. This was too much for his grape-growing neighbor, and the neighbor procured a warrant for his arrest. Rodman was taken to court where the plaintiff accused his bees of damaging fruit and stinging people in the neighborhood. The defendant, in his behalf, exhibited fruit he had in a hive for 50 hours. Of course, there was no damage to the fruit. In regard to the second

alligation, he contended that he was not sure that they were his bees, for he had a minority of bees in the neighborhood. The judge rendered the following decision, "There has been a great deal of expert testimony introduced that proves that bees do not injure fruit. On the other hand, there has been more convincing testimony that people have been stung by the bees. However, I want you to get a decision in a higher court, and I will find the defendant guilty and place the amount of his fine at \$100 which is the minimum amount." Rodman was arrested at once and detained in the police station. Upon posting a \$200 bond, he was released.

In preparation for his subsequent trial in criminal court, he had several expert witnesses and an observation hive with different types of fruit inserted to show the bees did not damage the contents. His day in court, however, was not to be spectacular. His lawyer immediately pointed out inconsistencies in the charge and the law. The examined the law and promptly dismissed the case.

The second controversy that ignited was the spraying of fruit trees during bloom. Many authors tried to convince readers of the early 1900's that bees and pollination were essential for proper production. J.W. Rouse of Mexico, in 1906; R.A. Holekamp of St. Louis, in 1909; and J.F. Diemer of Liberty, in 1911 wrote articles concerning bees, pollination and the unsuitable practice of spraying fruit trees during the blooming period. J. W. Rouse, president of the Missouri State Beekeepers in 1906, offered the following resolution which passed unanimously:

"In spraying for fungus diseases or insects harmful to fruit growers, we recognize that the work may and can be done with equal effect either before or after blooming time, thus avoiding the destruction of insects, especially the honeybee, who are great helps to the successful fertilizing of our fruits."

Representatives of the fruit industry, such as Louis Erb of Cedar Sap, didn't take kindly to these types of directives. In a letter to the Horticultural Society, he claimed, "So you see it behooves us fruit growers to be on our guard and not let so-called sentimental sympathy for "bee buzzers" destroy our industry. I believe that spraying in bloom will often save an apple orchard. . . . Bees may do good in an orchard, but I believe (and it has been demonstrated) that Bordeaux and Paris green do more good." It was this type of thinking that beekeepers in Missouri and other states were trying to combat.

The "hatchet" was formally buried between the two societies in 1927 when both the Horticultural Society and the Beekeepers' Association passed mutually beneficial resolutions regarding the two industries. The Horticulture Society proclaimed:

"Whereas, The work of the honeybee is beneficial in the pollination of apples, peaches, and other fruits, and

"Whereas, The number of stands of bees in Missouri is being depleted by the ravages of foulbrood and other diseases, to the detriment of not only the beekeepers, but of orchardists in this state; . . . we respectfully urge that passage by the General Assembly of a bill to effect the purposes desired." The

The Beekeepers' Association reciprocated and went on record saying ". . . Resolved, That the Missouri State Beekeepers' Association most heartily endorses and pledges its support to any bill that will promote fruit growing in Missouri, or to aid in securing an appropriation for such development." Thus, we complete another cycle and in this case provide for advancement and improvement of two industries.

HAPPY HOLIDAYS TO YOU AND YOURS!!
Carol Boeckmann, Editor

MISSOURI STATE BEEKEEPERS ASSN.
619 Mendelssohn Drive
Kirkwood, Missouri 63122

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