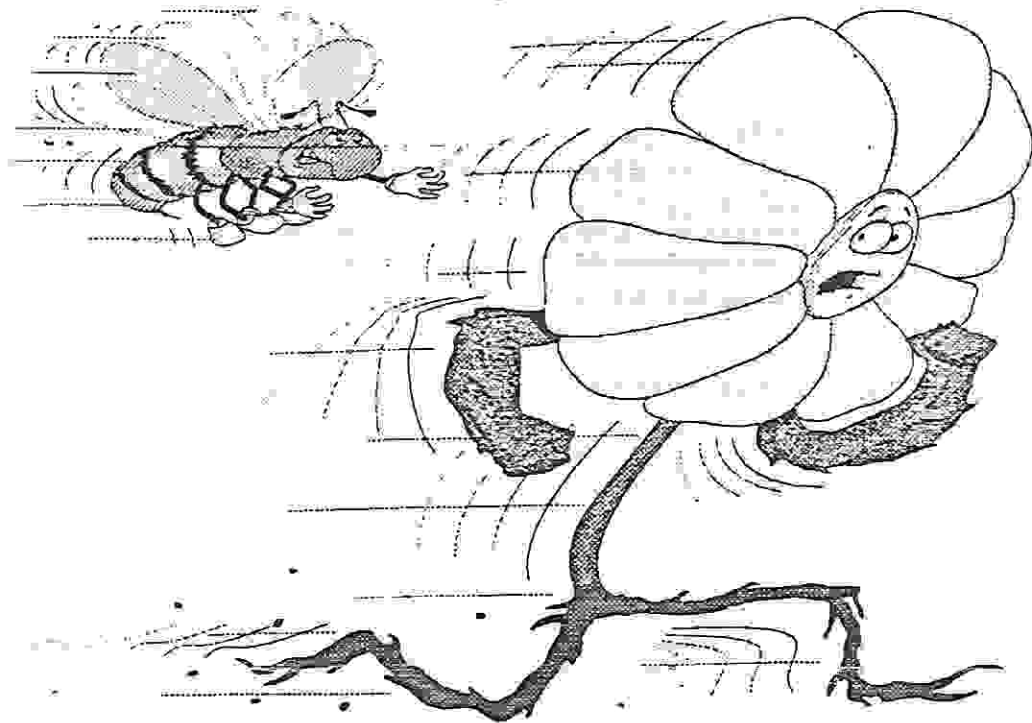


**Missouri State
Beekeepers Association
52 Saline Valley Rd.
Eldon, Mo.**

Dec 2001



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KIRCHER

65201

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Coming Events

**January 16th-19th 2002 American Beekeeping Federation Convention
Savannah Marriot Riverfront Hotel / Savannah, Georgia**
March 8th-9th 2002 Tri- State Beekeepers Meeting / Keokuk, Iowa

From MSBA President Art Gelder

Well the fair is over, the fall meeting is over, and we all have our bees tucked in for the winter with their electric blankets and dish TV's, right? Well maybe not all that but winter is on its way. The supers full of honey should be off and the medications on and spring planning is probably in the back of everyone's mind.

The fair was a big success again. The new Honey Peach ice cream out sold the Honey Blueberry by a long way. We had to reorder the Honey Peach twice and we still sold out by the last day. I wish to thank everyone who helped with the fair this year - we could not have done it without your help. Special thanks to Don Rinkemeyer who stayed the whole twelve days and helped with everything and anything needed. Also a special thanks to Vera, my wife, who had to stay home and take care of everything there while I was gone for those twelve days.

The fall meeting at the Inn At The Grand Glaze was an interesting one. Lots of changes and challenges which we all got through without much difficulty. As you can see in this issue of the newsletter we have a new editor. Thank you, John, for taking the gauntlet and running with it. We also have a list of new officers. Larry Hensley has stepped down from program chair after some 14 years or so. Thank you, Larry, for all of your time and effort spent all those years for the beekeepers. We also have a new Honey Queen, Sarah Marsh. Please, everyone give her all your support and guidance. Let's get her to the Nationals in 2003 to win.

The down side of this year was that the small hive beetle was found in Missouri earlier this year. There is much concern about this and well there should be. If we all keep our heads about us we will survive as we have with the trachial mite, the varroa mite and foul brood in the past. We have to educate our selves and pay close attention to the use of the appropriate chemicals to use and how to use them correctly. If you want more information about the small hive beetle in Missouri and what has been done and what is being done, contact Mike Brown at the Department of Agriculture in Jefferson City.

There will be a tri-state meeting this spring in Keokuk, Iowa, hosted by Dadant and Sons. This will take the place of our usual spring meeting. See attached for more details but be aware that this is a first draft and not a final which will be sent out at a later date by the planning committee.

Lets all have a thankful Thanksgiving, a Merry Christmas, and a Happy New Year.

Art

Editor Forum

Hello to all. As you can see the newsletter is going through some changes. Pam Brown stepped down due to health reasons. I was elected at the fall meeting to fill the seat. For now please bare with me until I can get a grasp on things and work out the bugs. I really hope the newsletter will only get better from here on out. If any of you have anything to contribute to the newsletter or anything for the classifieds then contact me. John Sauls 52 Saline Valley Dr. Eldon Mo. 65026. Or you can e-mail me at hahundt@socket.net. My phone # is (573)-392-1777. I've tried to put as much info in the newsletter as I could. The tristate beekeepers meeting is still undergoing changes but I gave you the latest info. There is still not a clue as to the deadline of the preregistration but I will include that in the december newsletter along with the registration form. The date on your address is what your dues are paid up to. Ron Vivian our treasurer wanted me to remind you that dues are due by January 1st. If he hasn't recived your dues by the spring meeting he will remove your name from our mailing list. Lets make a good showing at the tristate meeting as I'm sure we will all learn from the event.

John

Small Hive Beetle in Missouri !!!!!

For Immediate Release ; Sept : 14 , 2001

State Beekeepers On The Lookout for Hive Pest

(Jefferson City , Mo.) ? Beekeepers beware ! Bees may not be the only thing buzzing in and around your hives. That's what Missouri Department of Agriculture officials are warning after a Franklin county beekeeper discovered an adult small hive beetle in one of his colonies.

" While this pest has been found in other states in the past few years , this is the first report of small hive beetle in Missouri," said Mike Brown , state entomologist with the Missouri Department of Agriculture's Plant Industries Division. " The small hive beetle poses more of a sanitation problem, and shouldn't cause too much concern if managed properly. However , beekeepers should be on the lookout because these pest can cause significant colony damage if they go undetected."

The small hive beetle , a native of South Africa also known as *Aethina tumida*, tunnels through beehives to consume the honey and pollen . If left untreated, the beetles will reproduce and spread, causing the bees to flee and the honey to ferment and spoil.

State beekeepers can safeguard their colonies by monitoring and treating their hives with CheckMite+, A chemical the Environmental Protection Agency has approved for emergency use to ward off small hive beetle and varroa mite. Brown said. Using CheckMite+ reduces the potential for small hive beetle to become established and also lessens the likelihood of varroa mites becoming resistant to Apistan, another pesticide used to control varroa mites.

If beekeepers should find small hive beetles in their colonies , they should contact the Missouri Department of Agriculture, Plant Industries Division, at (573)-751-5507.

The department can also supply additional information about treating this pest.....

(Editors note)This was one incident in Franklin county. The beekeeper caught this early and they were able to treat with CheckMite+. It should be noted it is suspected the beetles came into Missouri in package bees brought in this past spring. This is something we all need to be aware of and be very careful to monitor in the future.

It has also come to my attention that the small hive beetle has been found in northeastern Illinois. Another alert beekeeper found them in his hives I will include the pictures that were posted with the article. The beetle in the picture is 1/4 inch long. The larvae exit the hive and burrow into the ground to pupate. From egg to larvae to adult takes 38 -81 days . In addition the State of Illinois Ag. recommends treating the soil around the hive with Gardstar . Check the supply catalogs for products.

John

Mike Brown also recommends the recent article in the September issue of the American Bee Journal . Contact Mike Brown if you have any questions about this .
E-mail - Michael_Brown@mail.mda.state.mo.us

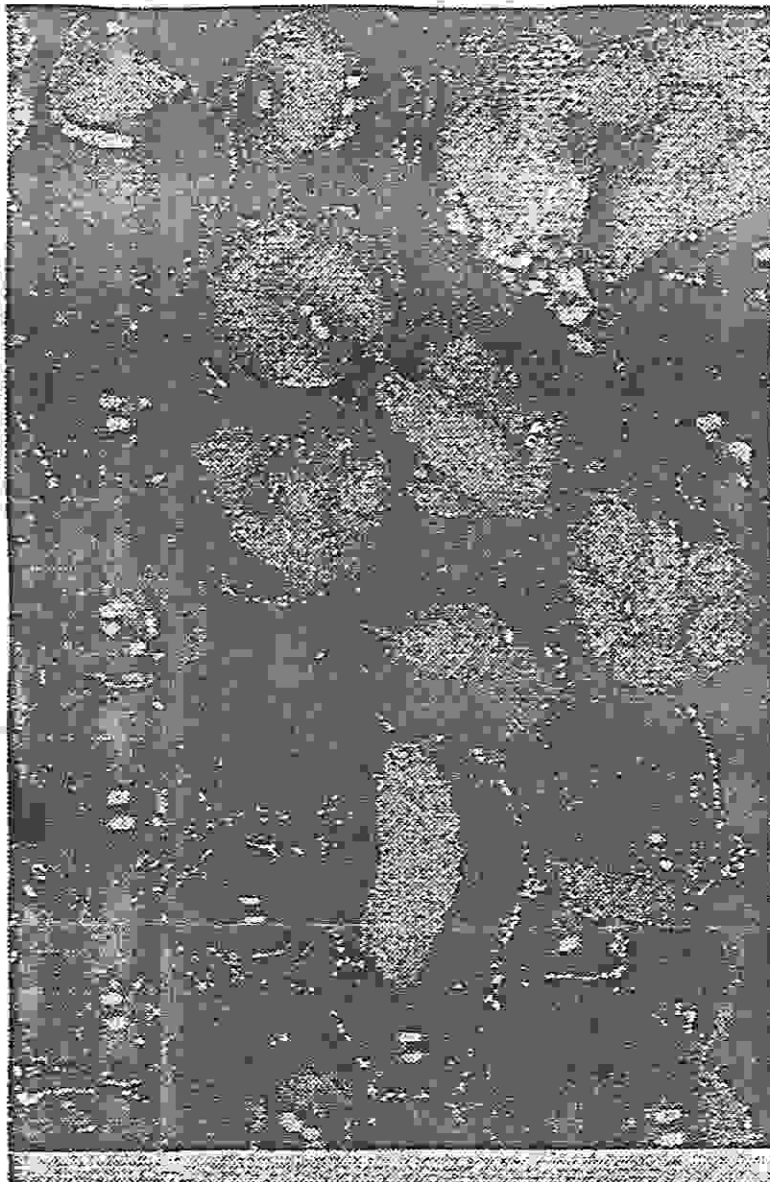


Figure 4. Larvae of *Aethina tumida* in hive.

Page (of 1



Figure 1. *Aethina tumida* Murray, adult, dorsal view. Head & antennae are extended.

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Downloaded from <http://www.aphis.usda.gov> on 05/05/2019

◆ <!--[endif]>PROBLEMS CAUSED BY THE SMALL HIVE BEETLE

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The SHB can inflict serious damage on hives and unextracted honey stored in processing facilities. Adult beetles and larvae dwell in bee colonies, where they feed on pollen and honey. Combs are damaged and honeybee brood are killed by the burrowing of the SHB larvae. As the SHB gains a larger presence in a colony, the honey can ferment, bubble out of the cells and become unpalatable to honeybees and humans. Brood rearing ceases when the SHB infestation intensifies in the hive. In addition, honeybees may abandon the hive when a severe infestation takes place.

<!--[endif]>

◆ <!--[endif]>PHYSICAL CHARACTERISTICS OF THE SMALL HIVE BEETLE

<!--[endif]>

Adult beetles are 1/4 inch long, dark brown to black, flattened, oval to oblong in shape, with the head often tucked below the thorax. If the head can be seen, the antennae have a conspicuous club on the end. The larvae are elongate, whitish grubs tapered at the front and rear ends. Larvae exit the hive to pupate in the soil. In South Africa, development from egg to larvae to adult necessitates 38-81 days. An attached photo of the adult beetle and the larvae is provided for your reference.

SUPPLYING BEES FOR BEE VENOM THERAPY

There is a demand for bees for therapy as people read or see on TV claims of relief from arthritis and MS and other ills. We are called often to supply the bees. It is hard to refuse if you see the condition some of these people are in. We have been doing this for about ten years and some people come for years, saying they can't go on without the stings. Several worked their way up to as many as sixty stings per week. This goes on all year long and they usually come every two to three weeks. We charge a small fee for the bees, but we do not do any stinging. They do that themselves, or have a friend or family member do it for them. We have people call us from all over the state, and some from Illinois. We use a quart jar for the bees. We mix powdered sugar and water to form thick putty, and place about one-fourth cup in the bottom of the jar. Granulated honey also works well in the bottom of the jar. It should be thick and lumpy so the bees don't get tight in it, although I think the bees eat too much and they dirty up the inside of the jar. Creamed honey also works fine, but that's a lot of extra work. We place three layers of paper towel over the sugar and press down. Then we take a toilet tissue tube and cut three to four notches in one end. Slip this into the jar with the cut side down, as this makes a small cone that the bees crawl in. Now take the lid for the jar, which should be metal, and drill or punch as many holes as you can get. Make sure the holes are too small for the bees to get out. You can do this with an ice pick with the lid in place.

Now comes the task of getting the bees in the jar. You must have a colony with lots of bees, as this goes on all winter. You can take bees from a strong colony twenty to thirty times in winter and it will not hurt them.

It's best to have a shallow super on a colony with lots of honey, as you will be taking one of these frames out, covered with bees. Always take out from the edge of the cluster so you do not get the queen. You must make a funnel out of something that will fit into the jar you have prepared, such as an old plastic milk jug with the bottom cut out. Or look around; there are lots of containers that can be cut to use as a funnel.

Now, open the hive, take off inner cover, and set the jar with the funnel in place in center of colony over the cluster. Pick up one frame from the edge of cluster, take your bee brush and with end of brush, brush a few bees at a time until you have maybe 200 bees. Quickly remove funnel and put lid in place. These directions are good for winter temps as low as 10 degrees. I don't work them when it is colder than that. Now tell the customers they have to keep the bees out of sun in a cool place. On days above 50 degrees, if the customer wants, they can put the jar in a brown paper bag, leaving the lid exposed. Lie on side, take off lid and let the bees fly. This should be done late, preferably at dusk. The bees will all return to the jar after a cleansing flight. We always ask the customer to bring back the jar and lid. Recently a fellow called me from South Dakota and said he had been working for Richard Adey. He was coming to St. Louis to attend a seminary. He said the bee stings he got while working with bees made him feel so much better he wanted to keep it up. He did say he would keep them in a closet for fear the other seminarians would think he was a little nutty!

We have lots of stories. We do believe some of these people are really helped. The smiles on their faces and happiness in their voices make it all worthwhile.

Perhaps now that you see how easy it is, some of you may find you're able to help these people. It is a little effort, but so beneficial to those who need the help.

TED JANSEN-Eastern Missouri Beekeepers
Association

2002 Tri-state Beekeepers Meeting

The 2002 spring meeting will be held in Keokuk Iowa. Dadant & Son Inc. will host the meeting. Representatives from each state have chosen SUSTAINABLE BEEKEEPING IN THE MIDWEST as the theme. Beekeepers in the Midwest and elsewhere are confronted with a number of very significant challenges. Along with pest, diseases, and predators of honey bees, beekeepers are faced with intense agricultural practices that are making beekeeping more and more difficult. Beekeeping in the Midwest can be sustained if beekeepers are willing to not just work harder but smarter as well. The Tri-state meeting is designed to give the beekeeper practical beekeeping information to help them sustain apiculture into the foreseeable future.

The program will include talks from well known beekeeping experts such as Marion Ellis of Nebraska, Karl J. Wenning of Illinois, Tom Webster of Kentucky, Bob Cox of Iowa, Ray Nabors and Sharon Gibbons of Missouri.

Hamilton Illinois and Keokuk Iowa are located across the river from each other. Dadant & Sons located in Hamilton will be giving tours of their facilities at different times during the meetings. This will also allow beekeepers to make needed purchases at the Dadant plant. Dadant is located just across the river off U.S. 136 and 2nd st. Look for it on the north side of the road. Limited parking is available in front of the building but considerably more is available behind the building. Friday evening there will be a banquet at the Hawkeye Restaurant on U.S. route 218 on the outskirts of Keokuk. While on Saturday the Keokuk middle school will serve as the site for the meeting. The school is located just off U.S. route 218 at 20 north 14th street. Parking is located behind the school; registration will be located on the second floor. Just follow the signs from the parking lot. The Kid's 'N' Bees display will be at the Keosaupee Mall in downtown Keokuk. I've provided a map showing the location of the meeting areas.

A free lunch will be provided by Dadant on Saturday.

Marion Ellis received his B.S. in Biology and M.S. in Agricultural Biology from University of Tennessee in 1972 and 1974, respectively. Upon completing his M.S., he served as a Peace Corps Volunteer in Peru and El Salvador working as a teacher and extension specialist. He then spent four years at North Central Regional Plant Introduction Station working on cage pollination of plant germplasm collection and 15 years as the Nebraska State Apiculturist. After 21 years of applied apiculture work, he returned to school and completed his Ph.D. in entomology in 1994. His dissertation examined the effects of monoterpenoids on the honey bee and its tracheal mite parasite. Currently he is Associate Professor of entomology at University of Nebraska. His research interests are investigating novel strategies for managing varroa mites and reducing honey bee injury from pesticides applied to crops.

Carl J. Wenning is a hobbyist beekeeper from Normal Illinois who has been keeping bees for only five years. Nonetheless, he has had a significant impact on the thinking of beekeepers through the thirty plus feature stories he has written for the American Bee Journal beginning in July of 1999. The diversity of his article topics is quite large. They are often controversial and thought provoking. He has been favorably compared to Langstroth, Galileo, and Copernicus. He has also been called a murderer of honey bees.

Thomas Webster completed his Ph.D. in entomology at University of California at Davis in 1986, specializing in honey bee biology. After that he was a post doctoral researcher there for two years, studying the effects of pesticides on bees kept in alfalfa fields. In 1988 he took his present position at

Kentucky State University as an apicultural specialist with both research and extension responsibilities. His lab studies nosema disease, non chemical methods for varroa mite control, "survivor colonies" which seem to have survived the mite invasion due to traits for mite resistance, and the use of bees to monitor pollutant near a uranium processing plant.

Bob Cox earned a Bachelors degree in Biology from Western State College in Colorado and a Masters degree in Entomology from the University of Wyoming. He worked nine years for the USDA Agricultural Research Service under the direction of Bill Wilson at laboratories in both Laramie, Wyoming, and Weslaco, Texas. For the past 12 years he has worked as the Iowa State Apiarist. His specialties are bee diseases and pest, and practical beekeeping management.

Ray Nabors earned his Ph.D in Entomology from the University of Missouri where he began doing research on bees and apiculture. He was named state specialist of apiculture for Missouri in 1992. In 2000, he moved to the position of Coordinator for the Southern TeleCenter where he serves as apicultural specialist. Ray has been keeping bees since 1978.

Sharon Gibbons has been an established beekeeper since 1980. What started out as a hobby is now a full-time business. She manages 700 colonies of bees in central and eastern Missouri. Sharon has served as Missouri State Beekeepers President, and Eastern Missouri President. She is currently serving as Region 5 Member on the National Honey Board. Sharon specializes in producing gourmet honey products. This includes nine flavors of honey cremes, mustard, and salad dressing.

David Coovert has over 20 years experience in all areas of Dadant Products, service and design. David possesses a wealth of beekeeping equipment information. Take advantage of this vast store house of knowledge because David is moving on in his life and career. This will be his last meeting.

Kent Robertson has worked for Dadant 14 years. Seven of which he has been manager of the Metal Ware Plant in Dallas City Ill. He knows Dadant honey house equipment from top to bottom.

Joe Graham has been editor of the American Bee Journal for 27 years, as well as editor of the last edition of The Hive and the Honey Bee.

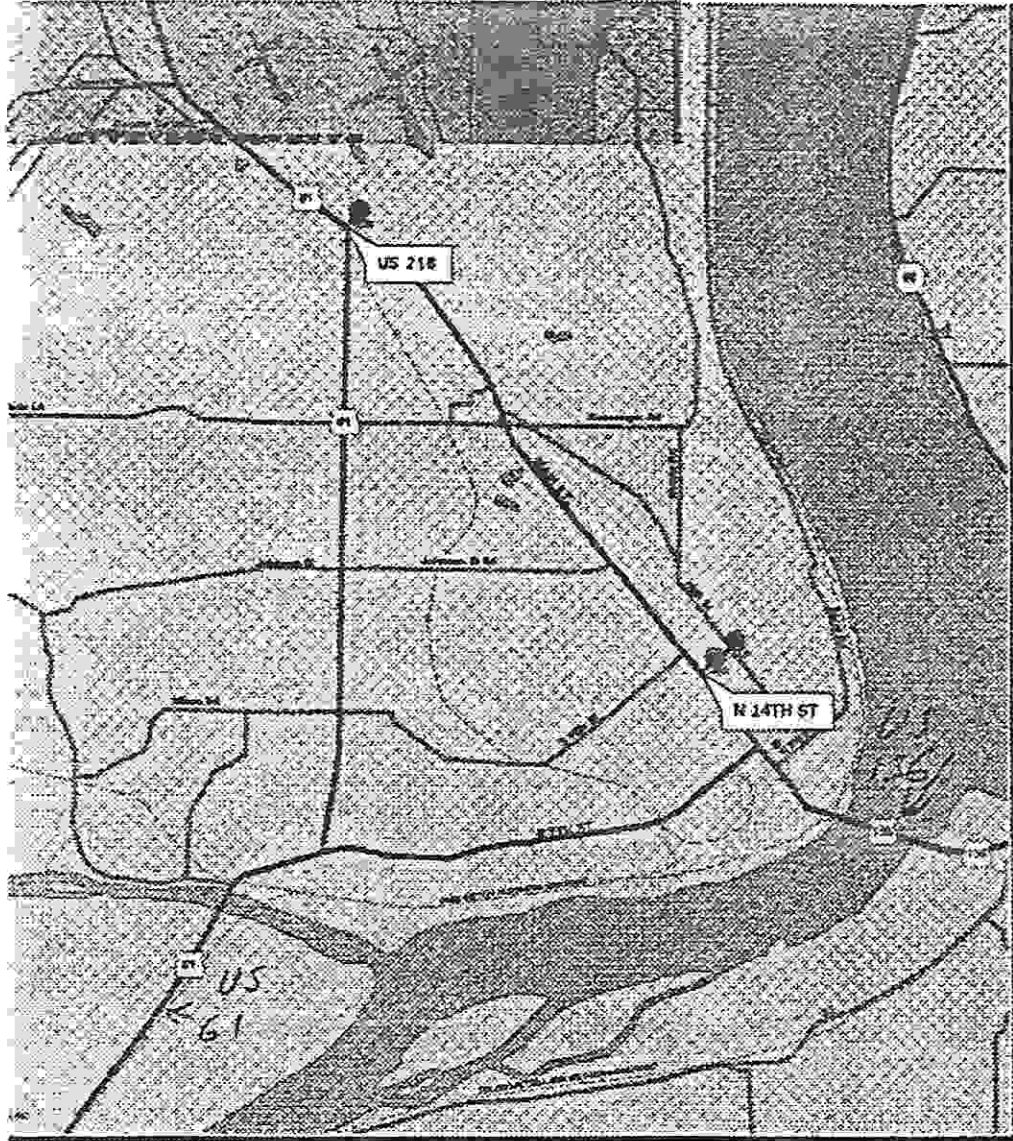
Jerry Hayes of Dadant & Sons a popular American Bee Journal columnist and author of the book The Classroom says he is looking forward to visiting with everyone at the Tri-state meeting. A graduate of the University of Southern Mississippi, Dr. Jim Tew's Apiculture Program at the Ohio State University, and a short stint at the USDA Honey Bee Breeding Laboratory in Baton Rouge, La, Jerry is most capable of bridging the gap between beekeeper and researcher. Jerry will be the Master of Ceremonies and will moderate panel discussion at the end of the day.

Late on Friday and again on Saturday morning, Conference attendees will have the opportunity to tour the Dadant facilities.

I've included the latest schedule of events on the following pages as well as a map of the Keokuk and Hamilton areas. The preregistration form is still incomplete. I will include that in the December issue. Lets all plan on attending.

Also the buffet at Hawkeye Restarant will be \$14.50 you must be pre-registered for the Tri-state meeting and pre-paid for the meal to attend.

In addition to the free lunch there will be three break sessions sponsored by the Iowa, Illinios, and Missouri Beekeepers Associations.



Following is a list of accommodations:

Chief Motel
2701 Main St.
Keokuk, IA
319-524-2565

Holiday Inn Express
4th 7 Main St
Keokuk, IA
319-524-8000

Fairfield Inn
3404 Main St
Keokuk, IA
319-524-9000

Econo Lodge
3764 Main St
Keokuk, IA
319-524-3252

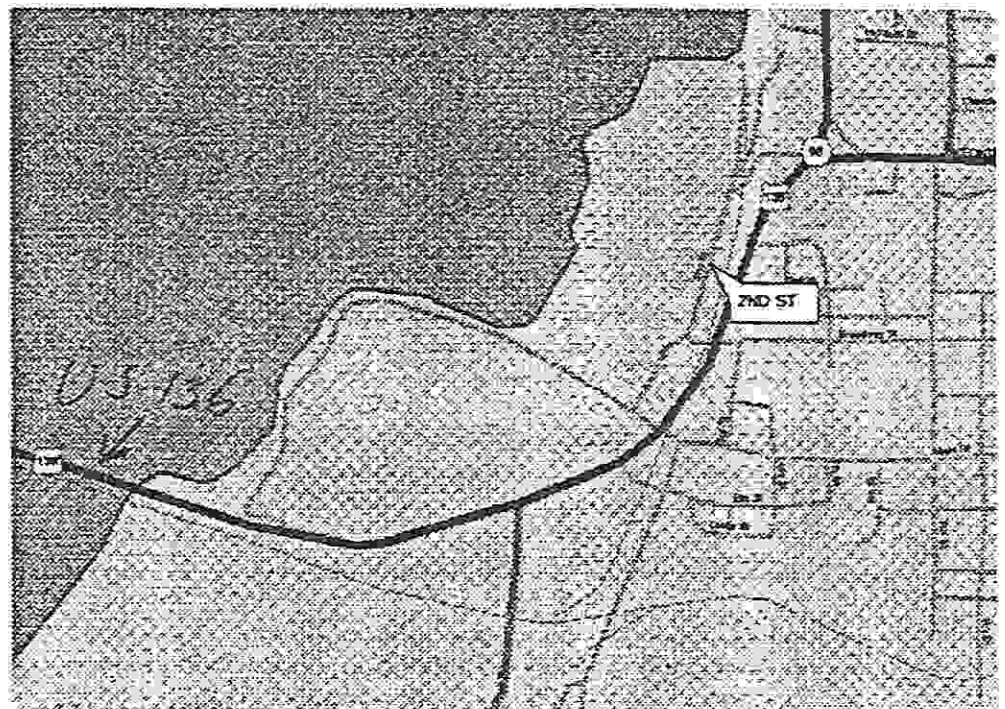
Pierce Building
401 Main St, #4
Keokuk, IA
319-524-1451

Super 8 Motel
3511 Main St
Keokuk, IA
319-524-3888

This is a map of Keokuk, Iowa. Most people will arrive via US 61. The buffet dinner will be at US 61 and US 216 as highlighted on the map. The meeting will be held on No 14th St.

Springfield, Mo 310mi
Kansas City, Mo 216mi
Jefferson, City, MO 170mi
St. Louis, MO 180mi

This is a map of Hamilton, IL. It is directly across from Keokuk, IA. The highlighted area on 2nd St is the location of the Dadant plant tours.



TRI-STATE MEETING

Hosted by Dadant & Sons, Inc.

TENTATIVE AGENDA

Friday, March 8

1:00 p.m. Open House at Dadant & Sons, Inc., Hamilton, IL

Plant tours and sales concluding at 4:00 p.m.

5:00 p.m. Display Set Up at Hawkeye Restaurant, Keokuk, IA

6:30 p.m. Buffet Dinner at Hawkeye Restaurant, Keokuk, IA

(Buffet available to only to those who have pre-paid.)

7:30 p.m. Guest Speaker

Marion Ellis, Nebraska Apiary Inspector, *Bees and Stamps*

8:30 p.m. Informal Activities

Saturday, March 9

7:00 a.m. Open House at Dadant & Sons, Inc.

Plant tours and sales concluding at 9:00 a.m.

8:00 a.m. Check In: Keokuk Middle School

Coffee and Rolls (compliments of D&S)

9:00 a.m. Introductory Session: Auditorium

Tim C. Dadant, President, Dadant & Sons, Inc., *Welcome*
Jerry Hayes, ABJ Columnist, Moderator, *Overview and*
Orientation

9:15 a.m. Plenary Session 1: Auditorium

Carl J. Wenning, *ABJ* Feature Writer, *The Pro's of Sustainable Beekeeping*

10:05 a.m. Break (compliments of Iowa State Beekeepers Association)

10:25 a.m. Plenary Session 2: Auditorium

Tom Webster, Kentucky State Apiarist, *Overwintering and Spring Recovery*

11:15 a.m. Break (compliments of Missouri State Beekeepers Association)

11:35 a.m. Plenary Session 3: Auditorium

Marion Ellis, Title, *Integrated Management Practices for Control of Parasitic Mites and Diseases*

12:30 p.m. Luncheon Break: Middle School Cafeteria

1:30 p.m. Seminar Session A (all 45-minute seminars repeated in Session B)

A1: **Bob Cox**, *Honey Bee Diseases*

A2: **Ray Nabors**, *Comb Honey Production*

A3: **Sharon Gibbons**, *Making Creamed Honey*

A4: **Dave Covert, Kent Robertson, & Joe Graham**, *Setting Up a Honey House*

2:15 p.m. Break (compliments of Illinois State Beekeepers Association)

2:35 p.m. Seminar Session B (all 45-minute seminars repeated from Session A)

B1: **Bob Cox**, *Honey Bee Diseases*

B2: **Ray Nabors**, *Comb Honey Production*

B3: **Sharon Gibbons**, *Making Creamed Honey*

B4: **Dave Covert, Kent Robertson, & Joe Graham**, *Setting Up a Honey House*

3:30 p.m. Plenary Session 4: Auditorium

Jerry Hayes, *ABJ* Columnist, Moderator, *Panel Discussion*

4:00 p.m. Raffle Drawing and Adjournment

A note from our 2002 Honey Queen

Hello! My name is Sarah Marsh. I have been chosen as your 2002 Missouri Honey Queen and I am very excited about this opportunity. I am a senior in high school at Atlanta, Missouri. Atlanta is a small rural farming community in north Missouri. My father is a rural mail carrier and farmer. My mother is the Vo-Ag instructor and FFA advisor at my school. I have one sister, Amy. I am active in many of my school's clubs and sports and have been in 4-H for 9 years. I have many ideas for the upcoming year, and would also like to hear input from you. I have sent letters to the extension centers at each county in Missouri and shared with them that Missouri has a honey queen that would be available to attend their fairs, agriculture days, and major agriculture events. Honey is not only a sweetener, it is also very healthy. I have made posters with the health benefits of honey on them and sent them to various health departments in Missouri. I would be glad to share an example of these posters with you at the spring and/or fall meeting. I plan to take this with me as a resource. It's not hard to guess what I will be this Halloween! I will be trick-or-treating for canned goods in a honey bee costume, as well as taking family trick-or-treating on Halloween night in my costume! I feel this will give me an opportunity to share about honey and my upcoming year with my friends and family. November 3rd and 4th, I will be at the Honey booth during the American Royal. I am very excited about this big event. In November, I plan to give a Honey Agribusiness Demonstration at my 4-H club meeting. I will give this demonstration again in May, and if successful, at the Missouri state fair for competition. I look forward to sharing this demonstration with you at the fall meeting. If you have any ideas or events that you would like to share with me, please contact Vera Gelder. I will continue to keep you updated. Thanks- Sarah

Did you know that Honey or Honeycomb are mentioned 65 times in the Bible ?

The R/X corner

Stomach Problems.

For acid indigestion, take one to three teaspoons of honey. For chronic problems, take one tablespoon of honey at bedtime on an empty stomach. Scientists now find that a major cause of upset stomach is the bacteria strain, *Helicobacter pylori*. A five percent solution of honey completely inhibits the growth of all seven strains of the bacteria. Honey is even recommended for the treatment of ulcers.

Got a Cough?

Try one teaspoon of honey and one teaspoon of lemon juice for a cough syrup, I personally prefer it with a tablespoon of whiskey as well

How about some good Homemade hot cocoa for those cold winter days?

Mix 4 teaspoons of cocoa, one tablespoon honey, a dash of salt, and $\frac{1}{3}$ cup of water in a pan. Cook this while stirring constantly until it boils for two minutes. Then stir in $1\frac{1}{3}$ cups of milk heat thoroughly and serve. Just be careful!

Try this for your thanksgiving dinner

Take two cans of sweet potatoes (16oz) cut them into $\frac{1}{2}$ inch slices. Then take two large apples peel, core, and slice about $\frac{1}{4}$ inch. Layer these in a 1 and a $\frac{1}{2}$ quart casserole with $\frac{1}{4}$ cup of walnuts and $\frac{1}{4}$ cup of raisins.

In a sauce pan combine $\frac{1}{3}$ cup honey, three tablespoons butter, one teaspoon grated orange peel, $\frac{1}{2}$ teaspoon salt, $\frac{1}{4}$ teaspoon cinnamon, and $\frac{1}{8}$ teaspoon ground ginger. Heat until butter is melted and the mixture is well blended.

Now pour the saucepan mixture over the sweet potatoes and apples. Put it in the oven uncovered for one hour at 350 degrees. Baste it occasionally.

Hope you Enjoy!

Need a good Marinade?

Take $\frac{1}{4}$ cup olive oil, 2 tablespoons honey, and $\frac{1}{4}$ cup apple cider vinegar.

SLIDE AND TAPE LIBRARY

SPECIAL NOTES ABOUT USING OUR LIBRARY:

1. Order from: Art Gelder 6800 N Kircher Rd. Columbia, Mo, 65202 (573) 474-8837
2. Use the order number at the beginning of the selection (i.e. T-3 for tape #3, S-5 for slide #5)
3. Order at least two weeks in advance to allow for shipping time.
4. You must be a member of the Missouri State Beekeepers Association to use the library.
5. Please try to use UPS to return the materials, if possible. If you must use the postal system, be sure to insure slide sets for a minimum of \$1 per slide and video cassettes for a minimum of \$75.

VIDEOS

- T-1 QUEEN REARING, by Dr. James Tew (75 min.)
- T-2 AN INTRODUCTION TO BEEKEEPING, by Ed Weiss (58 min.)
- T-3 AFRICANIZED BEES, (15 min.)
- T-4 VARROA JACOBSONI - A NEW PARASITE IN THE BEE POPULATION, (46 min.)
- T-5 VARROA JACOBSONI - BIOLOGY, RESEARCH, CONTROL, (32 min.)
- T-6 THE MONK AND THE HONEY BEE - STORY OF BROTHER ADAM, (90 min.)
- T-7 NATIONAL HONEY BOARD - A GOLDEN OPPORTUNITY, (12 min.)
- T-8 A YEAR WITH THE BEES, (2 hours)
- T-9 VARROA MITE DETECTION, by Dr. Tom Sanford and USDA, (16 min.)
- T-10 WHAT'S BUZZIN' - National Honey Board - for school children ages 6 - 16, (10.5 min.)
- T-11 THE MYSTERIOUS BEE - The Discovery Channel, (45 min.)
- T-12 SWARM BOXES - A REVOLUTIONARY MANAGEMENT TOOL, donated by Herb and Marilyn Spencer
- T-13 COLONY DIVISION AND REQUEENING MADE EASY, (50 min.) 1991 Illustrates division of colony, uniting queen-right colony with a queenless colony. Five commercial beekeepers show you how they requeen and give you their special tricks and tips for finding queens.
- T-14 KEEPING BEES AND PRODUCING HONEY, AN INTRODUCTION, (130 min.) 1991 Covers equipment assembly, bee biology, installing a package, examining a hive for disease, feeding colonies, lighting a smoker, producing cut comb and extracting honey, canning honey, getting ready for winter and much more.
- T-15 THE HONEY HARVEST, (47 min.) Explore the organization and social order of honey bees. Watch as bees collect pollen and nectar from flowers and establish a new hive and the technology man uses to harvest the fruits of the hive. Suitable for older children and adults.
- T-16 TRACHEAL MITES, DETECTION, PREVENTION, CURE, (50 min.) 1991 Biology session with Dr. John Ambrose. Shows the dissection and viewing of the mites. Interview with Dr. H. Shimizu, Nor-Am Chemical Co., and the Weavers in Texas, Buckfast Breeders.
- T-17 EARLY SPRING MANAGEMENT, (57 min.) 1985 A look at overwintered colonies and colonies with problems (foulbrood, etc.)
- T-18 SPRING MANAGEMENT I, (57 min.) 1985 Making increase colonies in an outyard, and queen management (location, introduction, banking)
- T-19 SPRING MANAGEMENT II, (57 min.) 1985 Use of a double screen to make increases, and swarm management.

- T-23 HONEY BEES AND BEEKEEPING, (4 hours) Dr. Keith Delaplane
- T-24 LIVING WITH KILLER BEES - THE MYSTERIOUS BEES LIFE
- T-25 WHY HONEY BEES - College of Agricultural Sciences, Penn. State Univ., (29 min.)
- T-26 SUCCESSFUL QUEEN REARING - Minnesota Extension Service, (14 min.) textbook included
- T-27 THE FOUR SEASONS OF CHARLIE MRAZ, Honey bee health products
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Honey Bees as Biological Control Agents: Fungal Control of Fungus

"It is difficult to think how a bee could be more useful." This sentence begins an article in the September 28, 2000 edition of The Economist <<http://www.economist.com/>>. The honey bees' incredible utility may be intuitively obvious for beekeepers, but not for everyone it seems. According to the article, Scientists at Cornell University in New York state have created and patented a honey bee "footbath" that uses the insects to disperse beneficial micro-organisms to strawberry flowers <http://www.economist.com/printedition/displayStory.cfm?Story_ID=383001>.

"Strawberries, along with many other soft fruits, suffer from grey mould, a troublesome rotting disease. Although the fungus mainly damages the fruit, infections actually start in the flowers. One effective treatment is to spray those flowers with another fungus called Trichoderma harzianum 1295-22 <<http://www.nysaes.cornell.edu/ent/bcconf/talks/harman.html>>. This organism competes with the grey mould in flowers, thus eliminating it before the berries form, but causes no harm to the fruit itself.

"Dr Kovach's system works by putting spores of Trichoderma into a specially designed tray. This is encased inside a plastic housing which is then fixed into the entrance of a hive. That means that the tray can be removed and replaced as easily as a tray of photocopier toner. Bees pick up the spores on their legs as they walk out of the hive, and deposit them on to flowers they visit as they search for pollen and nectar.

"The researchers say that bee-delivery is nearly twice as effective as spraying the spores around by conventional methods, and uses a fraction of the quantity of spores because the insects deliver them directly to the blooms rather than wasting them on the leaves, stems and ground. The result, they claim, is that bee-delivered Trichoderma offers as much protection as the

chemical fungicides preferred by most strawberry farmers. And an added bonus is that simply adding a beehive to a field of strawberries improves yields by 20-30%, because of better pollination.

"Dr. Kovach has high hopes for extending the use of his system. Not only is it likely to be effective with other fruit, such as raspberries; it could also be filled with other biological-control agents, such as beneficial bacteria and viruses, which separate studies have shown that bees can also deliver. Indeed, according to Dr Kovach, the system could be used to "vaccinate" plants against disease as well as treating them. A group of newly discovered chemicals that can stimulate a plant's immune system to resist infection would be eminently deliverable by bees.

"Bee lovers around the world need not be concerned, however. The actual payload carried by the insects is very small, and their fungal footbath has no effect on their health. Honey lovers need not worry either. Trichoderma is found naturally on strawberry flowers, and in any case the honey produced during strawberry-bloom time is eaten by the bees themselves; the stuff harvested for human consumption is made much later in the year.

"The system does have a couple of drawbacks. Bees will fly about only in good weather, so if your crop blooms on a rainy day, too bad. And bees are fickle. Although they can be trained to feed on a particular crop, if they find a sweeter, more delectable flower nearby they will be tempted away to new pastures." The article concludes, therefore, that although a good idea, it is not necessarily the bee all and end all. Biological control never is, however, whether in berries or honey bees themselves.

Tom Sanford
ApisApicultural Information and Issues
Florida Extension Beekeeping Newsletter
Volume 19, Number 2, February 2001

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