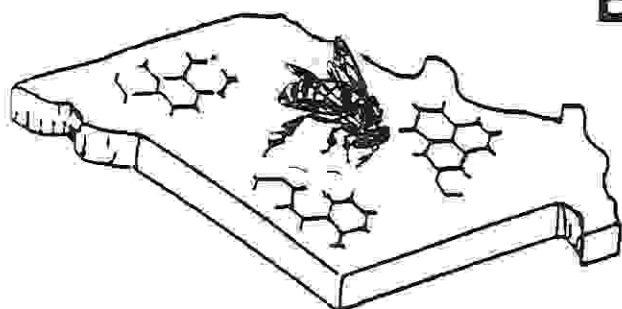


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FROM YOUR PRESIDENT:

Winter is such a wonderful time for beekeepers to regroup. A more restful time, a time to figure out what worked last year, and what didn't. A time to open garden catalogs, and bee catalogs to plan your year. A time of anticipation of the wonderful golden nectar our bees collect. I can't imagine a better honey year than I had last year; but I'm still very optimistic that this year will be a golden year too.

Winter also brings in unknown factors for our bees' survival. I have had many calls from beekeepers, about their hives dying in December. I would guess that is the varroa mite at work. The winter seems to be fairly mild so far, and there was an abundance of fall nectar in most of Missouri; so stores should be adequate. Most winter kill of bees occurs in late winter and early spring, when food stores become low. Remember that brood rearing starts the last week of January, so that by the end of February, alot of stores may be depleted.

Winter is time to get your equipment ready for spring; to educate new beekeepers; to make a commitment to help your local and state beekeeping associations. Mark your calendar for MARCH 12th for our Spring Meeting in Columbia. A separate registration form will be sent out to all members.

Winter is far too short for me! I haven't even ordered my queens yet. Maybe it's time to start raising my own. Most of us are concerned about the movement of the Africanized Honey Bee into queen rearing areas of the south. Best advice that I can give to you, is to check out the reputation of the Queen Breeding companies, before ordering your queens. You can call the State Apiary Inspection service of a particular state to get current information. The name and numbers are listed every year by the magazine, BEE CULTURE, usually in the February issue. Otherwise, any of our MSBA officers can help you.

From the Editor

I recently received the January issue of American Bee Journal. On page 16 is an advertisement for queens and packages of bees run by Blue Ridge Apiaries. Some of you may have ordered queens and bees from Blue Ridge in the past and been very pleased with the bees and service you received. This last year I ordered some queens and packages from Blue Ridge Apiaries and feel that I should tell you my story.

I will admit up front that I placed my order very late in the shipping season, probably March, for 10 packages of bees and 10 queens. The order was placed by phone and I followed very shortly with checks for the orders. When I placed the order, the person on the other end of the line was most pleasant and courteous and warned me that the bees could probably not be shipped until May 1. I had anticipated this and accepted May 1 as an acceptable date. May 1 came and went and no bees. I called to inquire about a possible shipping date and was told another week or two. Still no big problem.

I eventually received the queens, which appear to have done fairly well for themselves, but by the middle of June had not received the packages or any word as to where the packages were, whether Blue Ridge intended to ship me any packages in 1994, or why they had not been shipped. I called then to cancel the order for packages of bees and requested a refund of money for the packages. No response, no packages, no refund from Blue Ridge Apiaries.

Imagine my surprise then to receive an advertisement in the mail from Blue Ridge Apiaries wanting me to order more bees from them for the 1995 season. As if I would. I responded with a letter requesting a refund for the undelivered packages.

I have recently called their toll-free telephone number and again requested a refund. They of course offered to send me packages or queens in place of the refund, but I politely declined that offer.

At a recent local beekeepers association meeting I compared notes with some other beekeepers who had also had similar experience with Blue Ridge Apiaries of South Carolina.

So there it is. In 15 plus years of keeping bees and ordering bees and equipment from several different places during that time, this was the first and only time that I have had any trouble with any order. Most suppliers seem to be fair and eager to please their customers, realizing that they are building their business on sales to repeat customers in the future. If you are buying from an unknown supplier, I suggest you check with your friends to see what kind of experience they might have had from that company.

My apologies to the Missouri Valley Beekeepers Association for being too late to announce their short course.

Happy beekeeping in 1995.

CLEAN HANDS ESSENTIAL WHEN HANDLING QUEENS

F.M. Cantrell, Atlanta, GA

Have you ever used a queen marking cage in marking a number of queens at one and the same time and then checked back a week or 10 days later and found a number of supersedure cells in those hives except the one marked first?

In my first experience with the queen marking cage I marked one queen and was gratified with ease and success. My next experience was marking five queens the same day in the same yard. The job was completed in about an hour, but when I dropped the fifth queen onto the top bar of the frame from

which she was taken, she was pounced upon and balled and as I reached to pick up the ball of bees they rolled in and down the opening between the frames. By the time I removed three frames and picked up the balled queen and shook off the workers the queen had been done in and died in a queen cage lying on the top bar of the brood frame.

A week later three out of the five hives had supersedure cells and the beautifully marked queens could not be found.

From this experience I have concluded that it is not wise to mark or handle a second or third queen without washing the hands and equipment with alcohol or soap and water to remove all traces of queen scent.

(From *Gleaning in Bee Culture*, Dec. 1961)

IOWA STATISTICS

The Iowa State Apiarist produces an annual report on beekeeping in the state and published it in their state newsletter of January 1995. I think some of their statistics probably apply to Missouri beekeeping as well.

Honey bee colonies in Iowa only suffered a 25% winter loss compared to 50% winter loss last year. This year's figure is based on responses from about 60 beekeepers with a combined total of about 18,000 colonies.

Nosema was partly responsible for losses. There is an indication that greater losses occur in apiaries with the most serious Nosema infestation.

Iowa was plagued with German Yellowjackets this summer and fall. The State Apiarist received numerous complaints as did many beekeepers. These yellow and black wasps live in the ground as well as in walls of buildings. Many homeowners were alarmed at the presence of large hornet nests hanging

in trees also. Most people can't tell the difference between honey bees, bumble bees, yellowjackets and hornets. The Apiarist received 149 calls this year compared to 40 the previous year and most did not involve honey bees. (Could the floods of 1993 have anything to do with this? Many more flies have been observed in flooded areas in 1994 than had been noticed in previous years.)

Many commercial beekeepers in the western half of the state (Iowa) have sold out because of low honey prices and poor honey crops. Money was not available for syrup or moving expenses this fall for many commercial beekeepers in the western half of the state. Beekeepers with a better crop this year and those marketing their own honey crop locally received a better price and may be in a better position financially.

Varroa mites killed many colonies this fall. After making a good honey crop, many colonies perished suddenly that were heavily infested with Varroa mites. Beekeepers took off honey in August or September and colonies looked healthy, but when they visited their apiaries to prepare them for winter, many were weak and dying from the Varroa mites. The brood was unhealthy and dying and very few adult bees were in the hives. These weakened hives will never live through winter even if treated for mites. Colonies should be treated early in the spring and again as soon as the honey supers are removed in late August or early September to avoid losses from the Varroa mite.

Brood seemed to be damaged by a heavy Varroa infestation. Some colonies heavily infested with Varroa mites appeared to have European or American foulbrood and/or sacbrood disease. It appears that the mites may be transmitting some of these diseases more rapidly than would otherwise happen without the mites.

Dear Beekeepers:

I was a delegate to the state meeting of our Missouri Farm Bureau Federation. Their Policy Resolutions and Recommendations go to State and Federal Legislators. In the Farm Policy Section, a new resolution was added. It reads as follows:

Beekeeping.

We support efforts to keep the Apiculture industry viable in the United States. We can import honey, but we cannot import the pollination benefits of the beekeeping industry to American Agriculture.

I hope we can become more involved with the Farm Bureau in the future. I was the only delegate I know of that was a beekeeper. We need to be represented there I think. Some of you may want to consider membership in your local Farm Bureau.

It is time to repair, paint and clean equipment or render wax. It has been warm through most of December. It is likely your bees will need some feeding before flowers provide food in the spring.

Sincerely,
Ray Nabors, Entomology Specialist
University Extension



WHAT ARE ALL THESE QUEEN ABOUT?

by Kathy & Rodger Hultgren

Spring for many beekeepers is a time to requeen. In looking through the beekeeping journals and magazines, advertisements can be seen for Italian, Caucasian, Carniolan, Buckfast, Mraz, Midnite, Starline and Kona queens. What should one choose? It is the intent of this article to synthesize the literature and examine each queen variety. With this as a guide, beekeepers will be able to make a more educated decision in their queen selection.

Italian

By far the Italian bee enjoys the most popularity in America. The Italian has changed through the years just as all bees do with time. Today's Italian queen varies in her amount of yellow coloring, some possess entire abdomens, some alternate with yellow and black bands while others have their golden abdomens displaying a black tip. Brood development starts in early spring which affords them a large populace that is maintained until fall. They are excellent housekeepers which aids in their control of wax moth and provides them with some resistance to diseases. Aside from being industrious, they are gentle in nature, have a reduced tendency to swarm and are able to adapt to climates with extreme temperatures. On the negative side, they are inclined to drift and have a high honey consumption which requires ample stores for overwintering.

Caucasian

Caucasians are considered the gentlest bee in the world. The abdominal bands of their queens have a wide range in color from yellow and black to grey. Their qualities are their wintering ability, a re-

duced swarming tendency, adequate hive defense, minimum drifting and the production of beautiful white cappings. The Caucasian colony's strength is slow in building and reaches its peak in mid summer. These bees have an inclination to utilize burr comb frequently. In the fall, the Caucasians build a wall of comb at the hive entrance. This entry is just wide enough for a single bee to pass.

Carniolan

Carniolans are the second most popular bee in America. Their color is consistent, having black bands with greyish rings. The impression of a silver grey appearance is given due to their short dense hair. Gentleness, excellence in breeding, reduced robbing tendencies and adaptability with respect to cold winters are their chief attributes. Brood rearing has been found directly related to the availability of pollen which can pose a problem. Carniolans are often employed in comb honey production for they utilize little propolis, are diligent workers and produce clean white cappings. It should be noted that these bees have a propensity to build numerous queen cells and will swarm in as well as out of season.

Buckfast

Buckfast queens vary in their color, often times favoring the dark Italian bee. They are noted for being prolific, having an early buildup and produce industrious workers. The building of swarm cells as well as the use of propolis is minimal. Their other qualities are their gentle temperament and the ability to adapt to various climates, especially those with damp cold winters. Sugden and Furgala's Minnesota study of commercial honey bee stocks found the rate of survival for Buckfast queens after two years

to be at an 87% level.

Weaver Apiaries in Navasota, Texas, is the sole licensed producer of Buckfast queens in North America. Prices for these queens are higher due to the royalty paid to Brother Adam of Buckfast Abbey, the developer of these queens.

Mraz

Mraz queens have an early spring buildup and a survival rate of 73% after two years as noted in Sugden and Furgala's study. Their offspring are found to be diligent honey gatherers with a tendency to swarm. Appropriate management procedures need to be employed to curb this instinct. Sugden and Furgala's study detected an aggressive temperament during a nectar flow which was not at a significant level but reached in their comparative study during 1979 and 1980. One must comment that this conclusion while valid at the time of the study needs to be reassessed due to the procedural steps employed by Mraz in selecting his breeders, which are selected annually.

Hybrid

Hybrids were the outcome of the scientific endeavors of the Apiculture Research Branch of the U.S. Department of Agriculture. These particular bees are the result of four-way crosses. In order to produce breeding stock, two selected strains are artificially inseminated to produce the needed drones (males) and queens (females). The resultant sexes have their final cross made through the natural mating process. These hybrids possess a characteristic called hybrid vigor which manifests itself in the offspring being healthier and having more stamina than their parents. Purchased queens for requeening rather than natural replacements are needed when working with hybrids. The reason for this ap-

proach is that daughter queens lose their hybrid vigor and an aggressive bee evolves.

Starline

The main intent for developing this Italian hybrid was to provide a bee which was gentle in nature, resistant to diseases and able to produce a superior honey crop. In appearance, Starlines resemble their Italian inbred lines, having yellow coloring with dark stripes. They have an early strong spring buildup which when coupled with an intense honey flow allows them to perform to their maximum potential.

Other attributable characteristics are their industriousness, calmness on the comb and a disinclination to swarm. Sugden and Furgala established an 80% survival rate for Starline queens after two years and rated Starline, Buckfast and Mraz as superior honey producers.

Midnite

Midnites were originated for the beginner and the hobbyist beekeeper. They are the result of a four way cross of inbred Caucasian lines. These bees are dark and have a gray-black appearance. Midnites are very gentle, winter well, and have a slow spring buildup. They are suited to an area whose honey flow is long in duration, but not intense. Their major drawback is the moderate/excessive use of propolis. In summer, it is common to observe a curtain of propolis on the lower entrance. The two-year comparative study of Sugden and Furgala observed a low productivity level in the Midnites. This might be indicative that Midnites are not suited for Minnesota and would perform favorably in the same study in a different locale. The survival rate of Midnite queens tied that of Buckfast at the 87% level in said study.

Kona

Kona queens are from Italian stock with their queen mothers coming from Power's apiary and from the Kona queens in Hawaii. Selection is based on the best honey producers from both apiaries. Further consideration is given for disease resistance, the size of the queen and her offspring, the tightness of the queen's brood pattern and the colony's temperament under varying weather conditions. Kona queens have a range in their band coloring from light to dark yellow. When stimulated they will expand their brood nest and will curtail their laying in the fall. This variety always stores honey in their brood nest which eliminates the need for feeding during periods of inclement weather. With the climate conditions of Hawaii these queens are available as early as mid-February and as late as mid-December.

Conclusion

This article has examined the positive and negative aspects of these queens but which one is rated the best, each beekeeper must decide. Each location varies in its weather conditions and honey flows; while each beekeepers varies in his management techniques and goals. In order to make an objective decision one needs to establish colonies headed by different queens and even queens from different breeders. The beekeeper then needs to conduct a comparison of these colonies over 2, 3, or 5 years on such factors as wintering ability, brood rearing characteristics, temperament, swarming tendencies, disease resistance, queen longevity, honey crops etc.

(Originally published in Gleaning in Bee Culture, April 1985)

BEES ENLISTED AS CROP DUSTERS
WASHINGTON (AP)--

Bees come in contact with thousands of flowers in their short lifetimes, carrying the pollen and nectar with them as they go.

Now, Agriculture Department researchers have drafted these well-traveled insects to transport a virus to help kill crop pests.

Through a device attached to their hives, the bees are dusted with powder that contains the nuclear polyhydrosis virus, or NPV, which doesn't harm them or the general environment while targeting corn earworm larvae.

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Studies show that the crimson clover fields in which the bees delivered NPV had between a 74 percent and 87 percent mortality rate for the larvae. Control fields that did not receive the virus showed only between 11 percent and 14 percent dying.

Corn earworms account for millions of dollars of crop damage each year.

"Field studies show that the bees do a great job of carrying the virus from one crimson clover flower to another," USDA scientist John Hamm said. "They're really ideal carriers because they work hard and visit so many plants."

Female worker honeybees have a foraging life of 15 to 20 days and can log up to 500 miles in their search for flowers.

Researchers attach the dusting device to the entrance of bee-hives, which allows the insects to fly in unobstructed, but forces them to walk through a small pan filled with the virus in order to leave. Upon exiting, the bees legs are coated with the mixture of talc and NPV.

Unknowingly, the bees go about their daily routine, depositing the virus throughout the area.

NPV has been proven harmful only to corn earworm larvae and tobacco budworms. Tests show no adverse effect on bees or toxicity in mice and rats.

Although only NPV has been tested with honeybee distribution, Hamm said the mechanism could have wider application.

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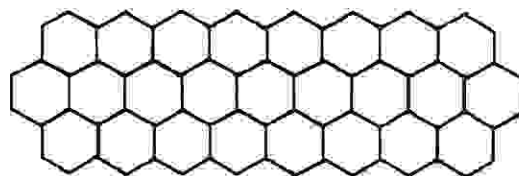
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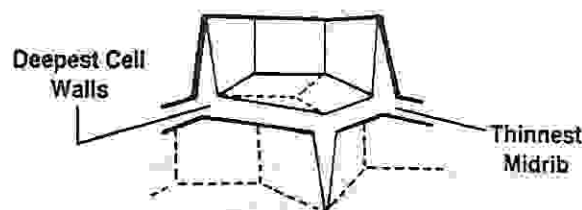
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THE BEGINNING BEEKEEPER- HOW TO PROCEED

By W.A. Stephen

(Deceased, formerly with Ohio State University as extension apiculturist and author in the 1974 edition of *The Hive and the Honey Bee*.)

First of all, let me say--and this may sound as though I am setting myself up as a judge of all potential beekeepers--that some of you should not be reading this. Perhaps you should be fishing, working in the garden, puttering around at home--any place other than sitting reading a beekeeping magazine. Maybe you know someone who is in the same situation as yourself; someone whom you feel is not qualified to be a beekeeper. In order to give you a basis for judging him and yourself, to determine if he qualifies, let me quote something to you. But before I do that, I want to ask you if you agree with me that a person beginning a job, as well as those already involved, should know what they are getting into and what they are doing--that is, they should understand something of the business? I assume that all of you agree. This, then, is what a couple of authors say: "An understanding of the business of beekeeping necessarily requires a working knowledge of biology, life history, and habits of bees, as well as the proper use of equipment in their management. The successful beekeeper, be he a hobbyist or a specialist who depends on the products of the hive for his main source of livelihood, is further aided by an understanding of the natural conditions that affect bees. A beekeeper should be something of a naturalist, with pertinent knowledge of insects and methods of their control, a botanist, with knowledge of the pollen and nectar plants in his area, an agronomist, a bacteriologist, a weather forecaster, and a good mechanic."¹ Now, do you think that fellow whom you know who has a

few colonies, qualifies for success. How many of you feel that, on that basis, you, yourself qualify? Well, then we are all in the same boat. But don't become too comfortable just because you are one of the group. Another author challenges you even further. He says: "This book is written for those who are not yet familiar with beekeeping and for those who are not satisfied with the results they now achieve, but who wish to keep more bees and to keep them better. They can do this through combining the use of the Thermodynamics of Apiculture with the CLEAR BROOD NEST METHOD of apiary management..."²

I'm not going to speak about the thermodynamics of Apiculture, or the clear brood nest method. I expect that in the next life some of us shall aspire to the perfections implied by various authors, but in the present life which we share with our fellow man as we find him, with our bees and with Nature in general, we are all subject to failures. So we are all imperfect, some more imperfect than others, but all of you, if you are still with me, seek to know more about this business of beekeeping. I hope that this is true. I suppose that the best way to live as full a life as possible under the circumstances is to be philosophical about it all and, so first, I am going to introduce you to beekeeping as a philosophical pursuit.

Everyone needs a place apart from the crowd--a retreat where he can get away from the rat-race--from domestic disharmony--perhaps from himself--to give his soul time to catch up with his body. And what better place than in a bee yard? On a nice day, with the hum of bees in the air, the scent of freshly-gathered nectar coming from the hives, and the vision of these "angels of agriculture" as they go and come, what could be more conducive to feelings of relaxation and recreation in its original meaning of

re-creation? If you follow me in visualizing such a place of escape from the outside world, then you can see the location for such an apiary around your own home--a hedge, or board fence to surround a place at a distance from the house, or behind a garage, or shed--a natural sanctuary where your colonies will not be too obvious to the curious; a place to which you, yourself, can escape.

I like the term "beemaster." In this era of women's lib, I believe that it is still applicable. To be master of the situation certainly has no sex connotation, and bee mistress somehow seems to lose meaning. I'm quite sure that when William Everest Henley wrote, "I am the master of my fate; I am the captain of my soul," he wasn't excluding females from consideration.

I certainly hope that I shall not be forced by women's libbers to use the all-embodying term "beeper-son," when I mean someone, male or female, whose knowledge of bees, their life histories, their behavior, and their potential, places him--or her--in the unique position of being in harmony with his, or her, surroundings. And, so I view the beemaster, not lonesome in his solitary place, but as an integral part of the scheme of things as designed by the Creator of all Nature.

I spoke earlier of the "angels of agriculture." This was a term coined a few years ago to direct attention to the value of bees to agriculture in general. We now repeat statements that bees are responsible for the pollination of ninety crops and that their value, in terms of money, is so many billion dollars. But these data are for politicians. In the seclusion of your apiary, you are far from the maelstrom of politics and few politicians will interfere with, what seems to them, the menacing multitude of flying insects which they, at the moment, regard as having few angelic qualities. But you, in your

solitude and in your mind's eye, can see each bee as it leaves the hive fly straight to a field of clover. There it alights on a blossom and probes into its heart for an infinitesimal drop of sweet liquid. Its visit is only momentary and it quickly laps all available nectar and flies to another blossom. As it does so, it performs an act which has earned it the name "marriage priest of the flowers." In deference to women's lib, we might say "marriage priestess of the flowers," for the worker bee is female, but the name was coined when male chauvinism was dominant and we can't rewrite it to suit circumstances. As Omar Khayyham wrote, "The moving finger writes and having writ, moves on, nor all thy piety, nor wit shall lure it back to cancel out half a line, nor all thy tears wash out a word of it!"

As you, in imaginative appreciation of this act of the bee in guaranteeing continued plant life through insuring seed set, follow the bee on her rounds, you eventually see her head for home. And as she unerringly lights at the hive from which she took off, sometime earlier, you marvel at the plan of the Infinite which made it all possible.

To think these thoughts and to envision the virtue of honey bee labors requires but little time and it is well to commune with Nature for a moment or two prior to working with your bees. For once you start examining each colony, you will be too busy interpreting the signs which you see within the hive to be philosophical about the good your bees do for your neighbor while seeking the makings of honey for you.

Of course, you must learn something of how the colony population changes from season to season, and how to evaluate the population. In early Spring (actually you should check your colonies in mid-Winter) when the bees are clustered, they

should fill the space between five or six combs. And, of course, there must be honey in the combs nearby; if not, move combs of honey right next to the cluster. And if no honey is available in the hive, feed a solution of sugar and water in the proportion of 2 to 1. Start with boiling water and stir in the sugar. Put it in a pail with a perforated lid and place it directly over the cluster. If the cluster only fills 3 or 4 spaces between the combs, be careful of the amount of syrup fed. The bees may not take it fast enough to prevent air expansion forcing the syrup over them. For these, you had better use a small container, such as a one pound coffee can, or a fruit jar.

Feeding techniques must be learned. The smaller the population, the more knowledge and care is required in feeding--and, in fact, in all colony management. Strong colonies, with adequate honey and pollen, and room to expand, need little attention. Small colonies, like babies and young animals, need frequent attention and more enlightened care.

I spoke earlier of the virtue of the bee yard as a place to which to retreat in case of domestic disharmony. I recall once when things were not going too well at home. Actually, I suspect that my wife and I were having a difference of opinion about something--opinions which were not mutually acceptable. I remembered that I had work to do in the bee yard--the bees needed attention. Within a short time after I got to the apiary, I realized that I was not thinking about what my wife had said and what I should reply--I was thinking about what I was seeing in the bee hives.

Here were thousands of individuals, living in perfect harmony, each doing what she was capable of doing, without causing confusion of any sort. Life within the hive is so different from life in the open. In the hive is darkness, but the bee

has senses which you and I lack. She is able to recognize so many things in the hive darkness that we can only imagine. Once she heads towards the light at the entrance, other senses operate. We are more familiar with her sense of seeing, and so we say that the bee can see where she is going. But here again, we are ignorant of how the honey bee sees. Oh, yes, we know that each little facet of the compound eye has a sort of built in computer which analyzes the patterns in the sky, so that she can follow the bee-line--that there are thousands of these computers which, together, reveal the complete sky picture. But we know that those sky patterns change from hour to hour; that in the afternoon they are entirely different from what they were in the morning, but the bee unerringly locates the same clover field. What sort of chronometer within the head of the bee compensates for these changing sky patterns? We know not.

We know that the beauty of flowers seems entirely different to us from what it does to the honey bee. A scientist by the name of von Hess said at one time that bees could not distinguish colors--that they saw everything as a totally color-blind person sees them--only in shades of gray. Another scientist, Karl von Frisch, was skeptical of these findings. He set out to see for himself if this is true and ended up by discovering not only that bees see colors, but see more in them than we do. Frisch went on to see if he could discover why this was so, and finally, was able to demonstrate how bees "talked" to one another, and to win a Nobel prize for his discoveries about honey bees.

Some of those bees which you see on the combs on a nice day, when, as the poet expresses it, "The banker bees are busy with their gold," are acting agitated, seeming to disregard their sisters, yet at-

tracting their attention. As they run around in circles, first one way, and then the other, they are telling a story—one which you and I can understand also. The speed with which they make the circles signifies distance to a gold mine; the direction is indicated by a straight run between circling. The odor and flavor of the booty, which they get from the circling bee, whets the appetites of her sister workers. Those three pieces of information—distance, direction, and what to find, are all that is needed by the potential prospectors. From the darkness of the hive, they translate the information to light of day and head for the fields, not haphazardly, but with dispatch.

But foraging is only one occupation of the honey bee. What about comb-building: perfect hexagonal cells, which man, with sophisticated computers and scientific learning, has proved to be the strongest construction possible, using the smallest amount of material and making the best use of bee space? And all of this from materials which she produces from her own body.

While comb-building is necessary for construction of the waxen structure where colony life is carried on, it is only one of the many functions which bees perform. I suppose that now is as good a time as any to tell you that a bee does what she can do best according to her age and the need for doing it. What a superlative system! No committee to survey; no analyzing and evaluating. A simple inherent decision-making process by the individual, in the best interests of all.

One of the most remarkable jobs is performed early in life—because it is glandular change which determines what she can do best—and early in life her head glands secrete the beemilk with which she feeds her baby sisters. These larvae must be fed numerous times a day—no four-hour schedule—so it

takes a lot of adults just to do the nursing chores, and for this great quantities of pollen and honey are needed.

The prospector bee, returning from the field, carries with her pollen, or honey. She stores the pollen herself, kicking it off her hind legs into a cell where other bees will pack it down. But the nectar she carries must be converted into honey and house bees—ones which have not yet taken to the fields—take this on their tongues, even take it into their honey stomachs, only to force it out again and into a cell where it is stored as honey. During these operations, the nectar is concentrated, the sugars changed, enzymes added, and a most nutritious golden sweet results. What another miracle of Nature results from the labors of these tiny insects we call honey bees!

The uninitiated think that anytime sunshine, a bee, and a blossom get together honey results. Perhaps it does, but in such an infinitesimal amount that only thousands of bees and blossoms and tens of thousands of trips from hive to blossoms show as gain of weight in the hive. It requires very little just to keep a colony alive, but the raising of the young, the secretion of wax, and the collection of pollen and nectar; and the making of honey itself, all require energy, so that only what is left over registers as gain. Each pound of this flower-flavored liquid sunshine represents bee flight equal to three times around the world.

The title of this article was "The Beginning Beekeeper—How to Proceed." I could answer this in one word: i.e. Slowly! Give yourself time to think of some of what I have said. Take time to learn what goes on within the hive. It isn't easy. The bees can fool you and you can fool yourself. Remember, that in working with bees, it is you who is being trained—trained to get along with wild animals. Some au-

thors consider them domesticated, but honey bees are less subject to domestication than rabbits, chipmunks, squirrels, and wolves, which have learned to avoid man. Domestication is evident as a change in animal behavior, as a result of being associated with man. Our so-called domestic animals--dogs, cows, horses--have lived so long with man that now they depend upon him. Such is not the case with honey bees. They neither avoid man, nor are they dependent upon him. So you must learn how to get along with your honey bees--a little smoke at the entrance; after a minute, or two, remove the cover; lay it, upside down, behind the hive, so that you can stack supers on it. Then remove the inner cover, lay it down in front, upside down because the queen may be on it and, if so, she can get back in the entrance. With slow, deliberate movements, remove a side comb, slide over each succeeding comb, lift it out and look it over. This sort of examination should show many things; amount of honey and pollen; whether fresh, or old; amount of brood and the condition; whether there is disease, or any interruption in the raising of young bees. Once you learn what normal brood and general conditions look like, you will become aware of abnormalities. At different times of year, you look for different things. At first inspection in Spring, or late Winter, you will look for the amount of honey, pollen, and brood. Perhaps you will only see eggs, but that is all you need to see to tell you that the colony is queen-right. At later inspections, probably of greatest concern, if there is plenty of honey and the queen is laying, is the presence of pollen. If this is missing, the bees cannot raise young bees and you should feed a pollen substitute. These inspections may be as frequent as every two weeks during late March and April. In late April, queen cells may appear and, if so, the two or three

subsequent inspections should be made every week, or ten days, and the queen cells cut out. Weaker colonies can be strengthened at this time by transferring combs of mature brood from the stronger colonies. As soon as fresh honey begins to fill the side combs, add a super. When white wax appears along the edges of the top bars of these frames, add another super.

Once the swarming season is past (by about the first of Summer), no more inspections are necessary if all is proceeding normally, but you will have learned a lot about how to behave in the presence of many females in the meantime.

Probably some of you will say that all this is too much work; that it isn't necessary. Well, I said at the beginning that you probably would be better off going fishing than reading this. With a fishing pole in your hands, you can forget about fishing until a tug on the line brings you back to consciousness. In the bee yard, you must keep your wits about you. One authority has said that beekeeping is an investment of one-tenth capital and nine-tenths brains. If you reverse these proportions, and expect to succeed with nine-tenths capital and one-tenth brains, then you will never become a beekeeper. You will end up as a beehaver, or perhaps with no bees at all. There is no easy road to learning beekeeping, and you don't learn it all from others, either in discussions, or by reading. Talking with fellow enthusiasts and reading are important, but, let me warn you that you must prove what you hear and what you read by your own observations. You cannot take the word of anyone, whether spoken, or written, until you have learned the truth from your bees. Perhaps I should warn you particularly about that fellow who has a few stands. He seems to have done all right. He got a good crop of honey last year. But ask yourself this question: was

it because of, or in spite of the way he kept his bees. Could he have gotten more honey if he had done something differently?

As a beginner, you must question all advice until you ask your bees what they say. There is great satisfaction in seeing a colony build up in Spring. There is greater satisfaction in knowing that your cooperation has enabled the bees to attain and retain honey-producing potential. There is wonderful satisfaction in seeing a good crop of honey on the hives at harvest time! But the ultimate satisfaction comes in knowing that you had a real input as you cooperate with Nature in making it all possible. Then you can pause in this peaceful place you call your apiary and reflect on the great scheme which made it all possible.

It is now Autumn. Fewer bees are flying. They are still searching for new mines of gold, but few new sources are found. The scouts are carrying on the tradition of the millions which have sacrificed their lives laboring in field and hive. The bees which go into Winter have inherited the labors of love of the architects, mason, wax-workers, and sculptors which built the combs; of those which gleaned from myriads of flowers the nectar and pollen needed to support the colony life and then make the extra honey, their offering to you.

All this has been accomplished by females in a political setting known as gynocracy—one where females dominate. I have yet to hear a women's libber cite the honey bee colony as a successful society. That may be an oversight, or a deliberate avoidance. Then, too, any comparison of sex life of drones to the human males would be unthinkable, from the standpoint of men and women alike.

No, I like to think of beekeeping not as a societal organization, to be copied by man, but of each colony as a gem of Nature, perfect in make-up, a delight to study, a pleasure to work with, worthy of the best efforts of both the bees and the beemaster.

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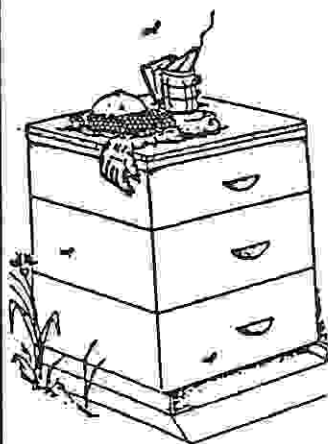
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EFFECTS OF INSECTICIDES APPLIED
TO APPLES ON HONEY BEES
by D.F. Mayer, J.D. Lunden, M.R.
Husfloen
Washington State University

Thrips, Campylomma, lygus bugs and other insects are serious pests of apples. Often the best timing for insecticide applications for these pests is just before bloom, during bloom or at tight petal fall. Before any insecticide is applied during this period it must be evaluated to determine if it reduces honey bee visitation to apple bloom, kills bees or interferes with the pollination process. We have an ongoing program to evaluate the effects of insecticides on bees. Here we report on one test conducted on apples in 1991.

This test was designed to evaluate the effects of applying Ambush 25WP or Dimethoate 25WP on honey bee foraging and mortality. Dimethoate is registered and has been used by growers pre-bloom without harming bees. However, in other tests we have shown that if Dimethoate is applied when there is some open bloom it will kill some bees. Ambush is a fairly new pyrethroid.

Four plots were established in a 5-year-old commercial orchard of Golden Delicious apples at Harrah, WA. Plot size was 4.5 acres. One plot was sprayed with Ambush (8 oz./acre), one plot was sprayed with Ambush (16 oz./acre), and one plot sprayed with Dimethoate (4 lbs./acre). One small part near the orchard center on the west side was not treated and served as the untreated check. The orchard contained a high population of blooming mustard on the orchard floor. Spray applications were done when the orchard was at 5% open bloom using a tractor-drawn air-blast sprayer at a rate of 250 gallons of water per acre. Applications were 26 April beginning at 8 a.m. with the low rate of Ambush, followed by

the high rate of Ambush and then the Dimethoate, ending at 11 a.m. Undertree sprinklers were turned on during the night on 26, 27, and 30 April for frost control.

The number of honey bees per tree per 30 seconds (10 replications) foraging in the plots were recorded on 26, 27, 29 and 30 April.

On 25 April, 4 strong honey bee colonies with Todd dead bee traps were established adjacent to each plot. The number of dead bees in the traps were recorded prior to 8 a.m. before and following the chemical application. Prior to application and on 6 May colony conditions and the frames of bees were recorded for each colony.

Results

There were no significant differences in the number of honey bees foraging the trees in any of the plots as compared to the untreated check. However, there were few bees foraging the apple trees. It is difficult to reach any conclusion on the effects on honey bee foraging numbers.

Using Todd traps, normal mortality of a colony is 0-100 dead bees per day, a low kill is 200-400 dead bees per day, a moderate kill is 500-900 dead bees per day and a high kill is 1,000 plus dead bees per day.

Ambush (8 oz./acre). The application resulted in a low kill of adult bees on days 2, 3, and 4 following the application. It is fairly common with pyrethroids that loss of bees does not occur the day following application but begins on the second day. The average number of frames of adult bees per colony was 13 prior to application and 12.5 at the conclusion of the test. On 6 May, there was no break in the brood cycle and all colonies had good numbers of brood.

Ambush (16 oz./acre). The application resulted in a low kill of adult bees on days 1, 3, and 4 following

the application and a moderate kill on day 2 following the application. The average number of frames of adult bees per colony was 13 prior to application and 14 at the conclusion of the test. On 6 May, there was no break in the brood cycle and all colonies had good numbers of brood.

Dimethoate. The application resulted in a moderate kill of adult bees for 4 days following the application and a low kill on day 5. The average number of frames of adult bees per colony was 13 prior to application and 11.5 at the conclusion of the test. On 6 May, one colony had a break in the brood cycle though new eggs were present. The other colonies did not have a break in the brood cycle and had good numbers of brood. During the study all colonies had symptoms of bee poisoning such as pulling larvae or pupae from the colony and increased incidence of chalkbrood.

Conclusion

The test was almost a worst case scenario. The sprays were applied one day later than planned because of inclement weather. Applications were done during the morning rather than the evening because of inclement weather. Sprinklers were turned on at night for frost control resulting in wet foliage. Wet foliage normally increases the hazard of any insecticide to bees.

This test confirms other tests with Dimethoate. It should never be applied when there is open apple bloom or open weed bloom on the orchard floor. However, the results using Ambush are quite encouraging. Further work is necessary, especially with low rates, to determine if Ambush can be used for insect pest control during the early bloom period without significant effects on the honey bees.

SETTLERS' LOVE OF HONEY SPREAD BEES IN MISSOURI

by Tom Ladwig

(Originally published in Columbia Daily Tribune)

The "killer" bees from South America are already in our southern states, working their way north. Surely, a horror movie will soon follow.

But the killer bees aren't the first to have wanderlust. There were no bees of any kind in Missouri before 1797, according to John Bradbury, early scientist.

The Indians believed that bees preceded white settlements, and wherever bees were found, whites were soon to follow. This seems to have been true in Missouri.

By 1811, wild bees were swarming all over Missouri and had spread 600 miles westward up the Missouri River, following the white man.

Madame Chouteau, an enterprising soul who helped found St. Louis, liked honey and wanted to know where it came from. She was told the bee was a kind of fly and could be found in Illinois. She sent a faithful servant to bring some bees to St. Louis and thereby became the first in the city to be host to a bee colony.

Missouri must be fertile bee country. Walter Stevens, in his "Centennial History of Missouri," said that honey was so plentiful in the Grand River country that it became a leading article of barter in pioneer days. Settlers loaded wagons with honey and beeswax and took it the 80 miles to Liberty. There they traded it for coffee, tea, salt, calico and ammunition.

Pioneers molded the beeswax into cakes and called them "yellow boys." These passed as currency, usually on the basis of 25 cents a pound.

One settler tried to add to his take by putting tallow in the middle

of his "yellow cakes." He was discovered and promptly blacklisted by his neighbors. They named the creek where he lived the "Tallow Fork of Beeswax."

The settlers, when the first frosts came, loaded their wagons with barrels and buckets and headed up the Grand River Valley for the annual honey harvest.

The many wagons carved "bee trails" into the wilderness. The pioneers made camp and stayed until their barrels were filled. One party told of finding six bee trees within 300 feet of their camp on West Grand River. In one day, they filled all their barrels and had 50 gallons of honey left over.

The finder of a bee tree cut his initials in it, or made his mark with notches to establish ownership. To cut down someone's bee tree was the same as stealing. A bee tree could produce from one to 20 quarts of the valuable honey during a season.

Stevens tells of one fellow, named Morrow, who loved honey. Morrow was riding along the Chariton bottom and came on an unusually fine swarm of bees hanging from a branch within his reach. He couldn't resist, even though he had more than enough honey at home.

But Morrow had no barrel, bucket or sack in which to carry the hive of buzzing bees. He did what any true honey-lover would do, removed his pants and tied a knot in each trouser leg.

He held the seat open and gently lowered the branch and hive into the trousers. He made it home unstung and safe with his prize.

Sam Cole, son of the famous Hannah Cole of Boonslick, could find honey even in the winter, when there was no buzzing sound to guide him.

Stevens said that Sam was visiting the camp of Joseph Stephens near Bunceton and was invited to stay for dinner. It was

Christmas day. He asked Mrs. Stephens if she had some honey, and she didn't. He said everyone should have honey on Christmas day and said he would find some.

Stephens asked two of Stephens' sons to join him. They thought he was joking--no one could find honey in the winter, but they went. The trio went about 600 feet into the woods, and Sam told the boys to cut a particular tree.

It was full of honey, but the boys could find no outward sign. Sam told them to cut a second tree that he chose. This proved to be full of honey. They took home six buckets full of honey.

Sam told the family his secret: If there were small bits of "bee bread" and perhaps a dead bee or two around the base of a tree, it was a sure sign of a bee tree.

"Bee bread" is a mixture of pollen and honey stored to feed young bees.

Now that you know this, pry those kids from the television set and send 'em out to find a bee tree. It'll do the little varmints good.

SPRING MEETING

The spring meeting of the Missouri State Beekeepers Meeting will be held March 11, 1995, at the Holiday Inn Executive Center in Columbia, Missouri. A further announcement of the program will follow from the Program Chairman. Reservations can be made at:

Executive Center (314)445-8531.
Budgetel Inn (314)445-1899
Drury Inn (314)445-1800
Super8 (314)474-8488
Holiday Inn East (314)449-2491
Motel 6 (314)442-9390
Days Inn (314)445-8511
Ramada Inn (314)449-0051

Do not wait until the last minute to make reservations. There are usually several other state-wide events taking place in Columbia at the time we meet.

TIMELY CHATS

by Bill Carlile

Last year, following a heavy April shower, I glanced out of my office window. There in the grass, about ten feet away, a big, fat robin was tugging on an oversized night-crawler (fishing worm). That poor bird, leaning backwards with both feet braced, had about an inch and a half of wiggling worm dangling out of one side of his beak. From the other side the straightened, stretched-out worm was still hanging tight in his hole.

When the worm finally gave up, it looked like a foot-long wiener. It took the robin several jerks of his head and several gulps to get that worm lined up to slide "down the hatch." There should have been enough fresh meat to last that robin all day!

At last, I knew which was the proverbial "early bird."

*

Wet April is a good month to follow the advice which Joe Maher of Kansas City, Missouri gave to those at the Iowa Honey Producers meeting at Newton, Iowa several years ago.

His talk was on "My Beekeeping Blunders." One point he made was, "Never move bees into a location except when the ground is wet."

Some locations do look wonderful when the ground is dry and solid, but all-weather yards they are not. Too often colonies need feeding all through the spring—a job which can't be put off until the ground has dried. So you feed the hard way, by packing buckets of syrup or whatever from however close you can park. So, check out your new location possibilities after a good rain has soaked the ground.

This month (April) is a good time to start some of the many honey plants. My experience with Chivirico has been mentioned several times during the last two years.

It would seem to be worthy of establishing in uncultivated spots near your beeyard.

Chivirico is one of the various nectar and pollen plants listed by Pellett Gardens, Atlantic, Iowa. They can provide either seeds or plants.

*

Checking a hive for the first time in the spring can accomplish several objectives. One way to do this, after smoking the hive entrance, is to lay the hive gently on its back on the ground. Smoke the entrance again. Then pry loose the bottom board. Some of the winter's accumulation of comb cuttings, dead bees, and other debris will fall onto the ground. The bottom board should be scraped clean, using your hive tool. Such debris tends to hold moisture. Left in the hive, it provides a place for disease organisms and molds to grow. You may even find the remains of a mouse, grasshopper, or bumblebee which was killed and embalmed in propolis last fall. At the entrance there may be pillars and curtains of propolis which also should be scraped off.

A hive may consist of more than one body. If so, a glance from the bottom of the frames will tell you where the main cluster of bees is. Generally, it will be toward the top of the hive. Depending on the weather and temperatures, you will have to decide whether or not to put the bodies back on the bottom board as they were.

With good warm weather, it might be better to reverse the arrangement, putting the one with the brood and cluster of bees on the bottom board and the empty body on top. With plenty of food, the bees have a tendency to work up into the empty body, expanding the brood area more rapidly than they might if they were forced to expand it downwards.

However, if there is brood in both bodies, it is usually better not to reverse too early in the season.

In effect, doing so splits the brood nest and the bees into two separate parts, separated by an area of empty cells. Such mismanagement creates an unnatural condition.

In early spring the outside combs generally are empty. And it seems the bees are slow in expanding the brood area over into them. This may tempt you to move such combs in between two combs of brood. It might seem that the bees would fill them with brood more quickly, thus building up the colony faster. Too, frames with foundation seemingly would be drawn into combs sooner if put between brood.

But bees don't always react as we hope for. An empty comb often becomes a barrier between the two brood areas. G.H. Cale used to say that an empty comb or a frame with foundation could split the brood nest as effectively as if it were a board.

I remember once we had several yards of bees up in Minnesota, all started with package bees. They were growing so well--until someone decided to rearrange the combs in this manner. Perhaps there would be an empty comb, a frame of brood, a foundation, a comb of brood, and so on.

About ten days later came a call for help. Every hive had queen cells and was superseding. The queens were blamed for being no good. But the only thing wrong was the mismanagement of those colonies. Even after reuniting all the brood within each hive, those yards were hurt so badly that they made little honey.

So resist that temptation to move side combs into the brood area. They should be put between a comb containing pollen or honey and the first comb with brood, one on either side of the hive.

There is another risk in splitting the brood nest area too early in the spring. On cold nights the bees may desert the comb(s) moved to the side(s), so the main area of

brood can be kept warm. By morning the brood on the abandoned combs will be chilled to death--a terrific loss rather than the hoped-for increase in population.

(American Bee Journal, April 1979)

SPRING MANAGEMENT TIPS

January

Check hives for adequate honey stores by lifting on the back of the hive to determine weight. If in doubt, feed a heavy syrup in a feeder or dry sugar on top of the inner cover. Try to put liquid feed near the cluster where the bees can get it during cold weather or short warm spells.

Do a quick inspection on a warm (at least 45 degrees) and sunny day. Check for feed, rearrange honey as necessary to keep it near the cluster.

Clean colony entrances and scrape bottom board with a long flat stick.

Close and remove dead colonies.

Assemble new equipment and clean old frames and boxes.

Order new queens and packages early to get your desired shipping date.

Flying bees on warm days is a good sign. There may be many dead bees littering the ground around hives. This is normal and healthy; house bees are removing dead bees from the hive and some of the flying bees do not survive.

February

Continue checking for feed stores and feeding if necessary.

Check for queens in colonies on warm days. Unite queenless colonies with queenright ones.

Repair and refurbish equipment.

Clean bee yard.

Order new queens and packages.

March

Attend MSBA spring meeting in Columbia, March 11.

Continue checking for food stores and feeding.

Prepare hive equipment for packages and divisions.

Reverse hive bodies if all brood is in top brood chamber.

Begin medicating with Fumidil-B, Terramycin, and Apistan.

Remove empty boxes that need to be painted and frames that are broken or need to have old comb removed and replaced with foundation.

Prepare colonies for moving to new locations or to orchards for pollination.

Equalize colony strength.

Unite weak colonies with stronger ones.

Set hives upright that may have tipped in soft thawed ground, leaving them tipped slightly forward to keep water from accumulating on the bottom board.

AGRIMOISSOURI SERVICES

by Brenda Hatfield, Coordinator, Domestic Marketing Program, USDA

Marketing in today's competitive food industry is a challenge whether your company is large or small.

In response, the Missouri Legislature created the AgriMissouri Program in 1985 to assist producers or processors of agricultural products in developing better marketing strategies.

Although the program's primary focus is on food products, other value-added agricultural products can be included in the AgriMissouri Program. For example, goat milk soap and bees wax candle producers have received assistance from AgriMissouri staff.

One of the services provided by the program is the publishing of the AgriMissouri Buyer's Guide. This guide includes approximately

750 products that are produced or processed in the state. It is distributed to consumers, wholesalers, restaurants and others interested in the food industry.

Listing in the AgriMissouri Buyer's Guide is free. Those companies in the Buyer's Guide receive periodic mailings about AgriMissouri activities and marketing opportunities.

Another aspect of the program is the AgriMissouri matching Fund Program. Matching funds of up to \$500 can be awarded to a private company to assist in the development of labels and other promotional items.

The fund program operates on the state's fiscal year, July 1-June 30.

In order to be eligible for funding, all promotional projects must utilize the AgriMissouri logo. We are unable to pay for any projects started or completed prior to the approval of matching funds by the Director of Agriculture.

The program sponsors an AgriMissouri Market at the Missouri State Fair which provides fair goers with an opportunity to see and purchase some of the many fine products produced or processed in the state.

AgriMissouri Program staff are able to assist companies in locating new markets.

Our staff have successfully opened new doors for AgriMissouri companies in the state. One of the greatest assets of the AgriMissouri Program is that the majority of our services are provided free of charge to AgriMissouri companies and consumers alike.

It is our hope that you will take advantage of the many services available through the Missouri Department of Agriculture's AgriMissouri Program. If we can be of assistance please call (314) 751-4561 or 9266.

HOW BEES GOT THEIR STINGERS

by Lisa Smith, 9 years old

Once upon a time, before bees had stingers, there was a little bee family. They lived in a hollow log that was in the middle of a big forest. In that family the mom's name was Fredida, the baby's name was Fredrica, and the brother's name was Fred.

One day Fred was coming home from beeschool, (that's the same as preschool) he was very close to his hive when this big bear named Big Bad Bully jumped in front of Fred and said, "Give me your honey money!"

So Fred said in a trembling voice, "I don't have any honey money left."

"That must be why you're so fat," said Big Bad Bully. "I'll let you off this time but I won't be so nice next time." So Big Bad Bully walked off and Fred hurried to his hive.

As soon as Fred walked through the door his mother said, "Who were you talking to?"

"Oh him, his name is Big Bad Bully. He wanted my honey money but I told him I didn't have any left," said Fred.

"Well do you have any honey money left?" asked Fredida.

"No Mama," he said sadly.

"Oh Fred what am I going to do with you? Do you want to be as fat as a rat?" said Fredida.

"No Mama," Fred said.

"I hear Fredrica crying. Go calm her down while I start supper," said his mom.

"What are we having?" asked Fred.

"Honeysuckle with lightly sweetened honey sauce, but you and Fredrica are sharing a petal," replied Fredida.

"Why can't I have a whole petal?" Fred asked.

"Because you already had enough honey today. Now go calm your sister down," Fredida replied.

"All right," Fred said grumpily.

The next morning Big Bad Bully was back and he took all of Fred's honey money. He also took it the day after that, and the day after that. Fred's piggy bank was almost empty, his tummy was too.

Fred finally said, "Mom every day Big Bad Bully takes my honey money. What can I do?"

"Why don't you go see Wise Owl. He will tell you what to do," said Fredida.

Fred went three trees north and five trees east and he was there. Fred told Owl his problem and Owl said, "Go to the farthest end of the forest and on the highest mountain you will find Hawk. He will help you."

Fred went home and his mom packed him many honey stix. Then he set off on his long journey to the mountain.

In a week he was there and he told Hawk his problem.

Hawk said, "I'll help you, but first I must call Baby Cougar." So Hawk did a special call and Baby Cougar was there in a flash. Hawk got on Baby Cougar's back and told Fred to get on his back. When Fred jumped on Hawk's back, they started to fly. Baby Cougar was running through the air and very fast too.

First they flew to Portland, Oregon where they got a thorn off a rose bush. Next they flew to Mt. St. Helen and dipped the thorn in lava to make it sharp and thin. Then, they finally flew back to the forest and found the nearest road, found some wet tar, and stuck the thorn in the tar. Hawk stuck the dull end of the thorn onto Fred's bottom and Fred went home.

The next morning, when Fred was ready for school, Big Bad Bully was waiting for him outside. Fred came out and flew over to Big Bad Bully and stung him on the nose, then he ran to school.

Big Bad Bully never bugged him again.

(Taken from the Midwestern Beekeepers Association's newsletter, to whom it was submitted by Lisa's Mom. Her Dad is a beekeeper in Gardner, Kansas.)

ADVERTISING INFORMATION

MSBA is published four times per year, with an average mailing of 460 newsletters per issue.

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13520 Old Jamestown Rd.
Florissant, MO 63033

Deadlines for Advertising:

<u>Deadline</u>	<u>Publication</u>
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June 1	June 15
September 1	September 15
December 1	December 15

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Business Card Size	\$7.50
Quarter Page	25.00
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Full Page	75.00

Classified Ads, per 30 words:

MSBA member	\$2.00
Non-member	3.00

Articles may also be submitted for publication. They may be original or reprints from old or new bee magazines, newspapers, or any subject relative to beekeeping. Reprints from publications must have the name of the publication, publication date, and name of the author if known, to give proper acknowledgement to the source. Send arti-

cles to Jim Thaxter, Rt. 4 Box 60E, Moberly, MO 65270.

HISTORICAL NOTE

A meeting was held in Columbia, Missouri on Saturday, October 28, 1961 for the purpose of reactivating the Missouri Apiculture Society, Inc. (Missouri State Beekeepers' Association).

It was decided to reactivate the Association and the following officers were elected: President, Orin Schmitt, Owensville, Mo.; 1st Vice President, Carl Kalthoff, Lexington, Mo.; 2nd Vice President, Emil Vitt, Salisbury, Mo.; 3rd Vice President, James A. Worrel, Independence, Mo.; Secretary, J.F. Maher, Kansas City, Mo.; Treasurer, Leslie M. Spain, St. Louis, Mo.
(From Gleanings in Bee Culture, Dec. 1961)

TO FEED OR NOT TO FEED?

There are many sides to the question of whether or not to feed the bees in spring. You definitely want to feed if your bees are short on food. Are they hungry? Feed!

If your bee hives are still very full and heavy and you do not want to increase your colonies by making nucs or divides then you probably do not want to feed them. Feeding stimulates the bees and the queen into thinking there is a honey flow and the queen will start laying eggs. This can make the hive very populous later in the spring--before the honey flow. Overcrowding later in the season can cause the bees to swarm.

When putting new foundation into colonies it is a good idea to feed at that time. Feeding stimulates them to draw out the wax.

You can feed high fructose corn syrup or make your own syrup. For spring feeding mix your table sugar and water at a 1:1 ratio by weight.



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TO MEMBERS:

We are interested in each and everyone of our members. Although we cannot give each one the individual attention we would like; we try to make your membership meaningful and trust that it adds zest, pleasure and profit to your beekeeping endeavor. You may not even have bees, but your interest in bees and what the bees contribute to our nations economy will lead to prosperity for all.

If you have a few minutes, I would appreciate having a few lines from you, and you may be sure that it will make the job of editor more pleasurable. If you know of any beekeeper who does not belong to Missouri State Beekeepers Assn., please pass this newsletter on to them and encourage them to join.

Dues are \$10.00 per year. Make check payable to Missouri State Beekeepers Assn. If you belong to a local association, pay your dues through local treasurer.

ENCLOSED IS \$_____for_____YEARS OF MEMBERSHIP.

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