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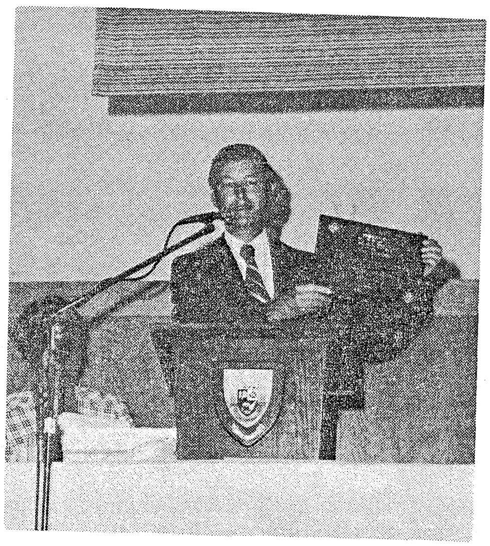
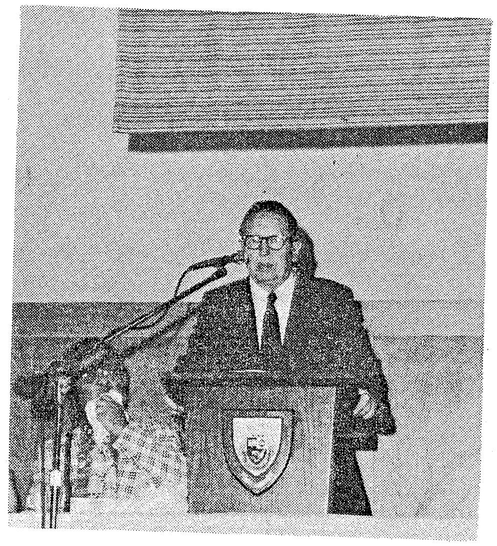
EAS JOURNAL

EASTERN APICULTURAL SOCIETY OF NORTH AMERICA, INC.

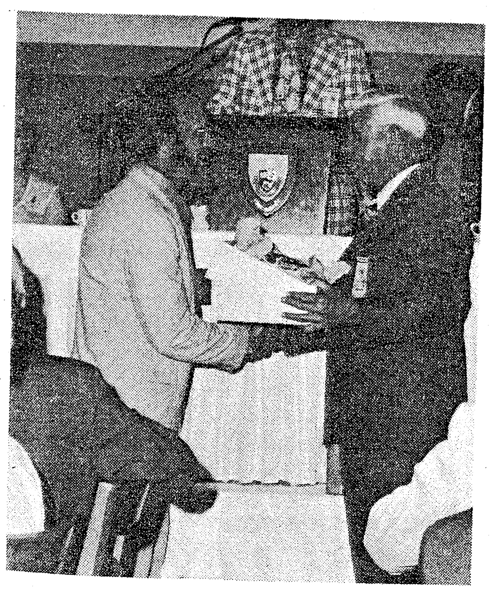
MARCH, 1975



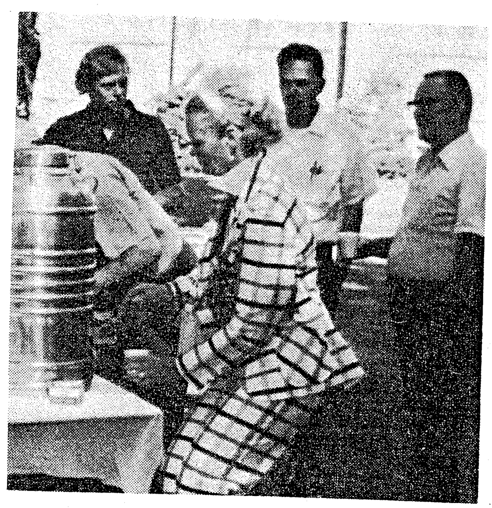
Dr. Norm Gary receives the Hambleton Award at Guelph University.



A.S. Michaels, U.S.D.A., gives us some words of wisdom.



President Hugh MacLeod presdents Dr. Taylor with the A.I. Root Trophy for comb honey



(Left to right) Bob Wellemeyer, New Jersey; Dennis Brennan, New Jersey; Bill Reichert, Maryland; J.C. Matthenius, New Jersey; and at the coffee urn, Ingra Lettig, New Jersey. The coffee breaks were very enjoyable.

CANADIAN HONEY COUNCIL HOLDS ANNUAL MEETING

by Jean Hopkins

One hundred and ten representatives of the honey industry attended the annual meeting of the Canadian Honey Council held from November 25th to 28th, 1974, at the palatial Banff Springs Hotel, Banff, Alberta, situated on a mountainside in the magnificent Rockies. They included federal government officials, provincial apiarists and honey producers and packers from all the provinces of Canada as well as three of the United States, California, Idaho and Montana.

President Robert Bird announced a 50% increase in membership and stated that 1974 saw the highest number of package bees ever imported into Canada from the United States.

Speeches and discussions covered national and international marketing, honey grading regulations and honey containers. Mr. B.C. Craig of Canada's Metric Commission reported on the progress of gradual conversion to the metric system.

Bee research continues into the importation of packages from Mexico and the wintering of bees in western Canada. Wintering studies and experiments are being carried on by western commercial beekeepers and by the staff of the federal experimental station at Beaverlodge, Alberta.

Dr. J. J. Cartier, Entomological Research Coordinator for Agriculture Canada, reported on the highlights of the federal apicultural research program. He also pointed out that Senator Lamontagne's Commission on Science Policy in Canada had "among other things, focussed on the relative lack of adequate support of research for industry in Canada." He cited Japan, the United States of America and West Germany as countries that allotted a higher percentage of their Gross National Product to research in support of industry than Canada does.

Dr. Cartier then commented on incentive programs from which the honey industry might solicit funds for research, some established as a result of the findings of the Lamontagne Commission, and urged Council members to study summaries of sixteen such programs that he had provided.

"The value of the honey industry has nearly quadrupled in four years, from 15 million dollars in 1970 to 50 million dollars in 1974. It has therefore become an important component of the agricultural economy of Canada", he said.

Ross Hopkins announced the date and location of the forthcoming conference of the Eastern Apicultural Society and invited eastern Canadian beekeepers to attend, mentioning particularly those from the Province of Quebec.

EAS JOURNAL

Eastern Apicultural Society of North America, Inc.

President — K.G.A. Andersson
Old Crawford Farm
Northboro, Mass. 01532
(617) 393-8897

Vice-President — Fred Magee
148 Turnpike Street
West Bridgewater, Mass. 02379

Second Vice-President — Homer Powers
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Acting Secretary-Treasurer — Marie Morse
Cornwall Bridge Rd.
Sharon, Conn. 06069

Historian — Marie Morse

Director of Public Relations — David C. Newton
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New Britain, Conn. 06050

Editor — J. C. Matthenius, Jr.
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Phillipsburg, N. J. 08865

Co-Editor — J.R. Wojciechowski
109 No. Feltus Street
South Amboy, N. J. 08879

Published Monthly at 109 No. Feltus St., South Amboy, N. J. Second Class Privilege applied for.

E.A.S. Journal $2.00; Member $3.00*; Joint membership $4.00*; Family Membership $6.00*; Commercial Membership $50.00*; Life Membership $100.00*; Association Membership $25.00*.

*Of which $2.00 is subscription to Journal.

Letter

Dr. David C. Newton
Director of Public Relations

Dear Dave:

Thanks for supplying information that will help us to get the Western Apicultural Society idea moving. I don't think we will have time to get it organized for a meeting in 1975 but we are hoping for a big meeting at this campus in 1976. I have been trying to get courage since I came West in 1962 to start WAS and, now that we have courage, time is the limiting factor. Consequently, Ward Stanger will probably have to carry the ball most of the time if the job is to get done. Of course we have a large staff here to back him up on this project.

In any event, we shall appreciate receiving everything in the way of documents, publications, etc. that would provide the information for developing a sister Apicultural Society in the west. Who knows, maybe we'll have a National Apicultural Society someday and bring it all together! Why not? In fact, I would like to propose that NAS be given some consideration at the next EAS meeting. Perhaps we could get the idea started by publishing a short note in the next EAS Journal? If so, we would like to write the note here in order to incorporate WAS information too:

I think, the time is right for a national organization dedicated primarily to the needs of hobbyist beekeepers.

Best wishes,

Sincerely,
Norman E. Gary
Professor of Entomology

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Sincerely,
Norman E. Gary
Professor of Entomology

FOOD CHOICE CHANGES IN AGING HONEY BEES

ROY J. BARKER and YOLANDA LEHNER
Bee Research Laboratory,
Agric. Res. Serv., U.S.
Dept. of Agriculture, 2000 E. Allen Rd.,
Tucson, AZ 85719

Changes in duties as honey bees age may relate to changes in innate feeding preferences of the worker bees.

In a normal colony, adult worker bees of Apis mellifera L. pass through stages characterized by differenct activities (Rosch 1930). During the first stage (0-12 days), their activities are devoted to brood care, which involves cleaning cells (0-3 days), feeding old larvae (3-6 days), and feeding young larvae 6 to 10-13 days). During the 2nd stage (12-20 days), bees engage in building activities. Bees in the 3rd stage (older than 21 days) are normally foraging and collecting nectar. Changes in duties such as foraging or honey ripening that occur as bees age are usually attributed to colony needs.

Nectar gathered by foragers is usually higher in sucrose than is the honey or ripening nectar found in the hive with the housekeeping bees. The present experiment furnished some evidence that the choice of honey or of a sucrose syrup resembling nectar changed with the age of the bee even when the bee was held at controlled artificial conditions that produced uniform needs.

Materials and Methods. – Combs of worker brood were held overnight at 33 degrees C, and the newly emerged bees were collected the next morning. Groups of 100 worker bees without a queen were caged in 5 x 10 x 15-cm screen boxes with provision for removal of dead bees. Syrup and water were supplied from separate inverted vials with small holes in plastic lids. Syrup (50% w/w) of sucrose, of honey, or a mixture of the sugars typically found in honey were fed in triplicate cages. The sugars in the mixture were 38.2% fructose, 31.3% glucose, 1.3% sucrose, and 7.3% maltose. Since a saccharometer reading of 47.9% was obtained from a 50% w/w syrup of this mixture, 50% w/w honey syrup was formulated by diluting honey to obtain a refractive index that read 47.9% sugar. Another triplicated treatment had all 3 syrups supplied concurrently in separate vials to each of the 3 cages. Consumption was measured by weight losses of food vials. Cages were held at 28+2 degrees and below 50% RH. Lights were on about 2 h each day. Food was replenished vials of food and water were weighed, and dead bees were removed and counted every 1-3 days. Bees were considered "dead" and removed when they were unable to walk. Tests were terminated when survival reached 10 bees/cage. Numbers of survivors were plotted, and these plots were used to obtain estimates of daily survival. Daily estimates were added to obtain "bee days."

Results – Consumption varied with age. Sucrose consumption was highest when caged bees were 10-30 days old, and more honey syrup was taken by caged bees less than 20 days old than by bees 20-40 days old. Acceptance of the mixture of sugars found in honey showed no significant changes. When given free choice between 50% syrups of sucrose, mixed sugars of honey, or honey, caged bees preferred honey syrup (Barker and Lehner 1973). With a free choice feeding regimen, the decline in honey consumption with age was compensated for by the concurrent increase in consumption of sucrose and mixed sugars. However, this increase was significant only at the 10% level of probability. Total consumption of all 3 syrups, when supplied separately, showed no significant change with age.

Discussion – Under the controlled conditions of this test, changes in food choice were found that correlate with ages at which normal activities of worker bees change. A decreased preference for honey could result in the older worker bees leaving the hive to forage for nectar.

References Cited

Barker, R. J., and Y. Lehner. 1973. Acceptance and sustentative values of honey, the sugars of honey and sucrose fed to caged honey bee workers. Am Bee J. 113: 370-1.

Rosch, G. A 1930. Untersuchungen uber die Arbeitsteilung im Bienenstaat. Zeit, Vergl. Physiol. 12: 1-71.

United States Honey Production Down 22 Percent

Honey produced in the United States during 1974 totaled 185 million pounds -- down 22 percent from the 1973 crop. This year's honey crop was produced by 4.2 million colonies, up 2 percent from the previous year. Yield of honey per colony was 44.2 pounds, compared with 57.9 in 1973. Beeswax production totaled 3.4 million pounds in 1974, down 19 percent from 1973.

In mid-December, producers reported 33.8 million pounds of honey on hand for sale, compared with stocks of 37.7 million pounds the previous year. Stocks in mid-December were 18.2 percent of the 1974 honey production compared with 15.8 percent in 1973.

Honey producers received an average of 51 cents per pound for honey during 1974, 15 percent above the 1973 average price of 44 cents per pound and the highest price on record. These prices relate to all wholesale and retail sales, extracted, chunk and comb honey from apiaries owned by farmers and nonfarmers.

Extracted honey in wholesale lots sold for an average price of 49 cents per pound, 6 cents above

(continued on page 8)

UNRAVELING SOCIAL ORDER IN BEES

by Roger A. Morse
Department of Entomology, Ithaca

There may be as many as 50,000 worker bees in a honey bee colony. They guard the hive, gather and store the food, control the hive temperature and humidity, rear young, control the production and number of males, and collectively determine when the monarch - the queen - should be replaced or the colony should divide (swarm). A normal colony has only one queen; males may or may not be present and are not necessary in the maintenance of social order.

The idea that specific chemical substances might control some aspects of social order in the honey bee colony was promulgated in Germany in the early 1940s. By the 1950s several researchers, most of them Europeans, had suggested that certain actions by social insects might be regulated by hormone-like substances. In 1959 the word "pheromone" was proposed for these materials; the term was widely accepted immediatey, and research has proven their existence. Pheromones are chemical substances that are secreted to the outside of an animal's body to elicit a specific response in a receiving animal of the same species. Most pheromones act as odors.

The controlling forces in a honey bee colony are pheromones secreted from glands in the bodies of females - the workers and the queens. Male honey bees produce no pheromones. Sociality in honey bees is no accident. The activities of the individual bees in a colony are closely controlled; one might almost say they are dictated.

During the 1960s and 1970s several researchers at Cornell made important contributions to our understanding of sociality in honey bees. These advances have included discovery of the sex attractant, substances responsible for worker attraction to a queen in both the hive and in a swarm, substances that help stabilize swarms, special roles played by alarm odors, and the importance of scent gland secretions as honey bee swarms move from the parent colony to their new home.

Alarm odors. The easiest of the honey bee pheromones to demonstrate and understand are the alarm odors. Alarm odors - for any animal - must have certain characteristics: they must act rapidly, be specific, and fade immediately after the danger is past. In the honey bee communication system, an alarm odor must be as precise as the word "help" in our own language.

If a worker honey bee is attacked, or detects an enemy, she protrudes her sting. At the base of her sting is a gland that produces a sweet-smelling substance reminiscent of banana oil. It is isopentyl acetate, a relatively common chemical and the principal honey bee alarm odor. To demonstrate the action of isopentyl acetate one may place a drop on a piece of leather or felt at the hive entrance, and the bees within the hive will attach the inanimate object as though it were a marauding bear or human.

A second alarm substance in honey bees is 2-heptanone, which is produced in the mandibular glands of worker bees. It has been suggested that bees may use this chemical to mark their foraging territories. Queen bees do not produce alarm odors. They have no need for them in their sheltered existence.

Only recently we discovered that worker honey bees can distinguish between their own and a foreign queen. This is the first time that kinship recognition has been demonstrated in any insect. While we do not yet know how honey bees distinguish between their own and a foreign queen, we know that once the identification is made, the foreign queen is marked with alarm substances. When honey bees recognize their own queen they expose their scent glands, thus labeling her as their own and attracting more bees to her.

Scent gland secretions. Only worker bees have scent glands. Scent gland substances are never released within the colony. The three circumstances under which they are most commonly used are: the marking of food sources in the field, the labeling of a new home, and the identification of a lost or resting queen while a swarm is moving from its parent colony to a new hive. Scent gland substances are released when the tip of the abdomen is bent downard, exposing the scent gland. Scenting bees usually fan their wings to disperse the attractive odor. The scent gland substances, geraniol, citral, and nerolic acid act in concert, never singly.

Queen substances. A clear understanding of the chemistry and role of substances produced by queens possesses a greater challenge for the researcher. We know that 9-oxodec-trans-2-enoic acid (a 10-carbon fatty acid) is the primary sex attractant produced by queen honey bees. However, it is known also that a natural extract from the queen's mandibular gland is slightly more attractive to males than is the synthetic substance. Also, some years ago we showed that queens without mandibular glands could mate, though not so often as normal queens. We believe there is a second material involved in sex attraction and that it may also function as an aphrodisiac. However, the precise identification of this material has so far eluded researchers.

Other queen secretions inhibit the development of the ovaries in worker bees. Worker bees cannot mate, but if a queen is removed from a colony, the ovaries of some worker bees will enlarge, and they may lay eggs that usually develop into males. Worker ovary development is visible several days after a queen is removed from a hived.

Under normal circumstances, only one queen is found in a hive. Queens have at leat one special pheromone by which they recognize each other. When two virgin queens emerge within a colony, they will find one another and will fight until one is killed. Workers in a colony do not participate in these fights and, in fact, it appears that they are unaware of such fights, even when they take place in their midst.

Swarm stabilization. If a queen is removed from a swarm, some bees become aware of her absence within a few minutes and begin to search for her. We know that 9-oxodec-trans-2-enoic acid has some attraction for worker honey bees in a swarm, but it is not the primary substance by which worker honey bees identify their queen under these circumstances. It is possible to remove a queen from a swarm and substitute synthetic queen substances for her. However, the swarm never becomes fully stabilized under these circumstances.

Swarming bees that have lost their queen and then found her expose their scent glands. This identifies the queen and indicates where the swarm should settle. The queen may be removed and scent gland substances substituted to cause the queenless swarm to settle. Again, however, the swarm never becomes fully stabilized and quiet, as does a queenright swarm. We learned a few years ago that there is a reinforcing action between worker scent gland substances and queen substances, and that both must be present for a swarm to be fully stabilized.

Research goal. Beekeepers have made no changes in basic bee management since about 1890. The major advances in the beekeeping industry have been largely mechanical: the introduction of gasoline engines and electric motors, better machinery for milling wood and making hive parts, a smaller number of chemicals for the control of pests and diseases of honey bees, and better methods of harvesting, packing, and selling honey. There have been no changes in basic management practices because too little has been known about the elementary biology of the honey bee. Generations ago men learned how to rear queens, control swarming, and manipulate honey bee colonies for maximum honey production. Beekeepers knew what to do without knowing why certain procedures worked and others did not.

Knowledge of honey bee pheromones opens the door to bee behavior. By manipulating the chemistry of the colony, certain behavioral patterns can be interrupted or changed. Our goal is a better understanding of sociality in bees. We hope that such an understanding will enable us to make changes in management practices that will be of importance to the industry.

INSECT DISEASES
(in two volumes)

edited by GEORGE E. CANTWELL
Plant Protection Institute
U.S. Department of Agriculture
Beltsville, Maryland

This two-volume book provides advanced undergraduate and graduate students, environmentalists, ecologists, and agronomists with a cogent introduction to insect pathology. Subject areas covered in the text include diagnoses of various diseases an an examination of microbial diseases caused by viruses, rickettsiae, bacteria, fungi, protozoans, and nematodies. Symbiotic relationships are also discussed, as well as amicrobial pathologies associated with genetic and endocrine imbalances or exposure to radiation or chemicals. As the study of classical insect pathology requires laboratory studies, the book provides 23 laboratory exercises that do not require sophisticated or expensive equipment. Numerous illustrations and a glossary of terms most frequently used in the field form a useful complement to the textual material. Also included is a selected bibliography of over 900 references.

All those scientists concerned with the non-chemical reduction of pest insect populations and the control of natural diseases in beneficial insects, experimental insect colonies, and mass rearings will find INSECT DISEASES an excellent book with which to begin their studies.

Volume 1

August, 1974, 336 pages, illustrated $24.50*. CONTENTS: Diagnostic Techniques, G. Thomas. Virus and Rickettsial Diseases, J. Vaughn, Bacterial Diseases, R. Faust. Mycoses, J. Bell. Protozoan Infections, W. Brooks.

Volume 2

November, 1974, 312 pages, illustrated, $24.50. CONTENTS: Symbiology: Mutualism between Anthropods and Microorganisms, G. Boush and H. Coppel. Nematode Infections, W. Nickle, Radiation, Neoplasms, Carcinogenic Chemicals, and Insects, J. Harshbarger. Hormonal-Induced Pathologies, W. Walker. Genetic Pathology, P. Bryant. Honey Bee Diseases, Parasites, and Pests, G. Cantwell.

*A textbook edition is available at $17.50 per copy for use in the United States and Canada.

MEETING SCHEDULE

1975
August 13, 14, 15, 16
Massachusetts Maratime Academy, Bourne, Massachusetts.
1976
Virginia Polytechnic Institute, Virginia
1977
Delaware University, Newark, Delaware.

Producing Young Bees for Spring

Due to rather mild winters in New Jersey the past few years, many beekeepers have wintered colonies of honey bees that normally would not have survived in the colder, longer winters which we have experienced in the past and may experience again. That does not mean that the beekeepers problems have disappeared. We have had to face some new problems in the last five years that we did not have to contend with in the past. First, was the change from DDT to Sevin and various other pesticides and insecticides that are much more detrimental to bees and it has had far reaching effects on all beekeepers. It has reduced bee population in the hive during the summer months, the size of the cluster of young bees going into the winter, and the surplus of honey the beekeepers could extract. Worse yet, it has reduced the winter food supply so severely that unless the bees are fed, they die in winter or early spring. Second is the fact that there are a lot of new beekeepers who have taken up beekeeping to avoid paying the high prices of honey and sugar in the stores. This along with increased building has reduced the amount of flora available from which the bees can gather nectar and pollen.

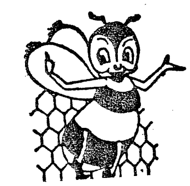
What can we do to correct some of these problems? If the beekeeper can get more protection from pesticides and insecticides, which is slowly but surely coming, we could maintain high colony population which would increase the amount of bees in the field and the amount of pollen and nectar collected. Next, we need to utilize all surplus land available by planting pollen and nectar producing plants. It shouldn't be too hard to convince the local officials or service organizations to cooperate with or even to subsidize some of these planting programs. It would fit in well with the ecology groups and would also beautify the cities and towns of this State.

Unfortunately, many of us are faced with the prospect of small and starving clusters for the remainder of the winter and early spring of 1975. What can we do? We can start feeding colonies. Supplementary feeding at this time will help keep colonies light on stores alive and help other colonies build up for the spring and summer honey flow. The three main types of feeding to consider are: First, a heavy sugar syrup, which can be fed when the temperatures stay above freezing. If you feed sugar syrup, it should be as concentrated as possible. The second method is dry sugar feeding. It may be used at any time of the year. One way of feeding dry sugar is to put a single sheet of newspaper over the frames allowing a 2" open space at the front of the colony. Place two or three pounds of sugar on top of the paper, then place the inside cover with the deep side down. This will enable the bees to consume the sugar easily. The last method is the feeding of hard candy (or fuller candy). This is a simple candy made from sugar being dissolved and then boiled in water. It is boiled until a drop of candy, that has been cooled in cold water, becomes hard and brittle. When this piece of candy is placed in the mouth, it becomes slightly soft and tough. At this point the candy should be poured onto a waxed surface that has a 1/4" border, and as the candy hardens it should be scored with a knife so it can be broken into small pieces. It is then placed over the frames and under the regular cover where the bees can consume it. Feeding should commence as soon as possible for colonies that are light on stores, and by mid-February or March 1 for those with enough stores; and should continue until there is a continuous source of both pollen and nectar available in your area.

Colonies having about 60 pounds of honey in the fall (1st of November), by the middle of March will have used 35 to 50 pounds of their surplus in raising young bees for the spring and early summer honey flow.

If a colony of 30,000 bees produces 50 pounds of honey during early honey flows, than a colony of 60,000 bees will produce approxiamtely 115 pounds of honey during the same time, all other factors being equal. The smaller colony of 30,000 bees will gain in population and become more efficient in honey production for later honey flows. The full strength colony will produce a surplus crop throughout all the honey flows. So you can readily see the loss of honey if your colonies are not fed and up to full strength in time for the early flow.

J.C. Matthenius, Jr.



New Jersey Honey Production Down Sharply

Honey production in the Garden State was estimated at 975,000 pounds for 1974 compared with 1,332,000 pounds in 1973, according to the State Crop Reporting Service. Adverse weather conditions caused the drop in production. Dry weather in July reduced the summer honey flow and killing frosts in September and early October decreased the fall flow. The number of colonies increased to an estimated 39,000, up 5 percent from the previous year. Yield per colony dropped to 25 pounds, the lowest yield since 1957.

Lower production and good honey prices reduced honey stocks on hand December 15 to 176,000 pounds compared with 400,000 pounds a year earlier. The average price received by beekeepers for honey in 1974 was a record high 73.8 cents per pound compared with 58.4 in 1973. This resulted in a value of production of $720,000, down 7 percent from 1973.

Mr. K.G.A. Anderssc
Eastern Apicultural
239 Crawford Stree
Northboro Ma. 015

Dear Andy,

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LETTER

Paul R. Comer
106 Bellevue Ave.
Melrose, Ma. 02176
(617) 665-1618
16 Jan. 1975

Mr. K.G.A. Andersson, president:
Eastern Apicultural Society of North America Inc.
239 Crawford Street
Northboro Ma. 01532

Dear Andy,

I am honored to be asked to judge the Honey Wine show at the Annual E.A.S. conference at Bourne, Mass. in 1975. I have several suggestions I would like to present for your consideration in an effort to promote bigger and better Honey Wine Shows and have them organized to follow the pattern of local, regional and national competitions in the U.S., England and Canada.

By way of advising you of my qualifications, I am in a unique position: First, I am a student, maker and exhibitor of family wines made in the home -- especially Honey Wines. Second, I am a member of the Amateur Winemakers National Guild of Judges (British), qualified to judge wine competitions of all types and sizes in England and the only American ever to have acquired that qualification and membership. We have no comparable organization in the U.S., though I hope to be instrumental in forming a National Guild here as part of the American Wine Society of which I am also a member. I am cognizant of the Canadian National Guild of Judges. The founder, a fellow member of the British Guild moved to Canada and established a similar national guild there. I have worked with two of it's members and understand their procedures.

I recommend that we follow the pattern of show organizers in England and Canada because they, in England especially, have suffered the growing pains of more than a decade of effort and we may as well profit from their experience. Further, it will help to maintain common ground with our Canadian members of E.A.S. and lead us toward international competitions and exchange of knowledge.

Now we come to the more specific recommendations: 1. that the following RULES FOR EXHIBITORS be published in an early edition of the E.A.S. journal so exhibitors will have ample opportunity to properly prepare their wines for show.

GENERAL -- All wines should have been made by the exhibitor by the process of fermentation.

BOTTLES -- Still wines should be exhibited in clear (not frosted) white (not tinted) glass punted (recessed bottom) wine bottles of approximately 26 fluid ounces capacity. Bottles should have rounded shoulders and not the long sloping shoulders as found containing most reisling or rhine wines. The white glass French sauterne type bottle with a shallow punt is satisfactory. Sparking wines MUST be exhibited in champagne type bottles. The domestic (U.S.) champagne bottle is excellent.

CORKS -- Natural cork stoppers should be used. They may be driven straight corks or flanged and hand applied. Flanged corks should be plain (not bearing a trade name or the like). All cork flanged stoppers, available in wine supply stores, are excellent. Corks may be wired for traveling. Domed plastic champagne stoppers must be used for sparkling wines.

LABELS - -Bottles containing wine for competition should NOT have stick on lablels. A tag tied around the neck, indicating the class, exhibitors name or number and a description of the wine is appropriate. Standard labels will be provided and put on at the time of entry.

PRESENTATION -- Wine bottles should be so filled that when the cork is pushed right home the air space is between 1/4" and 3/4" in depth. Sparkling wines should have an air space of 1 inch to 1 ½ inches.

AWARDS -- Exhibitors may not make more than one entry per class and no single bottle may be shown in more than one class. Entries from persons of the same surname and address should not be considered separate entries.

OBJECTIONS -- Any exhibitor wishing to protest must do so to the show chairman within one hour of the public opening of the show.

2. That the following classes be scheduled and judged:

Mead - dry
Mead - sweet
Mead - made with fruit, berries, etc.
Mead - sparkling, made with our without fruit, etc.

Your judge will gladly hold a "judges at the bar" session and answer exhibitor questions after the show has been opened to the public if requested.

Very best regards,
Paul R. Comer

Obituary

We are sorry to announce the sudden death on January 9, 1975 of Mr. Bill Haug, R.D. No. 4, Box 158, Glen Allen, Virginia 23060.

Bill was a member of the Essex County N.J. Beekeepers Association, the first Life Member and former Director of the E.A.S., past president of the Virginia Association of Beekeepers; past president and secretary-treasurer of the Richmond Beekeepers Association; and a member of the World Research Association.

Bill will be sadly missed.

U.S. Production Down--

(continued from page 3)

1973. Unprocessed bulk honey in 60 pound containers averaged 49 cents per pound compared with 42 cents in 1973. Sales of processed bulk honey averaged 50 cents per pound, 6 cents higher than a year earlier. Processed packaged sales averaged 61 cents per pound compared with 52 cents in 1973.

In 1974, prices received for retail sales of extracted honey averaged 68 cents per pound or 12 cents above 1973. Sales of all chunk honey (wholesale and retail) averaged 72 cents per pound, 4 cents above a year earlier. Prices for all comb honey averaged 84 cents per pound compared with 65 cents in 1973. Beeswax prices averaged $1.14 per pound. $.40 higher than in 1973.

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