



Eva Crane Trust

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GUEST PAGE.

THE BEEKEEPER AND RESEARCH.

By Eva Crane.

The development of the science, as opposed to the art, of beekeeping has mainly taken place during the last three hundred years. Two features among many others have characterized it during most of this period: firstly the **individual** nature of the research work, and secondly the **time lag** between any discovery and its application to common beekeeping practice—indeed many discoveries were “lost” and re-discovered only after many years. The science of beekeeping is not unique in these respects, but it has lagged behind many other sciences.

About 150 years ago beekeepers had begun to discover the advantages of organizing themselves into a group; they were thus able to share and to profit from each others' individual knowledge and experience. Beekeepers' Associations have grown in size and importance since these small beginnings which, in Britain, followed Dr. Lettsom's pamphlet **Hints for promoting a bee society** published just before 1800. By now almost every country in the world has one or more vigorous Beekeepers' Associations which serve the interests of beekeeping in many ways, including the teaching of sound beekeeping practice. The appointment of official beekeeping instructors during the last ten or twenty years has also played a great part in Britain in the education of beekeepers, and in the control of bee diseases.

Collective Research.

The collection and organization of data supplied from a wide field—as opposed to individual research work—is a comparatively recent development. The battle for the collection and use of medical statistics was fought and won, by Florence Nightingale and others, rather less than a century ago, and the study of a number of other biological subjects has been extended along similar lines since then. The idea of applying co-operative methods to beekeeping science—that beekeepers themselves should band together to provide information which, although almost useless as a number of separate and uncollated items, would be of value if collected and competently analysed—is very recent. There is no space to discuss countries outside Great Britain. In England the British Beekeepers' Association formed a Research Committee in 1945 to organise and co-ordinate research on beekeeping and allied subjects; the formation of the Bee Research Association in 1949 was a direct outcome of the work and the professional and financial needs of this Committee.

In 1948 the Scottish Beekeepers' Association formed a Research Committee, which has followed the B.B.K.A. Research Committee closely in its organization through the appointment of Liaison Officers throughout the country. The Welsh Beekeepers' Association has also had a Research Committee for several years.

What these Committees are trying to do is firstly to design and to conduct experiments in which a large number of careful and intelligent beekeepers can take part by recording in a **standard way** the results of certain defined beekeeping operations; and secondly to analyse this information and to obtain statistically reliable results which can be applied to beekeeping practice. These results should give, for example, valuable information about the merits of various beekeeping procedures, carried out under ordinary beekeeping conditions up and down the country—information which cannot be obtained in any other way, and whose want has seriously hampered the development of beekeeping practice in the past. This is the **aim**; as with any other new experimental technique, much preliminary work is needed to ensure that the method succeeds and gives reliable results.

The undertakings of the S.B.A. Research Committee are regularly reported in this Journal and need not be detailed here; the B.B.K.A. researches in progress are on (1) wintering methods (1947-49), (2) spring stimulation (1947-50), (3) the age at which young queens start to lay (1947-49), (4) certain methods of summer management (1949 onwards) and (5) densities of honeys (1950 onwards).

The future of this type of investigation lies in the hands of both the organizers and the beekeepers who record their operations and results. I have no doubt whatever that it can succeed, and that it can provide useful information about such problems as the relative value of difference beekeeping methods—a vital subject on which it is extremely difficult to get information and which is as yet more a matter of opinion than of fact. But each side must keep faith with the other if it is to succeed: beekeepers must record honestly and in detail and for as long as required—being prepared to continue observations over a number of years; and those conducting the experiments must remember that they have a great responsibility to the beekeepers who give their time and services and sometimes their chance of a honey crop; they must be as patient with their observers as they are with their bees.

The application of Research to Beekeeping Practice.

The collective experiments referred to above will never form more than a small part of the research work which can profitably be applied to beekeeping, and the beekeeper's great problem with regard to the whole mass of research which might be of use to him is its **inaccessibility**. Research on beekeeping and allied subjects is published, not in one Journal, or even half-a-dozen, but in at **least five hundred**; and most of these are not available at any public library. The problem of keeping abreast with new discoveries in beekeeping is difficult enough for the research worker trained in searching for information, with some knowledge of the more important languages, and with good library facilities. How much more difficult it is for a beekeeper!

Several thousand papers and articles on beekeeping are published every year, in almost every written language of the world; many of these contain nothing new, many are misleading and some grossly inaccurate. But I should estimate that several hundred of these papers are of sufficient merit, and have a sufficiently important bearing on beekeeping, to justify their contents being brought before beekeepers, so that each can decide which are of interest or importance to him personally.

The need for a solution to this problem was one of the reasons for the formation of the Bee Research Association, and in its attempt to solve it the B.R.A. has had the full support—and much help—from the S.B.A. Research Committee. The following scheme was worked out, and its operation started at the beginning of this year. Every Journal known to publish, even occasionally, contributions which might be of value to beekeepers is to be “adopted” by a scientist or some other person competent both to decide which contributions are of value and to write summaries of them. These summaries (or abstracts) are prepared according to standard instructions, where possible by abstractors living in the country in which the original paper was published. They are then collected, edited, classified and published in **Apicultural Abstracts**, which appears monthly in **Bee World**, and is also issued separately. (The name adopted, **Apicultural Abstracts**, was suggested by a member of the S.B.A. Research Committee). The abstracts are thus available to beekeepers directly;

alternatively their own Bee Journal may publish selections from **Apicultural Abstracts**.

The system is not perfected yet, and many difficulties have still to be overcome; but much has been achieved. About two hundred Journals, including almost all the important Bee Journals and relevant scientific Journals, are now covered regularly by an international team of some fifty abstractors, all of whom are giving their services free of charge and by their combined action make the scheme possible.

The ordinary beekeeper need no longer be so isolated from research as he was in the past. His own observations can be incorporated in it and form part and parcel of it, and he can read in his own language the results of research work carried out all over the world, often within a few months of their publication. It is up to him to apply these results to his own beekeeping.



RESEARCH FUND DONATIONS.

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Donations to above Fund will be greatly appreciated, and should be sent to the Hon. Treasurer, Mr. James Stark, M.A., Dallas, Forres, who will acknowledge all contributions.

ASSOCIATE SUBSCRIPTIONS.

Annual Associates who have not yet paid Annual Subscription of 8/6, are requested to remit this sum to the Hon. Treasurer, Mr. James Stark, M.A., Dallas, Forres, Moray, at an early date.

ASSOCIATE MEMBERSHIP.

After 30th June, new Associates may be enrolled for remainder of the year on payment of 5/-. Privileges of membership:—All literature, as published by the S.B.A., supplied, including "The Scottish Beekeeper," by post monthly; library ticket for direct borrowing from Moir Library; Insurance up to 15 colonies against Public Liability, and, applicable to Scotland only, insurance up to £8 against loss through Foul Brood.

From 1st January, 1951, Annual Subscription is being raised to 10/-.



By A. LIMOND.

Though surplus honey may be got from early sources in May, July is without doubt the month for surplus honey in Scotland. White clover comes into full bearing during July, helped out by Lime trees and Bell Heather in the latter part of the month, hence supering must be closely watched throughout this period. Should the weather prove favourable supers can be filled and sealed in surprisingly short time, and a beginner may easily be taken unawares. If the flow is good, foundation frames, close spaced, can be extended, and once half drawn can be widened out by taking out two combs and spreading the remainder.

After the 20th of the month any supers given should be placed on top, and the

Queen Confined

to her permanent quarters by excluder, if the excluder has been dispensed with up to that period. Should sections be desired, late in June or early in July according to the season, a doubled brood chamber stock can be reduced to the ten best combs, with the "hatching" brood placed in the centre of the new brood chamber and the younger brood, larvae and eggs, placed on the outer sides. Place an excluder on top of the single chamber with two crates of sections above, and brush off the bees from the remaining combs allowing them to run into the new chamber on the old site. This crowds the bees and reduces the brood requiring attention, allowing more foragers, while the queen finds empty cells in the centre combs as these hatch out. If the weather keeps favourable good sections will result, if unfavourable weather should prevail then swarming may supervene. The remaining brood combs should be given to a stock running for extracted honey.

Queen rearing should have been begun in June though later queens may be mated in July, but care is required before a virgin queen can be introduced to a nucleus newly made from a queen-right stock, or to a nucleus just deprived of its mated queen. One method is to place the

Unmated Queen

under a pipe cover cage, over honey and pollen, for at least seventy-two hours, and release her quietly in the evening. Sometimes the bees have released her by biting the comb from under the cage, and introduction is safer if there is no unsealed brood in the stock. Surplus virgin queens can be kept for a few days in a match box if no nucleus is available. "Goods" candy placed in a corner will serve for food, but, I believe, queens given the cell from which they emerged keep better than those allowed candy alone. These young queens, if kept more than three days, should be allowed a flight and the match box changed at the end of that period. Virgins can live alone, but any mated queens kept in match boxes must have an escort of worker bees.

Cages can be bought to facilitate the removal of mated queens from any stock, but a match box with drawer three-quarters open placed firmly over the queen as she