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ECTD_044

TITLE: Import of package bees into Britain in 1963

SOURCE: *Bee World* 45 (1) 14 – 18
With T.N. Hillyard, 1st author

DATE: 1964

IMPORT OF PACKAGE BEES INTO BRITAIN IN 1963

by T. N. HILLYARD & EVA CRANE

*Bee Research Association, Woodside House, Chalfont Heights,
Gerrards Cross, Bucks*

Last spring a special set of circumstances led to an interesting experiment in the intercontinental transport of bees. There had been exceptional winter losses of bees in western Europe, up to half the population having died in some countries. In England (but in no other country as far as we know), these losses were partly made good by bringing in packages of bees from the area bordering on the Gulf of Mexico, 4500 miles away. It probably represents the longest, largest haul of bees yet carried out. The operation was made possible by recent reductions in flight times and air freight charges, and—with the continuing development of air transport—it may perhaps provide a glimpse into the beekeeping of the future, with migratory beekeeping in some parts of the world an airborne operation.

THE PROBLEM

The winter of 1962/63 in Britain was the worst for more than a hundred years. Severe cold with heavy snow commenced in late December and continued without relief until March. This long cold spell, together with a number of other factors, caused very heavy losses among the honey-bee population. Losses of 75–90% of the colonies in an apiary were not uncommon, and a 30% loss came to be considered light. Many of the surviving stocks were severely weakened.

The extent of this destruction was not fully apparent until it became possible to examine the stocks in April, and by then little could be done to replace the losses by breeding from, or dividing, the surviving colonies.

Faced with the probability of a heavy loss of trade with so few and such weak colonies left in the country, the bee appliance manufacturers and others urgently sought outside sources of supply. For many years there had been a small annual import of package bees from continental Europe (mainly France), but the winter had also been severe there. Attention was therefore turned to the southern states of the U.S.A., where a large package bee industry existed, and from which comparatively short transit times had become available by recent improvement in air-freighting facilities.

So far as is known, bulk import of package bees had never previously been attempted from America to Europe, nor indeed between any two continents so widely separated. A survey of the results is therefore of some interest.

TRANSPORTING THE BEES

The initial arrangements were made in most cases, if not all, without previous experience by the importers. It was largely a gamble whether transit times could be kept short enough, how well the bees would survive the journey (if at all), and what the final cost would be when all charges

had been paid. Great credit is due to these importers, who put a large amount of capital at risk with so many unknown factors.

A decision also had to be made whether food should be provided during transit or not. Either candy or syrup could be packed with the bees, but this increased the weight, and hence the freight charges. Alternatively the bees could be fed syrup before shipping, and travel without any other stores, risking loss if there were unexpected delays. All three methods were in fact used by one or more importers.

A survey of the information given by six importers from U.S.A. shows the following:

Total number of packages imported: about 4000, all 2 or 3 lb. [1–1½ kg.] of bees in wood and gauze cages, which were banded together in lots of four.

Period of receipt: mostly end of April to July.

States of origin: Kentucky, Texas, Mississippi, Florida, Georgia, Louisiana.

Bees: Caucasian and Italian.

Costs: The cost of a 3-lb. package on arrival, inclusive of all charges, appeared to be about £5, and further charges were incurred in distribution. It seems clear that members of the appliance trade who imported for their customers made no profit, and probably incurred a loss, on their quoted price of £5.5.0., issued before they knew what their costs would be. Prices for packages distributed in 1964 are therefore likely to be higher, perhaps around £6.

Time in transit: 24–72 hours, average about 36 hours.

Feeding: muslin bag of candy, or can of syrup, or no food. It is of interest to note that one consignment of bees fed in advance, and travelling without stores, arrived in excellent condition; some of these packages were sprayed with syrup on arrival at London Airport, and then sent by rail to Scotland where they arrived satisfactorily.

Causes of delay: bees escaping from packages; missed air connections in the U.S.A.; absence of the required health certificate at London Airport, or difficulty in connection with this certificate (see next section).

Other difficulties: all these relate to events at London Airport, and are dealt with in the next section.

RECEPTION AT LONDON AIRPORT

This proved to be such a critical point in the operation that its various aspects are worth further discussion, if only to provide guidance for future operations.

Air-line staff were not experienced in handling bees, which is hardly surprising since this was the first large consignment to reach London Airport*. Experience was similar to that with other livestock: the flight might be accomplished successfully, but the consignment might then suffer if there was no one at the Airport to collect it immediately it was unloaded from the plane. Importers in 1963 were willing enough to meet

*The forthcoming British Standard BS 3149, Part 9, 'Carriage of live animals by air (fish, amphibians and invertebrates)' includes some suggestions for the care of package bees in transit and on the ground, and should be helpful.

the planes, but were sometimes hampered by incorrect information: on being told that his consignment would be on flight X, a beekeeper would meet that flight, only to find that the consignment was not on it, or that only part of it was there. It might then be difficult to get further reliable information, or to deal adequately with the parts of a consignment arriving on different flights.

The presence of the importer, the plane, and the bees, together at the Airport was still not enough to enable the beekeeper to take his bees away. The bees must be *accompanied by a health certificate* from the supplier, who must also send a copy of the certificate to the Ministry of Agriculture in London. Unfamiliarity with the correct procedure led some Customs Officers to hold up the release of a consignment until they had obtained clearance from the Ministry of Agriculture, and with early morning arrivals this meant several hours' delay: at weekends it might be much longer. Such misunderstandings should not recur another year, and discussions held in the course of preparing this report, with the Ministry, H.M. Customs and Excise, and air-line staff, have themselves done something to make those concerned aware of the problems. It is clear that each department *wants* to make the bees' entry into the country quick and easy. The Ministry has ruled that the Customs need not check whether the original certificate has been received in London, unless a consignment arrives without a certificate. The Customs Officers agree to act on this. Some of the bigger air-lines that specialize in carrying livestock are willing to go to almost any lengths to help, and will give much useful advice to prospective importers. Last year, at least one large importer used shipping agents; he praised their efficiency and businesslike attitude, and thought their charges money well spent.

CONDITION ON ARRIVAL

The condition of bees on arrival was generally stated to be good, and the losses (particularly of worker bees) very small. Queens seemed to suffer more. A few arrived dead, and a larger proportion were drone layers. So far as can be estimated about 3% of the queens were either dead or faulty. Despite the health certificate required by the Ministry of Agriculture from the supplier, some importers sent samples of their bees for examination after arrival; some trace of *nosema* was found in about 30% of those examined, but otherwise all the bees seemed to be healthy.

SUBSEQUENT PERFORMANCE

The importation of the packages having been effected with unexpected smoothness, the performance of the resulting stocks was naturally of great interest. It is here that there is the greatest conflict of opinion, and also the greatest difficulty in arriving at any useful judgment. The worst winter in memory had made the importation of bees necessary, and the 'summer' the new colonies were faced with made it virtually impossible for them to collect a honey crop. The spring brought forth an unusual mass of blossom on fruit trees and flowering shrubs in May and early June. This coincided with fine warm weather, and set the packages off to a good start; in general they were reported to have built up rapidly, producing large quantities of brood and bees. But in mid-June the weather became dull and wet, and it continued so until October. Under these conditions, prolific strains (such

as those imported) were under the double disadvantage of having a large brood nest and no opportunity to collect the nectar to support it; and many had to be heavily fed in order to keep them alive.

Detailed reports on the performance of the imported packages have been few and somewhat contradictory. Once the importers had distributed the packages they usually lost contact with them; their own views may perhaps tend to be optimistic. Reports from commercial beekeepers certainly suggest that the strains imported were not suited to the British 'summer' of 1963, though they might have given a better performance in a hot season. It is perhaps unreasonable to expect strains of bee developed over many years in the U.S.A. for use in a continental climate, where long hot spells are a regular feature, to prove suitable for Britain.

FUTURE PROSPECTS

Importers were asked whether they considered the importation of package bees into Britain likely to increase. All but one thought that this would be so, but that the demand would depend on winter losses each year. All thought the imports worth while, provided that they arrived early enough (e.g. by April), and provided that the bees imported were suited to British conditions. The first condition would seem easier to achieve than the second, since the areas where package bees can be produced successfully (and early) have very different seasons from Britain.

All importers expressed doubt on the alternative possibility of early rearing of bees, especially queens, in Britain.

The 1963 imports were possible because a large package-bee industry existed in a region linked with Britain (via New York) by frequent and fast air services. But this region is only about 20° further south than London—1500 miles or 2400 km. The flight across the Atlantic, representing two-thirds of their journey, was 'necessary' only because no comparable package-bee industry exists east of the Atlantic. It may be that if and when there is substantial beekeeping development in Africa north of the Sahara, this could prove a nearer source of bees, more suited to north-European conditions. But the American packages would not have been available for export at such short notice, except for the existence of a large established domestic trade within the United States, of which the export represented only 1% or so.

Packages have been imported into Britain from France for several decades, and most of the problems associated with their transport (by rail and sea) have been smoothed out by now. The two importers handling these were very satisfied with their performance in 1963, both reporting better performance from them than from overwintered colonies. They were not, of course, available as early as the American packages, but the dates (mid-May-early June) may be satisfactory for some beekeepers in Scotland and the north of England.

CONCLUSION

The importers of packages in 1963 undoubtedly made a useful contribution towards restoring the honeybee population of Britain after the severe losses of the preceding winter. The air transportation and transit times from the United States proved to be remarkably good, and such

difficulties as arose would seem capable of solution by more active co-operation between the exporting and importing beekeepers on the one hand, and airport staffs, Customs Officers and the Ministry of Agriculture on the other.

The suitability for British conditions of the strains of bees imported from the United States would appear doubtful, and further experience is needed, but the use of imported bees for boosting existing stocks can be valuable. The trade is likely to continue and increase, provided: (*a*) costs can be reduced; (*b*) suitable strains of bee are used; (*c*) an economic balance can be reached between the uncertainty of the demand each spring—depending on the past winter—and early availability of the packages, before the end of April. Finally, although conditions are suitable for package bee production much nearer to Britain than the Gulf of Mexico, there is no immediate likelihood of a sufficiently large industry developing there within the foreseeable future; condition (*b*) above therefore assumes a primary importance.

ACKNOWLEDGEMENTS

Our thanks are due to Mr. F. H. Haggerty of Messrs. Robert Lee Ltd., who gave much detailed information, and to Mr. J. Hannam of Birdwood Apiaries, A. S. Rowse, E. H. Thorne, C. T. Knowles of E. H. Taylor Ltd., and D. M. Jesper, for replies to a questionnaire and additional information; also to Major D. A. Pudsey for a report on the performance of his stocks. Mr. I. F. Robertson of Messrs. Steele and Brodie, and Mr. F. A. Cordingley of South Shropshire Apiaries, supplied the information on imports from France.
