

The Morris Board Method of Queen Rearing

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This board enables you to raise a large number of quality queens in a season

THE MORRIS Board method of raising queens was devised by the late DF Morris of York House, Bramham, West Yorkshire. Douglas Morris began beekeeping before the Second World War; around 1936, he was a founding member of the now defunct Wetherby and District Beekeeping Association.

By profession, Mr Morris was an industrial chemist within the brewing industry at Tadcaster, York (the home of Samuel Smith's and John Smith's breweries). He was known to produce excellent dessert meads that were sought after by the local aristocracy as they verged on the quality of top class sherries. Before war service with the RAF, he kept a large number of colonies and, shortly after the war, he became a large commercial beekeeper until his death in the early 1980s. It was during this time he persisted with his practical theories on queen rearing that had begun in earnest in 1938. Following the war, he perfected his system that became widely publicised in 1948 and, by 1950, was used extensively by commercial beekeepers to produce quality queens continuously and in quantity.

A UNIQUE METHOD

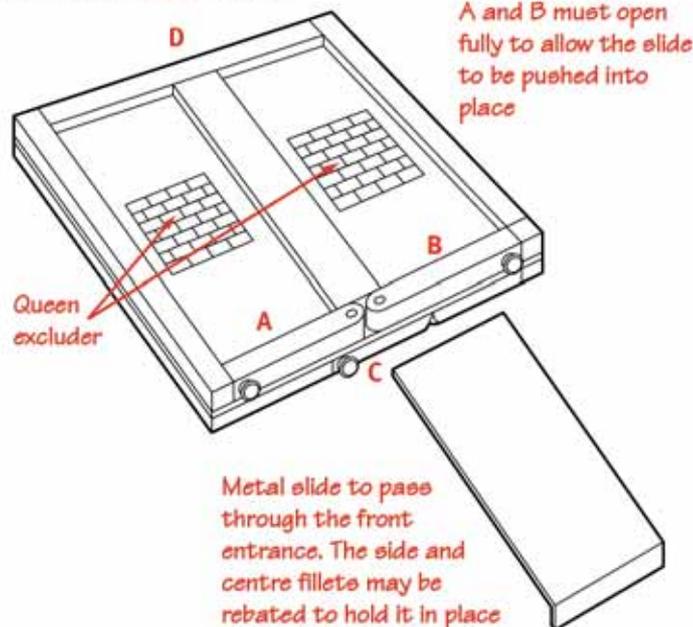
It should be said that any beekeeper that wishes to operate his apiary intensively should include, as part of his routine, the rearing of spare queen bees and these should be available over as long a period as possible. Naturally, young queens are particularly valuable as early as possible in the season or, for that matter, late in the season, outside the swarming period. It is quite possible to do this with simple equipment and without sacrificing a honey-producing colony for the purpose.

PRELIMINARY THOUGHTS

To be certain that queen cells will be started, it is essential that a colony is temporarily dequeened, it is excited and, above all, congested. Drones should also be on the wing and flying freely. Under these conditions, the queen cells will be started in a matter of hours. Once commenced, it is desirable that the development of the queen cells be continued in a colony which is as near normal as possible, is queenright, and in which foraging bees are undertaking normal duties. My own feelings are that the best results that I obtained were early in the season when queens were normally being produced as opposed to late July. In addition, from queen rearing theory, I strongly believe the semen from early produced drones is, for the want of a better word, more potent than from drones which are aged.

D – Rear lower entrance to match C at the front

A, B, C, D – pivoted entrance blocks. A and B must open fully to allow the slide to be pushed into place



The Morris Board

THE EQUIPMENT NEEDED

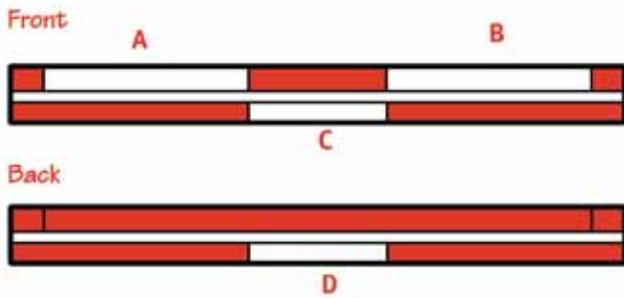
The conditions and method are brought about by the use of:

- ◆ a single-walled hive that has two brood chambers in use and is well provisioned with bees, brood and food
- ◆ a third brood chamber which is divided into two four-comb chambers by the means of a bee-tight division board (an essential requirement)
- ◆ a specifically designed division board.

THE MORRIS SCREEN BOARD

The screen board can be adapted from a clearer board or from a Snelgrove board, or it can be made especially for the purpose. It must be made so that both compartments are bee tight. It should have exactly the same outside dimensions as the hive on which it is to be used.

A sheet of plywood or hardboard is framed on both sides with 8 mm thick x 25 mm wide fillets to provide bee-ways on both sides. The topside of the screen contains a central fillet which divides this side of the screen into two equal parts/divisions. Pieces of the screen board, 100 mm x 100 mm, are removed from the centre of each side and the openings are covered with robust zinc queen excluder. Parts of the framing fillets are sawn out and pinned in such a



End views of the Board to show the entrances (in white)

way as to provide entrances above and below the screen board in the following positions:

- ◆ Below – in the front centre (C)
- ◆ Below – in the back centre (D)
- ◆ Above – to the whole left-hand side (A)
- ◆ Above – to the whole right-hand side (B).

A metal slide is needed which can be inserted through either of the upper entrances so as to cover the queen excluder and so make that portion of the board bee-tight. A liberal smearing of petroleum jelly allows ease of operation

The board can be made to any design provided that it fulfils the following requirements.

- ◆ Along with a divided brood chamber which will be placed over the screen board, the board will ensure that the two halves of this box are each bee-tight, as previously stated, which is an essential requirement for the success of the procedure. If not, it will fail.
- ◆ Entrance from the front can be ensured to each top compartment (A and B) and also, when required, the queen excluder section can be blanked out.
- ◆ There is a front entrance (C) to the lower part of the hive in such a position that the bees will not be able to distinguish the separate entrances.
- ◆ There is a back escape (D) for drones and flying bees from the lower part of the hive.

METHOD OF OPERATION

Select a very strong doubled-up colony, covering 20–22 combs. Place the third brood chamber, the one divided into two-compartments, alongside the hive and transfer four combs complete with bees into each compartment – the outer combs with food (honey and pollen) and the inner ones of brood.

Each compartment will hold five combs so that there is room for one frame of foundation in the centre of each.

The bottom brood chamber is disturbed as little as possible but it is necessary to ensure that the queen is retained in this box. Two or three combs may be left over after the hive has been re-arranged and these may be utilised elsewhere.

The normal bottom entrance to the hive should be closed or the floor removed and replaced with a flat board with a 'bee space', giving the bees no access.

The rearranged hive should comprise the original brood

box, the screen board and the new compartmentalised brood chamber. The top box will need to be covered with a separate quilt or crownboard, so arranged that bees cannot, and must not be allowed to pass from one compartment to the other. Provision is also needed for feeders to be placed on each compartment.

The front entrances in the board are opened and the bees quickly adjust to entering the hive in the middle instead of the bottom.

NEXT STEPS

When all the larvae in the top box are more than three days old, queen rearing operations can be started. Choose a day when the bees are flying freely. Check and remove any queen cells present in the top box. This is essential and must be done thoroughly or the procedure will fail.

Insert the metal slide through the front entrance to one compartment (A, say) so as to exclude the bees in it from the queen below. Leave this entrance open and close the other two (B and C). At the same time, open the rear entrance (D) in the screen board so that the bees can fly from the bottom box. All flying bees are compelled to crowd into the one top compartment and they are immediately queenless since they can no longer pass through the queen excluder. Bees which make their exit from the hive by means of the rear entrance will also fly back to the front and join the throng.

THE STARTING OF QUEEN CELLS

The queenless compartment is now in an ideal condition for starting queen cells.

- ◆ It is queenless
- ◆ it has advanced brood
- ◆ it is well stocked with food (with honey and pollen)
- ◆ it is excited (an essential requirement)
- ◆ it is congested with flying bees which crowd the few combs.

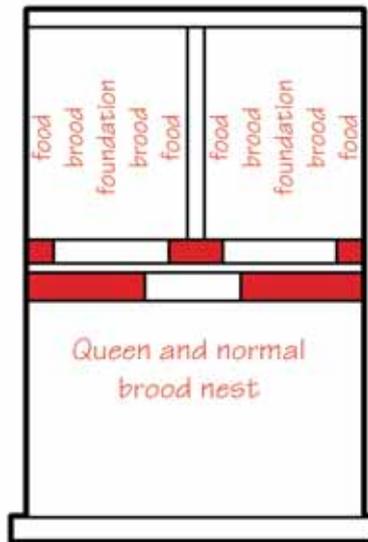
Remove the centre frame of foundation (it may have been drawn into new comb) and replace it with a comb containing hatching larvae from a breeder queen, or a frame of young larvae which may have been prepared for the occasion by any of the accepted methods (Miller, Alley, Cowan or Doolittle). The method used is not important.

Within six to twelve hours, the bees will have started queen cells and will have accepted all the larvae they want to raise as potential queens. Next day, therefore, the hive can be returned to normal. This is done by merely withdrawing the metal slide. The other two front entrances in the screen board (B and C) may be opened if desired if the weather is exceptionally hot and humid but from my experience, it is preferable not to do so for a few days until the queen cells are more advanced.

It is best to have the bee stocks in an area of shade from the onset. Once the metal slide has been removed the sense of panic abates and the queen cells are continued under the more leisurely and thorough supersedure impulse.

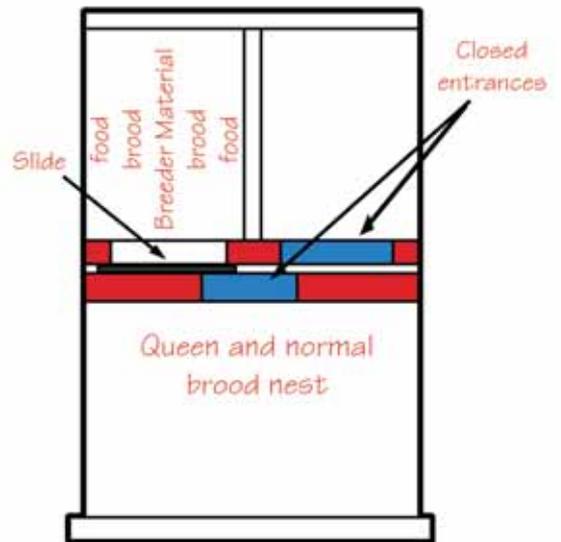


Colony selected for queen raising



Arrangement until larvae are three days old (about one week)

Screen board in position
All front entrances open
Back entrance (D) closed
No bottom entrance to the hive



Arrangement for 24 hours after insertion of breeding comb

Metal slide in place
Entrances to spare compartment (B) and bottom brood box (C) closed
Rear entrance (D) open
All flying bees diverted into the breeding compartment

Using the Morris Board

FINAL THOUGHTS

The top box is divided into two separate compartments for two reasons. Firstly, the bees are thereby concentrated onto five combs rather than eleven, thus ensuring more satisfactory queen-raising conditions. Secondly, the other compartment may be used for queen raising as soon as the queen cells in the first are sealed.

This arrangement gives a unique opportunity for the production of both quality and quantity. Once established, provided brood is transferred as required, you can continue to use these compartments alternately throughout the queen-raising season. The colony below the screen board is operating normally and honey supers can be inserted between this and the queen's brood chamber in the normal way if required. If an additional queen excluder is used provision must be made for the drones to fly from the hive.

So, larvae for queen rearing may be inserted every six days; only commercial breeders would wish to breed queens on a scale in excess of this in the four months of the active season. My own experience (albeit 20 years ago, but soon to be put into operation again) when I had 40 stocks was that this system quickly gave me all the queens I needed. On removing the board, I found the stock in a first-class condition for honey getting, invariably requiring supers immediately.

CONCLUSIONS

On first impressions, the Morris board appears to be a complicated contraption after the fashion of Heath

Robinson. As is often the case with inventions, the principle must be understood thoroughly so that the construction and manipulation may follow naturally. The essence of good queen rearing relies on:

- ◆ proven stock that carries all the desired traits (good temper, non-following, honey getting, disease resistance, etc)
- ◆ a disease free colony
- ◆ maximum strength and colony balance
- ◆ the ability to maintain high temperatures easily
- ◆ few open cells containing larvae
- ◆ conditions in the hive to be as near to normal as possible
- ◆ minimum diminution or destruction of the stock(s)
- ◆ minimum loss of honey.

This method of queen raising can produce many good quality queens and for the large-scale operator it enables continuity in situations of mating misfortunes where large numbers of queens are required.

As with all methods of queen rearing, practice makes perfect. The more you use this method, the better you get and there is no better qualification for raising queens than experience. In writing this article I am mindful of persons who have greater experience of this method. John Cox, sometime County Beekeeper for Gloucestershire, comes to mind who for many years championed this method with great success. ◆