PRACTICAL BEEKEEPING

SUGAR FEEDING USING A TOP-BAR FEEDER

by Stephen D Liseki

Figure 1. Four easy steps for construction of frame feeders for top-bar hives.
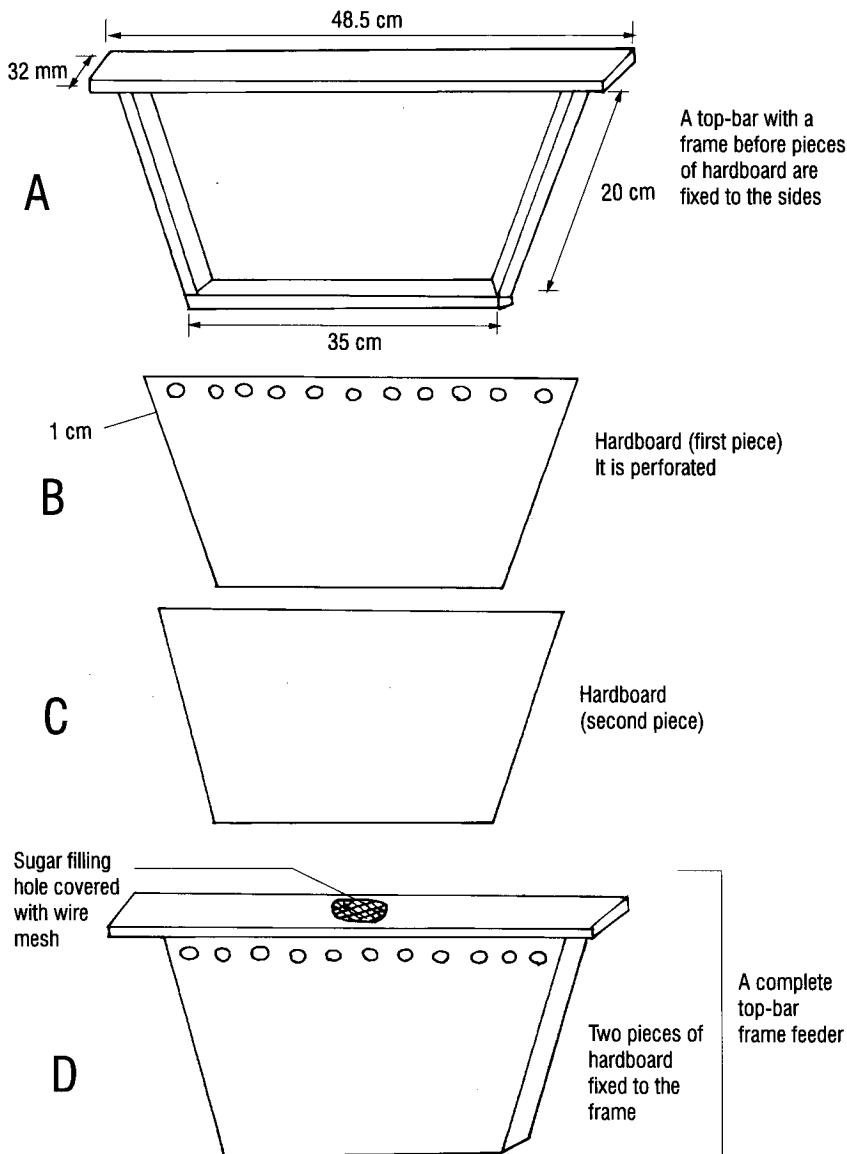

A
- 48.5 cm
- 32 mm
- 20 cm — A top-bar with a frame before pieces of hardboard are fixed to the sides
- 35 cm

B
- 1 cm
- Hardboard (first piece) It is perforated

C
- Hardboard (second piece)

D
- Sugar filling hole covered with wire mesh
- Two pieces of hardboard fixed to the frame
- A complete top-bar frame feeder

Figure 2. Placing the feeder inside the top-bar hive ready for filling with sugar syrup.

- Top-bar frame feeder inserted completely into the hive
- Top-bars
- Entrances
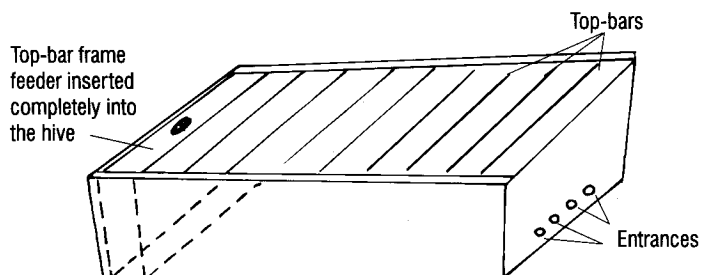
INTRODUCTION

Beekeepers often feed sugar to bees before or during dearth periods. In temperate regions, the dearth period is winter, when temperatures fall to 0°C or below. However, in the tropics dearth periods occur either during dry periods or prolonged rainy periods.

The dearth period is a time of lower activity, when few or no bee plants are in flower. During this time tropical bee colonies might migrate or abscond from the hive in search of sites with better conditions for survival. That means a big loss of colonies might occur. One way to stop this is to feed the bees with sugar syrup. Sugar is used as the best substitute material for nectar although some other feeds with high sugar contents can also be used. These include date fruits, sweet bananas and sugar cane juice.

In temperate regions there are various techniques for feeding sugar to bees.

The purpose of our project has been to develop a feeding technique appropriate for the kind of top-bar hives and bees used in Tanzania.

The choice of feeder depends upon the type of hive used. Use of a frame feeder, or placing a cup of sugar in an empty super on top of a hive, are not always appropriate ways to feed bees in the tropics.

A good feeder:

● Allows bees to feed easily without drowning in the syrup

● Is durable and can be reused many times

● Does not allow robber bees to enter

● Is easy to work with and can be filled quickly with syrup without disturbing the bees or getting stung.

MAKING AND USING THE FEEDER

The feeder is built from a standard top-bar. Timber, hardboard and nails are all that are needed (see Figure 1).

The Tanzanian top-bar frame feeder is sloped at 10° in order to fit both types of top-bar hives we are using (0° and 10° sloped hives).

Filling the frame feeder with sugar syrup

A piece of wire mesh covers the filler hole to prevent robber bees getting into the feeder. The holes should be placed as high as possible in order to increase the carrying capacity of the feeder. Melted beeswax (or paraffin wax) is poured inside the feeder to close all the gaps through which syrup might leak out.

The feeder should be placed at the rear end of the top-bar hive in order to make feeding easy (Figure 2). The feeder holds one litre of syrup.

OBSERVATIONS

- Syrup in the feeders was all consumed by bees within two days, in all 30 hives in the experiment. No bees drowned in the syrup. The syrup was made in a ratio of 2 : 1 (sugar to water, by volume). Feeding was carried out twice a week; each colony getting 0.5 litres of syrup each time, over three or four weeks.

- The Research Team at Njiro has found that a 1 :1 sugar to water syrup should no longer be recommended because this ferments rapidly under tropical conditions.

- The perforated feeding holes, though bigger than the size of the bees, were chewed by the bees to increase the hole size.

- After two weeks of feeding, bees sealed the wire mesh in ten feeders with propolis. In order to continue with sugar feeding we had to break and remove the wire mesh. We found the robber bee problem could be avoided by replacing the cover of the hive immediately after filling the feeder. Another alternative is to plug the hole with a cork after filling.

- The time used to fill one hive was so short that no bees were coming out to sting, and also bees could not fly out because the feeder size is just right to fit inside the hive, leaving no gap for bees. The advantage is that you can feed the bees without wearing beekeeping clothing.

- Colony development after feeding was very good and as a result we had an early (minor) harvest for the first time in our apiary.

- Absconding was reduced: only one colony absconded and this was due to queen failure followed by pest attack.

CONCLUSION

These feeders have proved to be very successful and can be used with any type of top-bar hive (based on the measurements of the hive itself).
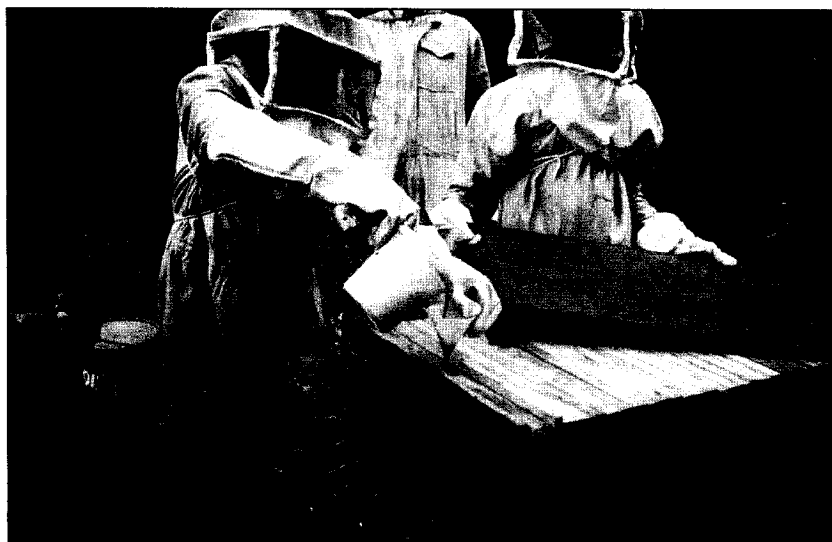
Notice that no bees are coming out

PHOTOGRAPHS
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