

Improved Queen Cell Cups and Cell Sticks

QUEEN cells built up from artificially formed cell bases are less fragile and easier to handle than queen cells cut from a comb. Though the making of these artificial cell cups is comparatively simple, many beekeepers fail to produce a cup comparable to the queen cups built by the bees. In this article L. A. M. Griffin, Apiary Instructor, Department of Agriculture, Hastings, describes a method of producing cell cups of a uniform size and depth with very little alteration to the cell-forming sticks already in use by beekeepers.

THERE are many ways of producing a reasonable number of queen cells with complete success, but where large numbers of queens have to be raised for commercial purposes these methods are not altogether satisfactory.

The commercial queen raiser and beekeeper usually makes queen cups artificially and grafts or transfers the young larvae destined for queens into these cups for the bees to feed and complete. From this method a greater and more complete control of production is obtained.

To save time a large number of these cups, possibly a full season's requirements, are usually made at the one time. This is a tedious job, and unless great care is taken in the dipping, the resulting cups will be of varying depths and thicknesses according to the temperature of the melted wax when dipped.

Deep cell cups not only reduce the speed of transferring the young grubs, but give the bees extra work, as it is usual for the bees to tear down part

of the cups and rebuild them to their own requirements.

Bees first build a shallow queen cup and taper it to a feather edge just before the queen lays in it. The ideal artificially made cell cup should conform as closely to that pattern as possible and should be not deeper than 5/16in. to 3/8in. This shallow cup is more acceptable to the bees than a deep cup, as it provides easier access to the grub for feeding and a more natural base on which to build the cell as the grub develops. Apart from the ease and extra speed obtained in grafting a large number of cups, there is less danger of injuring the young grubs in the process.

The cell-forming sticks illustrated below were first used many years ago by Mr. M. Morgan, a well-known apiarist in Victoria, Australia. In his search for a satisfactory method of making cell cups of a standard depth that would resemble more closely the natural queen cups built by the bees he thought of the novel idea of cutting

a groove in his cell sticks that would allow the wax cups to break away at that point no matter how deep the cell sticks were dipped the first time in the melted wax.

Grooved Cell-forming Sticks

The cell sticks are the usual size, made from 5/16in. dowelling. After the end is rounded on a slight taper a groove as shown in the illustration is cut or turned out about 5/16in. to 3/8in. from the rounded end.

Newly made sticks should be well soaked in water to swell the grain in the wood and then resmoothed with very fine partly worn glasspaper. This will ensure that the forming sticks will always remain smooth and round when swollen with water in the future.

Making the Queen Cups

To make the cups the sticks are dipped into the melted wax above the groove the first time, slightly below the groove the second time, and slightly below that again for a third or subsequent dip. A vessel of cool, not cold, water should be close to the dipping trough for cooling the wax cups after each dipping.

The cups are a little more difficult to remove from this type of forming stick, as it is necessary for the wax to break away at the shoulder of the



The queen cell cups on the right, which were moulded with the cell-forming sticks in the background, are of uniform size and depth. Those on the left, which were moulded with the cell sticks normally used by beekeepers, are thick and lumpy and of varying depth.