

prospect of any change for the better during the remainder of the season. About August 1 many of our nuclei had become almost destitute of stores, and the feeding problem began to loom up before us with alarming proportions. The situation was rendered more aggravating by the fact that the bees had become so ravenous that it was a difficult matter to cage queens or manipulate frames without creating an uproar among them. Finally it became evident that something had to be done quickly; so we arranged ten of our old-style feeders in a line close together upon benches, and fitted them with syrup, half sugar and half water. This gave us a feeding surface of about 15 square feet and 2 inches deep, the pans being provided with slats standing on edge $\frac{3}{4}$ inch apart, so the bees could get the feed without any danger of drowning.

Now for the results: We soon found that the feed was too rich, as it caused too much excitement among the bees, and they gathered it up too rapidly. After some experimenting we found the conditions that prevail during an ordinary honey-flow. There was no excitement about the feeder nor in the apiary—only that quiet and contented hum that gladdens the heart of the bee-keeper, and tells him that his troubles are at an end so far as robbing and starvation are concerned. Nor were we disappointed in this respect, for the next day after starting the open-air feeder we caged queens and manipulated frames exactly as though we were in the midst of a natural honey-flow, with no signs of robbers anywhere.

The conditions that approached more nearly to those existing during a natural honey-flow were found when feeding a ten per cent. solution—that is, nine parts water to one part of sugar. We have about 400 nuclei and 75 full colonies in the yard, and the feeder above described affords ample room for stimulative feeding when feed of the proper consistency is

used. The amount of food taken by the bees is regulated by making it richer or poorer as required, and is under the control of the bee-keeper. When feeding for winter stores the feed should be considerably richer than for stimulative feeding to produce an artificial honey-flow. Half and half sugar and water fed in the open air during August and the fore part of September will place the bees in excellent condition for winter.

Since adopting this system of open-air feeding we get better queen-cells; the bees are stimulated to greater activity, and the queens made two or three days earlier. Breeding is going on at a rapid rate, and our hives will be filled with young bees to go into winter, which, in connection with well ripened stores of sugar syrup, is about the best kind of life insurance for bees. In order to practice open-air feeding profitably, one should be isolated a reasonable distance from neighbouring bees. Every queen-breeder is supposed to be so situated.

An ideal open-air feeder would be a pan six feet long by three feet wide, and four inches deep, provided with a frame-work of slats standing on edge $\frac{3}{4}$ inch apart, with a thirty-gallon tank to supply the feed through a half-inch pipe having a faucet to regulate the flow. If located convenient to the water supply, the tank could be filled in a few minutes each day, and would not require further attention. I do not advocate the feeding of thin sweetened water for spring stimulative feeding, as it exhausts the vitality of the old bees that have come through the winter, and causes them to drop off rapidly. I have about come to the conclusion that in the fall is the right time to practice stimulative feeding."

Mr. Root witnessed the feeding operations of Mr. Hand and remarked on testing the liquid that it scarcely tasted of sugar at all. The bees after they had left the feeders and were ten or twenty feet away were seen to eject tiny squirts of water, and it would thus appear that

the bees were able by so other, to separate and digest of water whilst on

IRISH BEE JOURNAL

The Irish Bee Journal is a good number, as usual concentrated bee-lore, containing known British and Irish Bullamore contributes a dealing with the question of Beeswax." We regret did not write at greater Maguire, writing upon "The Honey Flow and the Honey pretty doleful tale to tell same the tone of his remarks to the not unhappy lot of Incidentally, Mr. Maguire black and Italian bees

Our own old black bees to hold their own with a Given a proper chance, stocks equal to any Italian are not nearly so much given Their sealing, too, is in than that of some strain A friend of mine has a lot of Italians—beautiful bees, he guinea queens. They were swarms all summer, and sections are quite unsaleable as if they had been out a half-bred stock of the same ever, has given me some though hardly equal in size of the natives."

In another useful article gives timely instructions on But perhaps the most contribution in this excellent is editor's witty and amusing an unlucky author of a recent hand book on bee-keeping, ous errors prove him to be in the practice of bee-keeping space forbids our making e