

main, a luxury; but extracted has reached that point that it must become a staple sweet, or else its production be limited. I suppose that in all civilization there is not a place that sugar is not found. It is everywhere as a competitor with other sweets. Two things govern the demand for any sweet, viz: the consumer's tastes and his ability to buy. Of two or more sweets offered, the cheaper will be used unless the other appeals to the taste, and can be afforded. As a fine article of granulated sugar can be bought at five to six cents, it remains that extracted honey must sell at or near that price to all but those who can afford and want it as a luxury. Our market quotations show this now.

We must, then, look to methods that will both improve the quality and cheapen the product. Old methods contemplated the taking of unripe honey, and thus increasing the quantity, which has proved a step backward rather than forward. I suspect that many have not yet learned that to thus increase the volume of production is but to sacrifice quality, price and demand. An unripe, poor grade of extracted honey is not the equal of granulated sugar syrup, while a good article of extracted is superior to sugar. Honey has for ages been a favored sweet, and is so yet, and if at a price to compete with substitutes will hold a place.

I have just been looking over the market quotations in August 12th issue of American Bee Journal. The quotations on "fancy comb" range from 9 to 14 cents, the average of the highest quotations being about 12½ cents. The average of all grades of comb honey is somewhere near 10 cents, with extracted ranging from 3½ to 7 cents, averaging probably near 5 cents. It appears, then, that extracted honey and sugar are about the same price. In order that liquid honey compete with sugar, not only should the price be proportionate, but of equal quality and convenient to handle.

It is commonly claimed that two pounds of extracted can be produced to one of comb, which statement is generally accepted to mean that extracted can be produced at one-half the cost of comb. Suppose we can get two of extracted to one of comb; the increased quantity requires an increased amount of labor, both in producing and marketing, as well as additional cases and investment in combs and such, hence by no means doubling profits.

For about 13 years in Iowa, and 7 in Colorado, I have produced both comb and extracted side by side. Never did my crop of extracted, per colony, double over that of comb. The best that I can claim has been

three of extracted to two of comb; but some bitter experience in losing in winter and spring by starvation of the extracted stock, showed me where I got my extra surplus. Run two colonies one for comb and the other for extracted, and when the crop is off make an accurate estimate of the honey in the brood chambers and see where you get your honey. It is as reasonable as can be, that comb honey colonies will pack more honey in their brood chamber than will those having unlimited store comb above. The fact that my stock run for comb invariably winter better than extracted stock, beat into my head this fact.

It is necessary, then, that stock run for extracted shall have a larger brood chamber than does the comb honey stock. This is no argument in favor of small hives. We want large hives for comb honey, and larger still for extracted. 10L frames are nearer right for comb than 8, and 10 to 20 for extracted. I have two apiaries in American hives, run for extracted honey. A portion of these, instead of full depth, half depth size, 2 shallow chambers with 6 inch frames equalling one chamber of full depth size. I am running these using three and four shallow chambers or two deep ones for brood nest.

Swarming is the great difficulty that hinders cheap or inexpensive methods. I have this year had but one swarm from 140 colonies in these big brood chamber hives. At the beginning of the flow I put the chamber containing brood and stores at the top, the dry combs at the bottom. This puts the brood up near the extracting combs and a set of dry combs under. With this arrangement strong colonies will occupy the extras above about as quickly—sometimes more quickly—than the ones beneath. As the honey crowds the brood in the top of brood nest the queen occupies below, instead of swarming.

The first point, then, is a large brood chamber, depth being important. Depth is much more effective than width, and the brood at the top when the flow begins. This big, deep brood nest with unlimited comb room above practically solves the swarming problem, reducing it to the minimum.

The next thing is to get rid of the immense amount of labor required with present methods, during the flow. Aside from the swarming problem, it is much easier to manage comb honey colonies than extracted, if the *extracting be done during the flow*. It is just as simple and easy to get on a super of sections as one of combs, and just as easy to shift the full sections to the top as to shift extracting supers in a similar way. I would do this in either case. To