

the imperial gallon, as follows:

Weight per U.S. Gallon	Corresponding Weight per Imperial Gal.	Specific Gravity, Water being 1.
lbs.	lbs.	lbs.
10	12.0059	1.20059
10½	12.3061	1.23061
10¾	12.6061	1.26061
10¾	12.9064	1.29064
11	13.2065	1.32065
11½	13.5066	1.35066
11¾	13.8068	1.38068
11¾	14.2069	1.41069
12	14.4071	1.44071
12½	14.7072	1.47072
12¾	15.0074	1.50074
13	15.6077	1.56077

The specific gravity of sugar, containing the least amount of moisture, is 1.6000, or sixteen lbs. to the imperial gallon. To reduce one hundred lbs. of such sugar to a syrup, weighing thirteen and a half lbs. to the gallon we should require to add nearly seventy-one and a half lbs. of water. It will be seen that some of the samples referred to must have been nearly as dense as granulated sugar. The editor of the *British Bee Journal* gives 1.370 as the specific gravity of well ripened comb honey, or a little less than thirteen and three-quarter lbs. to the gallon. Anywhere between sp. gr. 1.35000 and 1.37500 is good honey. Much lighter than 1.35000 is too thin, and heavier than 1.37500 is unprofitable, except at a proportionately increased price.

To reduce one hundred lbs. of honey weighing fourteen and a half lbs. to the gallon to a sample weighing thirteen and a half lbs. a little over twenty-eight and a half lbs. of water must be added, or, stating it in another way, in evaporating one hundred and twenty eight and a half pounds of sp. gr. 1.35000 to a sample of sp. gr. 1.45000, twenty-eight and a half lbs. is lost in weight. Supposing the one hundred and twenty-eight lbs. were sold at eight cents per lb., without further ripening, it would bring ten dollars and twenty-eight cents. To bring the producer as much, the one hundred lbs. would require to be sold at over ten and a quarter cents per lb. Similarly in evaporating sp. gr. 1.3500 to 1.37500; an increase of over half a cent a lb. in the price is required to make up for the loss in weight.

It is generally supposed that if the honey is left with the bees till it is partly sealed it requires no further ripening. This rule cannot be depended upon. I have seen honey fit for market a few hours after it was gathered. It is well known to close observers that the bees do not invariably wait till the honey is of a certain

degree of specific gravity before they begin to seal it. It is also known that the cappings are porous, and that sealed honey may be rendered more dense by being evaporated in the hive, or in dry air in a warm room.

It is impossible to accurately test the specific gravity of honey by measuring and weighing with the appliances usually found in the hands of producers. Any one intelligent enough to become a successful beekeeper can learn to test the density of honey by means of Baume's hydrometer. Seventy five cents will pay for the instrument, and a table for changing degrees to specific gravity may be constructed

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from the following formula— $145 - B^{\circ} = \text{sq gr.}$

$145 - B^{\circ}$

in which  $B^{\circ}$  represents the degree to which the instrument sinks in the fluid.

S. CORNELL.

In the above article Mr. Cornell has made it clear that in these times of close prices, producers can no longer afford to guess at the density of their honey. We consider the matter of so much importance that we shall strike off a large number of copies of the article in circular form, which we shall sell at a merely nominal price. Producers who know exactly the quality of the goods they are offering can send one of these circulars with their samples to their wholesale men. If they are asking a full price they can point to the fact that they are offering very heavy honey, giving its specific gravity, and referring to the circular to back them up in asking the price. Farmers know when their wheat or barley overruns the weight, and the buyers use testers, and regulate the price accordingly. There is no good reason why honey should not be bought and sold in the same way.

### The Coming Bee.

J. EDWARD GILES.

An article on "The Desirability of Producing a Larger Race of Bees," which was published in the *Apiculturist* for March, suggested the possibility of securing a cross between our common races of bees and the recently discovered "giant bees" of India, in such a way as to produce a new race which should combine the desirable points of both parent races.

The particular advantage hoped for from such a cross would be to secure a race which would be able to gather honey from red clover and perhaps from other flowers which now go to