

liquor thus tempered be then placed on one side. Put the other gallon over a fire, and boil it, removing the scum just before, and during, ebullition; let it then be taken off the fire, and tempered in the same way as the other. The very first quantity of lime added causes the appearance of the floccy precipitate; and if the addition of the lime be continued until it be precisely tempered, it will be found that the hot possesses the following advantages over the cold-tempered liquor:—*In a quarter of an hour its impurities will have subsided to a sixteenth of its bulk, leaving the supernatant liquor as bright and clear as pale brandy; while those in the other have only sunk to one-quarter of its bulk. The colour of the former clear liquor will not be less than one-half the intensity of that of the latter. The lime used in the hot has been less by one-third than the quantity used in the cold tempering.*

Of course, on level estates there is little difficulty in tempering liquor, but on hilly properties scarcely two pans will require the same quantity. Our test, therefore, although, of course, useful in ascertaining the tempering point, would not improve fine sugars, but on some estates it would be invaluable; and we take the liberty of referring our readers to the gentleman in charge of Hall's Delight, St. Andrew's, who will inform them, that the liquor tempered by means of our test made better sugar by 3s. or 4s. than that made by the estate the day before and after, although the canes were cut from the same piece during the three days; also, to our friends, the patentees of the new filter, who will testify as to the superior curing of the sugar so made, they having satisfied themselves by examining the bottom of the cask, and found it as well cured as the top.

We shall now proceed with our examination of the efficiency of lime as a temper for cane-juice.

It is generally believed that the object of adding lime to cane-juice is for the purpose of neutralising an acid, and it is to the general reception of this fallacious idea that it is indebted for its long and continued use, and the present backward state of sugar manufacture is attributable: we unhesitatingly assert that, if there be an acid present in the cane-juice, the addition of lime to it will be injurious instead of beneficial. There are only four acids that we could expect to find in cane-juice—mucous, saccholactic or saclactic, oxalic, and acetic acids. The three first-named of these, however, have never been traced, even in the most minute quantities; and if the latter be present, which, unfortunately, is but too often the case, the addition of lime would only result in the formation of acetate of lime, which is, as we have said in our last, an exceedingly difficult crystallisable, very soluble, and deliquescent salt. It has a bitter, saline taste; 100 parts consist of 64.5 acrid, 35.5 lime, and it is easily recognisable by its taste in the molasses made from sour cane-juice; so that, supposing the cane-juice sour, every pint of acid present would require nearly half a pound of lime for its neutralisation, independent of the quantity required for the tempering or precipitation of the feculencies contained in it, and would result in the formation of one-and-a-half pound of the above-mentioned highly deleterious salt.

Suppose we boil the cane-juice prior to tempering it, we then drive