

be proved by throwing a gallon of strong vinegar into a pan of liquor ; it will do no harm, provided it be boiled before tempering ; on the contrary, the effect, if it be properly done, will be beneficial, as it will promote the coagulation of the albumen ; it is the gum which is always formed during the acetious fermentation of sugar that prevents granulation ; hence, then, acidity is strictly to be guarded against, as fermentation once commenced, it will be impossible to make good sugar, it will continue throughout the process, and even in the hogshead, so that canes should be ground as soon as possible after they are cut, and all rat-eaten and broken ones carefully excluded. Canes may, however, be kept some days without fermenting, provided they be not broken or damaged, it being, as we said before, the mixture of the sap and the cane-juice that makes the liquid so prone to fermentation ; and the mill, gutters, and everything with which the juice is likely to come in contact, should be kept carefully clean, and whitewashed immediately after, and the whitewash removed before use, as acetate of lime being an exceedingly soluble and deliquescent salt, will not improve the quality of the sugar ; whilst the gutter should be short, and sheltered from the sun's rays, they having the effect of greatly expediting chemical action.

Several of our planting friends inform us that the cane-bands are never allowed to pass through the mill ; but we can assure them, that although, perhaps, they may have given orders to the contrary, they are often, through carelessness, allowed to go through by dozens ; and we could name an estate in Liguanea where they are not even removed, but merely cut, so as to allow the canes to separate. We will say no more, however, on this subject, but will proceed to consider the mode of tempering and clarifying cane-juice, and the action of lime on the various substances contained therein. The expression "tempering" has, I presume, been adopted, in consequence of the use of tempered lime for the purpose of precipitating the feculencies, held in solution in the cane-juice, into a state of suspension ; and clarification is the process by which we afterwards clear the liquor of these and other foreign matter. Now, as we said before, "fermentation should be most strictly guarded against ;" our first efforts should be directed to free the cane-juice from those substances most conducive to that process ; and on inquiry we find these to be albumen and gluten ; so far, however, from getting rid of them in cold tempering, we adopt a course which retains them permanently in solution, as lime has the power of rendering them permanently soluble, and of forming soapy compounds with resin, wax, and chlorophyle, or the green colouring matter of leaves, forming an insoluble compound with and precipitating only the starch, and converting at the same time the green colour of the chlorophyle (which is, in all probability, attached to the resin) into a dark brown, of a greater or less intensity, according to the composition of the cane-juice, and, consequently, the quantity of lime required ; it follows, therefore, as a matter of course, that if juice be tempered before these substances have been removed, they must be permanently retained, and they all have the power of preventing granulation.

Albumen and gluten are both coagulable by heat ; if, therefore, we raise