

## DESTRUCTION OF SUGARS IN THE FACTORY PROCESS

### 1. INTRODUCTION.

The sugar cane plant is a living organism. The botanic process of synthesis which, during the growth of the plant is in operation in the leaf of the cane, is responsible for the formation of sucrose. The process of synthesis of sucrose, however, ceases soon after the cane is cut. The vitality of the organism is paralysed, the component cells when they cease to receive sap die, and all the manifold functions, which they performed by the aid of the atmosphere, soil and moisture, are no longer operative. Sucrose is now no longer formed, a retrograde process sets in, which under normal conditions, follows a definite line of development.

It is of importance to the sugar manufacturer, that this process of molecular disintegration or chemical decomposition of the principle element, that is, sucrose, the destruction of which increases as the cells continue to die, should be held in check as quickly as possible, both from the point of view of the yield of sugar per acre and the industrial process during manufacture of sugar.

The agents which take part in the decomposition of sucrose are, in the first place, the natural organic acids contained in the juice and, secondly, the action of the micro-organisms which are always present in the atmosphere, soil and on the plant, the latter being greater or less in proportion to the extent to which the plant has been attacked by diseases prevalent in the particular ecological area.