THE HYDROLYSIS OF BAGACILLO DURING CLARIFICATION.

1. Introduction.

The term bagacillo - or as it is more often called, "cush-cush" - is used to denote that portion of the bagasse, mixed with the juice of crushed sugar cane, which passes through the strainers of a sugar mill. It has been a point of much debate among sugar technologists as to whether the bagacillo affects the process of sugar manufacture in any way.

In some sugar houses large mesh strainers with apertures larger than one millimetre in diameter, which allow fairly large particles to pass through them, are used, while in others use is made of smaller mesh strainers having apertures smaller than three-quarters of a millimetre in diameter. It has been found in practice that a decrease in the size of the apertures causes a corresponding increase in strainer wear. The reason being that in present day factories (where mechanical strainers are used) the larger and more fibrous rind tissues tend to become lodged in the small mesh, and the moving slats, which are adjusted close to the strainer, drag them out. This causes excessive wear on the soft metal of which the strainer is made, at times actually destroying the mesh. The use of larger strainers however, allows the larger particles to pass through, which, besides lessening strainer wear, has the added advantage of affording a better separation of muds in the settling tanks by mechanical entrainment; but when these muds are pumped to the filter press station, the particles of cush-cush tend to choke the juice outlet of any one plate. This places the plate under extreme pressure which may eventually result in the cracking, or even at times the breaking of the adjoining frame.

These effects, such as juice strainer wear, better separation and more efficient settling of the muds, and filter press frame breakage, are purely mechanical; and, although they have not been very thoroughly investigated, much more work has been done, and much more is known about them than about the chemical aspects, i.e., the possible chemical effects which might be caused by the presence, or absence, of bagacillo in cane juice.

The writer has attempted to investigate the problem from a point of view of the effects of hydrolysis of bagacillo, and its various constituents, on cane juice.