Abstract

Sugarcane is a perishable commodity and must be processed into sugar quickly after it is harvested. Post harvest sucrose losses have been reported from many cane producing countries and linked with low sugar recovery and several problems during sugar processing. Bio deterioration is associated with the inordinate delays between harvest to milling of sugarcane and aggravated by many intrinsic and extrinsic factors causing enormous depreciation in cane tonnage as well as sugar recovery. Besides harvest-to-mill delays, other factors such as ambient temperature, humidity, cane variety, period of storage, activities of invertases, maturity status etc. are responsible for decline in sugar recovery. The activity of invertases and proliferation of acid, ethanol and polysaccharides (dextran) producing microbes play a crucial role in the loss of recoverable sugars in cane and milled juice. In addition to loss in sugar recovery, its adverse affects has been noticed in the sugar manufacturing process and sucrose quality. Efforts have been made to reduce loss in tonnage and sucrose using physico-chemical methods. These include spraying of water, bactericidal solution, use of anti-inversion and anti-bacterial formulations and pre-harvest foliar and soil application of zinc and mangnous compounds. An integrated mill sanitation program and simultaneous use of dextranase could further improve sugar recovery and minimize problems caused by dextran. The possibility of electrolyzed water (EW) fogging to reduce post harvest deterioration in field and mill yard has also been explored. Some of these methods are useful and present larger options for the industry to minimize after-harvest quality losses in the field and milling tandem.

http://www.springerlink.com/content/68123u9747m8k137/fulltext.pdf