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ENZECO® PECTINASE PL for Aloe Vera Processing

Cellulases and Pectinases have been used to improve filtration rates for the production of dried aloe vera powder from whole leaf. Both enzyme types function to reduce viscosity and to allow higher recovery rates. One of the questions has always been how to reduce the hydrolysis of the desirable mannans by the cellulase or pectinase. ENZECO® PECTINASE PL solves that problem. There are no mannanases or cellulases or polygalacturonases present in ENZECO® PECTINASE PL.

Typical use levels of cellulase are 200,000 to 300,000 units per metric ton of leaf. Assuming that the solids in the leaf are 0.5% then one metric ton of leaf would yield 500 grams of dry mannans. Therefore, one gram of mannan would require 400 to 600 units of cellulase.

Viscosity of a solution is directly related to the size of the mannan polymer. It is also directly related to the concentration of the mannan. In order to test our theory that ENZECO® PECTINASE PL did not hydrolyze mannan, a solution of aloe vera was prepared and the viscosity checked when a cellulase was added and ENZECO® PECTINASE PL**.** ***There was a 6% reduction in viscosity from the PL and a 42% reduction in viscosity from the cellulase***.

Our method was to prepare a 4% solution of dried aloe vera, (1 gram aloe vera powder and 24 grams water). The aloe vera powder was obtained from a US manufacturer (Batch 1P09C012). 3.0 cellulase units were added to one batch and 2000 PTF units of ENZECO® PECTINASE PL were added to the other batch. The viscosity was measured at time zero and at ten minutes. Temperature was 25C.

Since ENZECO® PECTINASE PL contains only pectin lyase, the mannans are not affected and retain their maximum polymer size.

For samples or additional information, please contact Enzyme Development Corporation at info@EnzymeDevelopment.com or call us at (1)212.736.1580 ext 302.