

# **THE INFLUENCE OF SUPERMASSCOLLOIDER ON THE MORPHOLOGY OF SUGAR CANE BAGASSE AND BAGASSE CELLULOSE**

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## **ABSTRACT**

Sugarcane bagasse (SB) was exposed to mechanical and chemical treatments in order to investigate the influence of both treatments on the morphology of cellulose extracted from SB. Samples treated with supermasscolloider (SMC) showed a slight increase in the cellulose content and the highest content after chemical treatment. Furthermore, SEM and XRD results revealed a decline in the fibre average diameter (10-2µm) and sheet-like fibrils from mechanically treated samples, while crystallinity index decreased by a small percentage difference for SB and higher for cellulose. FTIR and chemical composition analysis confirmed a partial removal of hemicellulose and lignin by supermasscolloider, whereas chemical treatments seemed to remove the significant amount which reflected effectively on the thermal stability of fibres.

*Keywords:* Sugar cane bagasse, bagasse cellulose, super mass colloider, chemical treatments