

Title:	Co-production of hemicellulose biopolymers and bio-ethanol in lignocellulose biorefineries
Abstract:	The project compares hot water and alkaline methods for isolation of hemicelluloses from sugar cane and hardwood lignocelluloses. Processes are designed to produce a highly digestible, cellulose-rich solid after hemicellulose production, for application in hydrolysis-fermentation for the production of ethanol. Hemicellulose biopolymers have a range of industrial, cosmetic and food applications, although generally underutilised in lignocellulose processing. Experimental optimisation of processes is combined with process simulation to assess economic viability of alternative processes.
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Degree:	PhD
Funded by:	NRF
Start date:	March 2014
End date:	March 2018
Feedstock:	Sugar cane and hardwood lignocelluloses
Value chain products:	Hemicelluloses, ethanol, electricity
Geographic source of the feedstock:	KZN, WC, MP