

CONVERSION OF CELLULOSE, HEMICELLULOSE AND LIGNIN INTO PLATFORM MOLECULES: BIOTECHNOLOGICAL APPROACH



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Publications

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Abstract

Running a biomass biorefinery based on lignocellulosic feedstock is challenging from a processing point of view as well as from a market point of view. Continuous process and product development is needed to meet the dynamics in the markets. Borregaard in Sarpsborg, Norway, is one of the most advanced biorefineries in operation today and we have more than 40 years experience of running such a biorefinery. Based on this experience and presence in many markets, new strategies for converting lignocellulosic biomass to biochemicals and biofuels in a sustainable and profitable way are paved out.

Both experiences from the long history of running a biorefinery as well as the main development routes for future new bioproducts will be presented. In particular the BALI pretreatment and separation process will be described. BALI process steps constitute the first lignocellulosic process steps in the EuroBioRef project and the sugars produced by the BALI process will be further processed by other partners in the project. The BALI process will be compared to other competing process options and challenges like lignin inhibition of enzymes during enzymatic hydrolysis, inhibitors for fermentation, fermentation of pentoses and production of value added products from lignin will be addressed.

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