



Press Release

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Improved pentose-fermenting yeast strains developed in Europe's flagship second generation biofuels research project

Brussels – 20 March 2007 Researchers in the most significant research project funded by the European Union (1) on producing ethanol from lignocellulosic raw materials, known by its acronym 'NILE', have made important progress by improving the first generation of industrial xylose- and arabinose- fermenting yeasts. Xylose and arabinose, which belong to a family of sugars known as pentoses, may constitute as much as 35% of the dry matter of lignocellulosic raw materials, particularly agricultural residues such as wheat straw, corn stover and bagasse. The yeasts are based on readily available "Baker's Yeast".

Prof Bärbel Hahn-Hägerdal of Lund University, who co-ordinates the research groups in charge of developing new yeast strains in 'NILE' (Lund University, ETH Zürich, New University of Lisbon, Goethe University Frankfurt am Main), said: "Through a combination of metabolic and evolutionary engineering strategies significant progress has been made on pentose utilization and strain tolerance. Further improvement will enable us to test our strains in the Sekab E-Technology pilot located at Örnsköldsvik (2) using real raw materials and fermentation strategies currently developed at the bench-scale."

Second generation biofuels are high on the research agenda in the US, where on 28 February, the Department of Energy announced that it would spend up to \$385 million (€ 290 M) in six biorefineries over the next four years. Industry will co-finance the plants, bringing the total investment up to \$1.2 bn (€ 910 M). Four of the biorefineries will use processes based on hydrolysis and fermentation similar to NILE's (3).

European leaders acknowledged the importance of second-generation biofuels at their recent highly-publicised summit in Brussels (4), but have yet to commit anything like the resources that the US is currently providing. They call on the Commission to implement thoroughly and rapidly "the measures highlighted in the June 2006 Council conclusions on the Commission Biomass Action Plan, notably as regards demonstration projects for second-generation biofuels."

Notes to Editors:

1) NILE is an FP6 Integrated Project, running for 4 years with a total budget of EUR 12.4M

2) http://www.nile-bioethanol.org/doc/PR_NILE_05Dec06_pr.pdf

3) DoE press release: <http://www.energy.gov/news/4827.htm>

4) 7-8 March - Council conclusions: page 21,

http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ec/93135.pdf