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Press release:

Novozymes awarded USD 12.3 million contract from the U.S. Department of Energy

Funding will be used to further increase efficiency of enzymes for converting waste biomass to cellulosic ethanol.

DAVIS , California – Novozymes was awarded a USD 12.3 million contract from the U.S. Department of Energy (DoE) today to improve the enzymes necessary to produce cellulosic ethanol. Novozymes' project DECREASE (Development of a Commercial-Ready Enzyme Application System for Ethanol) aims to improve the performance of Novozymes' most advanced enzyme system, to further reduce the cost of cellulosic ethanol production. Under the terms of the 2.5-year contract Novozymes has committed to increase the efficiency of the enzymes used in the conversion of cellulosic biomass to ethanol by two-fold. In combination with internally funded research and development to reduce enzyme production costs, this work will enable Novozymes to supply new and even more cost-efficient commercial cellulases in pilot, demonstration, and commercial plants by 2012. Novozymes will match the DoE funding dollar for dollar, bringing the total investment of the research project to USD 25 million.

Development of commercially viable enzymes for the production of cellulosic ethanol is the largest research and development effort in Novozymes' history with more than 100 employees allocated. Novozymes has already confirmed plans to launch the enzymes required for commercially viable production of ethanol from cellulose by 2010, midway through this contract, and now plans to reach an enzyme cost target that is even further reduced by 2012. This target is based on the use of corn stover as biomass feedstock.

"This contract is part of the US government's commitment to the development of alternative fuels, and this latest funding will help Novozymes make cellulosic ethanol economically viable for its commercial implementation partners. Novozymes is focused on being the innovation leader for the sustainable production of biofuels, and we are very pleased that the U.S. Department of Energy is continuing support our efforts," says Ejner Bech Jensen, President of Novozymes, Inc.

In addition to the contract work, Novozymes is working to optimize the efficiency of enzymes on other pretreatments and second-

generation feedstocks such as straws, sugarcane bagasse, and wood. The company is currently supplying experimental enzymes to a wide range of development partners in the US, China, Brazil, and Europe. Novozymes is currently the world's largest supplier of enzymes for the existing first-generation (corn) ethanol industry.

This is the second contract Novozymes has received from the DoE. The first was awarded in 2001 for USD 18 million, targeting both improved enzymes and production processes for **biofuel** production. This latest contract will build on those results, specifically targeting the identification and implementation of more efficient enzymes.

Project DECREASE is carried out as a global collaboration between Novozymes researchers in California, Denmark, and China and external partners: the Pacific Northwest National Laboratory, the National Renewable Energy Laboratory, and Cornell University in the US, and Centre National de la Recherche Scientifique in France.

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