



Investigations of the in Planta Expression of Active Cellobiohydrolase I

**Cooperative Research and Development
Final Report**

CRADA Number: CRD-07-219

NREL Technical Contact: Michael Himmel

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

CRADA Report
NREL/TP-7A10-49256
February 2011

Contract No. DE-AC36-08GO28308

NOTICE

This report was prepared as an account of work sponsored by an agency of the United States government. Neither the United States government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States government or any agency thereof.

Available electronically at <http://www.osti.gov/bridge>

Available for a processing fee to U.S. Department of Energy and its contractors, in paper, from:

U.S. Department of Energy
Office of Scientific and Technical Information

P.O. Box 62
Oak Ridge, TN 37831-0062
phone: 865.576.8401
fax: 865.576.5728
email: <mailto:reports@adonis.osti.gov>

Available for sale to the public, in paper, from:

U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
phone: 800.553.6847
fax: 703.605.6900
email: orders@ntis.fedworld.gov
online ordering: <http://www.ntis.gov/help/ordermethods.aspx>

Cover Photos: (left to right) PIX 16416, PIX 17423, PIX 16560, PIX 17613, PIX 17436, PIX 17721



Printed on paper containing at least 50% wastepaper, including 10% post consumer waste.

Cooperative Research and Development Final Report

In accordance with Requirements set forth in Article XI.A(3) of the CRADA document, this document is the final CRADA report, including a list of Subject Inventions, to be forwarded to the Office of Science and Technical Information as part of the commitment to the public to demonstrate results of federally funded research.

CRADA number: CRD-07-219

CRADA Title: Investigations of the in Planta Expression of Active Cellobiohydrolase I

Parties to the Agreement: Syngenta Biotechnology, Inc. -- Bioline

Joint Work Statement Funding Table showing DOE commitment:

Estimated Costs	NREL Shared Resources
Year 1	\$0
Year 2	\$0
Year 3	\$0
TOTALS	\$0

Abstract of CRADA work:

NREL will perform full compositional analysis for up to 70 corn cob samples selected by Syngenta. Syngenta will provide to NREL 20g of each sample, milled to pass through a 2mm screen and dried to less than 10% moisture.

Summary of Research Results:

It was the purpose of this project to determine if cellulases produced in transgenic plants could effectively be utilized in the production of ethanol and other feedstock chemicals from lignocellulosic substrates. Heterologous expression in transgenic plants resulted in full length and fully active enzyme was expressed at significant levels in plant tissue. This project was very interactive with Syngenta scientists and accommodated a visiting scientist from Syngenta on site at NREL.

Subject Inventions listing: None

Report Date: 12/20/10 Responsible Technical Contact at Alliance/NREL: Himmel, Michael (Aden, Andy)

This document contains NO confidential, protectable, or proprietary information.