



Biomass Program

Feedstock Infrastructure

To ensure successful biorefineries, cost-effective feedstock assembly and delivery operations must provide a consistent supply of low-cost, high-quality lignocellulosic biomass.

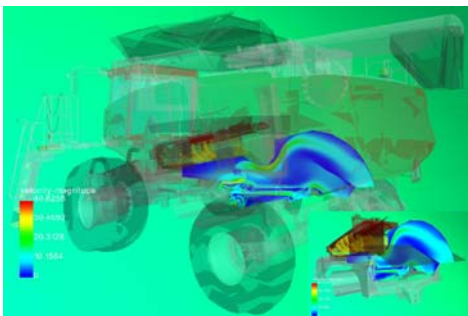
The costs of individual feedstock assembly and delivery systems need to be considered along the entire pathway. For example, biomass size reduction by grinding directly impacts transportation costs and forces unique material handling and storing options.

This project is quantifying the cost and performance benefits and tradeoffs along the entire feedstock assembly and delivery system. A better understanding of the assembly and delivery operations and their combined impact on feedstock value (combination of cost and quality) will help achieve the cost targets established by the Office of the Biomass Program (OBP) for delivering dry, wet, and

woody biomass feedstocks to a biorefinery at \$45/dry ton by 2009 and \$35/dry ton by 2012.

R&D Pathway

Researchers are focusing on the following three areas: 1) downstream costs associated with sustainable harvest practices; 2) engineered systems for mechanical preprocessing; and 3) dry and wet in-storage preprocessing cost parameters. The cost and performance data are used to develop computational engineering models for simulating integrated feedstock assembly systems. Furthermore, the costs associated with process improvements, including feedstock quality upgrades, will be assessed. The ultimate goal is to reduce costs and increase throughput for providing biomass for conversion to fuels, chemicals, and power.



Virtual Engineering modeling of a selective harvest process for optimizing low cost quality upgrades of biomass feedstocks

Feedstock R&D

Benefits

- Enable delivery of low-cost, high-quality biomass feedstocks to biorefineries

Applications

A supply of low-cost, high-quality biomass feedstocks will facilitate the commercialization of lignocellulosic integrated biorefineries.

Project Participants

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Project Period

FY 2006 – FY 2015

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