

TAMING THE CELLULOSIC BIOFUELS SUPPLY CHAIN:

Distributed Biomass Processing for Sustainable Biofuels and Animal Feeds



Dr. Bruce Dale

Professor, Dept. of Chemical Engineering and Materials Science

DOE Great Lakes Bioenergy Research Center

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Michigan State University

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Supplying adequate cellulosic biomass to biorefineries is emerging as a crucial issue in biofuel systems. We address this problem by pretreating cellulosic biomass using the ammonia fiber expansion (AFEX) process and then densifying the resulting pretreated biomass. The pretreatment and densification operations are done separately from the rest of the bioconversion system. Pretreated, densified biomass can then be supplied on demand to the biorefineries. The pretreated material is also a useful animal feed that can improve both the profitability and sustainability of the overall system by reducing its total land requirements. bEconomic, logistic and environmental features of the distributed biomass processing system will be discussed. Other technologies besides AFEX may also be suitable for distributed processing and will be briefly explored.

