Evaluating the Physical Quality of an Energy Crop during Storage from a Preprocessing Technology in Feedstock Supply System

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Introduction and Justification

Lignocellulosic biomass (LCB) energy crops have an important role in meeting the national mandate of advanced biofuels. The low bulk density of LCB feedstock is currently impeding the commercialization of this industry; so densification of LCB feedstock has been considered a step to improve efficiency in feedstock logistics and improve the economic efficiency of the logistics system.

Research Motivation

To determine the relationship between DML of biomass with particle size and storage protection impacts the DML of stored feedstock (Chaoui and Eckhoff, 2014) that assumed that larger particle sizes may be more prone to DML.

Two Research Objectives

To estimate DML of switchgrass under different particle sizes of feedstock and storage protection using the BT3 technology in the logistic system, where DML during storage was correlated with particle size of biomass harvested (Stipa, R., 1995; Duke D, Darr M, Tall D, and Rahn S., 2012)

- Storage protection improves the DML of switchgrass (Shark & Eckhoff, 2014)
- Storage protection impacts the DML of switchgrass (Shark & Eckhoff, 2014)

To determine the relationship between DML of biomass with particle size and protection materials over storage time.

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