

UNIVERSITY OF MINNESOTA

EXTENSION

Local Opportunities for Biomass Energy Production

Michael Sparby & Randy Hilliard, Agricultural Utilization Research Institute

Fueling the Future:

The Role of Woody and Agriculture Biomass for Energy Workshop

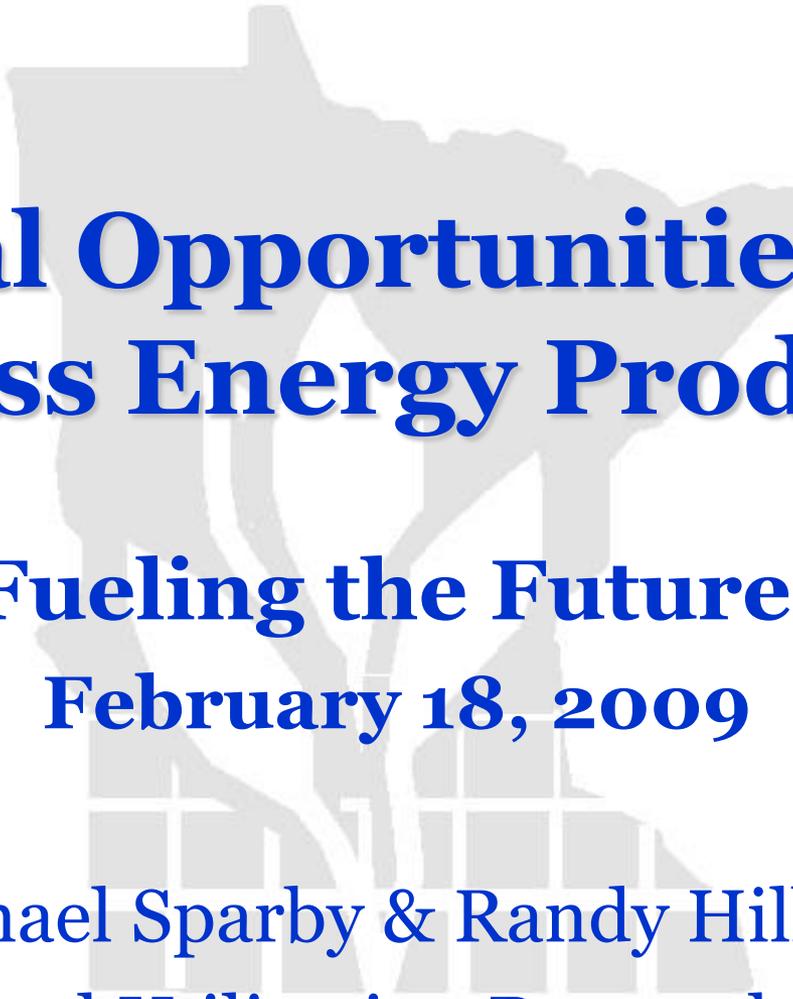
March 19, 2009

Morris

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Local Opportunities for Biomass Energy Production

**Fueling the Future:
February 18, 2009**

Michael Sparby & Randy Hilliard
Agricultural Utilization Research Institute



Agricultural Utilization Research Institute

AURI Mission

- Identification and expansion of markets for new or existing commodities, ingredients and products;
- The development of new uses or value improvements for Minnesota agricultural commodities;
- The development of ag-based, renewable energy opportunities

What we do

Sole focus is adding value to MN agriculture

- Scientific, technical assistance
 - *R&D for MN agriculture and rural processors*
 - *Technical and market feasibility*
 - *Analytical testing of processes/products*
- Broad impact initiatives
 - *Identify emerging opportunities with potential to impact large number of producers*



AURI Facilities

- Meat Lab, Marshall
- Fats & Oils Lab, Marshall
- Coproducts Lab, Waseca
- Product Development Kitchen, Crookston
- Microbiology Lab, Crookston



Biomass

- **Abundant resource**
- **Economics – biomass vs. fossil fuels**
- **CO₂ balance**
- **Federal, State, and Local incentives**
- **Value-added opportunities**
- **Bulk, moisture, handling, storage, harvest and transportation are primarily limiting issues**



Logistical Challenges

- Densification

- *Pelletizing*
- *Briquetting*
- *Pyrolysis*



- Collection and storage

- *Corn Cob Collection Demonstration*

- *Chippewa Valley Ethanol Coop, WCROC, ARS-Lab Morris, Department of Commerce, MN Corn Growers and AURI*





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MN Biomass Activities

- *Renewable Energy Assessment Template*
- *Central Minnesota Ethanol Cooperative*
- *Northern Excellence Growers, grass screening gasification*
- *Roseau Gasification-natural gas and nitrogen*
- *Chippewa Valley Ethanol Cooperative*





MN Biomass Activities

- *Hill Wood Products*
- *Sunrise Agra Fuel*
- *Alternative Energy Solutions*
- *Kota Energy*
- *Fibrominn*





Co-products Opportunities

- **Ash**
 - *Fertilizer*
- **Stabilized manure**
 - *Bedding/fuel/fertilizer*



Biomass Bio- Products

- **Compost-A-Mat**
- **Limpert Brothers**
- **American Crystal Sugar**
- **Environ**
- **Pet Care Systems**



The Opportunities Are Here! Questions?

