Local Opportunities for Biomass Energy Production

Fueling the Future:
February 18, 2009

Michael Sparby & Randy Hilliard
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
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?