Antecedents to Biomass Procurement: The Essentials for Producer Participation

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Objectives and Approach

- Expand existing literature on procurement and producer participation in biomass markets
- Capture survey data on producer perceptions of biomass procurement and sales
- Develop multi-item variables describing producer participation in biomass markets
  - Exploratory factor analysis
  - Use in econometric model
- Offer procurement information to those involved in biomass procurement
Conceptual Framework

Farmer Participation

- Information
- Contracts / Relationships
- Sustainability
- Harvest Issues
- Logistics
- Capital / Investment
- Alternative Crops
- Control Variables
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Variables
Topic Area 1 – Multi-item variables

Information

Source
- Value of biomass, nutrient value, sustainability issues, contracts, legal obligations, best practices

Deficiencies
- Biomass, nutrient value, sustainability issues, contracts, legal obligations, best practices
Contracts

- Terms, experience, land ownership, length, ownership risk

Relationships

- Trust (e.g., co-op vs. corporate relationship), 3rd party harvesters, local community
Topic Area 3 – Multi-item variables

Logistics

Storage
- On farm, timing, densification

Transportation
- Distance, equipment, labor, infrastructure, in-field transportation
Harvest

Speed / delays
• Labor, harvest delays, harvest window, moisture

Process / type
• 1 vs. 2 pass, compaction, 3rd party involvement
Sustainability

Farm program compliance
- Residue, land quality, compliance concerns, percent biomass removed

Land management issues
- Nutrient loss, water and residue management
Other Important Factors

Capital and Alternative Crops

**Capital**
- Investment in harvest equipment, equipment ownership, financing

**Alternative crops**
- Interest in growing / selling stover, cobs, grass, trees
Control Variables

Demographics
- Farm size
- Rented vs. owned land
- Lease terms
- Location (county)
- Land type (soil conditioning index)
- Rotations

Tillage practices
- Farm vs. off-farm income
- Livestock vs. corn/beans
- Education (level, ethanol, biomass)
- Multiple generation farmers
Econometric Model

Producer Participation = $\beta_0 + \beta_1(\text{InfoSource}) + \beta_2(\text{InfoDef}) + \beta_3(\text{Contracts}) + \beta_4(\text{Relationships}) + \beta_5(\text{Storage}) + \beta_6(\text{Transport}) + \beta_7(\text{Speed/delay}) + \beta_8(\text{Harvest Type}) + \beta_9(\text{Farm program}) + \beta_{10}(\text{LandMngt}) + \beta_{11}(\text{Capital}) + \beta_{12}(\text{Altcrops}) + \beta_{13-17}(\text{Control variables})$