**Customer Breakout Session II: 8:50-10:00 AM, Wednesday, September 19, 2007**

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|---|---|
| Group: | Conversion and Co-products 1 |
| Facilitator: | Mike Cotta |
| Recorder: | David Johnston |
| Presenter: | Kristi Fjare |

(List the points raised by the group. Use bullets.)

***For your Component, what should be the Sub-Components?***

**Please make Sub-Components clear, concise and unambiguous**

| Recommended Sub-Components (in priority) | Relative Weight |
|---|---|
| Distillers grains utilization | 6 |
| Lifecycle analysis/Process efficiency | 5 |
| Compatibility with modern diesel technology; Quality assurance; Improved cold flow and oxidative stability | 5 |
| Thermochemical conversion of agricultural products and biorefinery coproducts | 5 |
| Process flexibility / robustness | 4 |
| Engineering of low capital cost cellulose conversion units | 3 |
| Field analytical tools | 3 |
| Improved starch to ethanol process technologies | 2 |
| Identify cellulosic feedstock that effectively converts to ethanol | 1 |
| Optimize cellulosic pretreatment and fermentation | |
| Value added coproducts | |
| | |

For each sub-component, recommend research partnerships that ARS should continue or explore with external institutions (e.g., other Federal agencies, universities, National Labs, and/or industry) – please record on flipcharts

Common Themes
- Coproducts
- Lifecycle analysis
- Process flexibility or robustness

Biodiesel
- Improved cold flow and oxidative stability
- Compatibility with modern diesel technology
- Quality assurance

Starch to ethanol
- DDGS utilization and quality (any distillers grains)
- Improved process technologies
  - Development of a variety of coproducts

Cellulose to ethanol
- Engineering of low capital cost conversion units
  - Assess tradeoff between scale, efficiency and cost
- Identify cellulosic feedstock that affectively converts to ethanol
- Optimize cellulosic pretreatment
- Field analytical tools

Thermochemical conversion of agricultural products and biorefinery coproducts