


# Minimizing Air and Greenhouse Gas Emissions from Biofuel Production



ICEAF Subcommittee  
USDA AAQTF  
Salt Lake City, Utah  
May 14, 2008



# ICEAF Priorities

## Priority #1:

Evaluate the impact of agricultural biofuel production and use on air quality including multi-media impacts.

- Biofuel production
- Biofuel processing



## Air and GHG Emissions from Biofuel Production

- Increased fertilizer use = increased ammonia and N<sub>2</sub>O emissions;
- Increased tillage = increased GHG emissions and increased PM emissions;
- Many potential biofuel crops are new to U.S. farmers and BMPs for production need to be developed and demonstrated.



# Recommendations for Biofuel Production

**UDSA leadership on research efforts focusing on agronomic and field operation strategies to:**

- reduce tillage**
- improve fertilizer and fuel use efficiency**



# Recommendations for Biofuel Production

- **Develop technical guidance and appropriate BMPs for alternative energy crops**
- **Demonstrate alternative energy crop production practices through extension education and outreach**



## Examples of Strategies:

- National Campaign for Fertilizer and Fuel Use Efficiency
- Local/regional workgroups to demonstrate and evaluate new biofuel crops
- Local/regional partnerships to increase adoption of conservation tillage and improve fertilizer use efficiency



## Air and GHG Emissions from Biofuel Processing

- VOC emissions from ethanol plants
- VOC emissions from biomass storage
- PM emissions from ethanol plants
- Odors from ethanol plants
- Odors from biomass storage
- Rural truck and rail traffic issues related to air emissions



## Follow-up on Previous ICEAF Recommendation

**CenSARA is hosting a conference on environmental challenges associated with biofuel production and strategies for overcoming them:**

**National Biofuel Meeting**

**June 16-18**

**Kansas City, MO**





# USDA Leadership

- USDA staff have led the development and demonstration of sustainable agronomic practices since the inception of the NRCS
  - Staff has expertise, resources and established partnerships
  - Improved fertilizer and fuel use efficiency will benefit farm profits
- A diverse portfolio of biofuels are needed to advance U.S. renewable fuel production



# Questions?

## ICEAF Subcommittee Members:

- Bob Avant (co-chair)
- Annette Sharp (co-chair)
- Kristen Hughes
- Sally Shaver
- Martin Bauer
- Manuel Cunha