Minimizing Air and Greenhouse Gas Emissions from Biofuel Production

ICEAF Subcommittee
USDA AAQTF
Salt Lake City, Utah
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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 N2O 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:

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• Annette Sharp (co-chair)
• Kristen Hughes
• Sally Shaver
• Martin Bauer
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