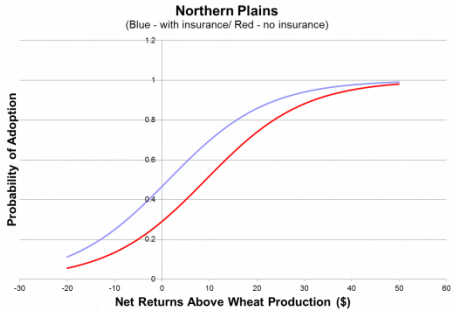
Economic and Social Analysis

ONR Program Officer: Sharon Beermann-Curtin

Objective 1. Assess farmer and allied agricultural service providers

Description

1. Identify and eliminate barriers to oilseed production
2. Assess the networks necessary to produce oil seeds to jet fuel



Key Accomplishments & Findings

1. **Conducted farmer survey, 1437 surveys completed**
   - **Factors increasing likelihood of adoption include nearby crushing facility (18%), prior oilseed experience (18%), being a first adopter, having a college degree, and being a conservationist.**
   - **Factors decreasing likelihood of adoption include being overly risk averse (16.5%) and having more farm experience.**
2. Conducted stakeholder and farmer focus groups
   - Farmers look for low risk, higher earning
   - Farmers want multiple markets
3. Conducted extension survey

Tools & Methods

1. Survey farmers across the wheat belt
2. Survey extension and information providers
3. Conduct stakeholder and farmer focus groups
4. Marginals run on on both surveys, with deeper analysis of the extension results
5. Focus groups analyzed using N-Vivo to identify emergent themes.
6. Analysis of current oilseed pressing and jet fuel networks to identify network nodes

Project Management Information

1. Launch: FY2011, Termination: FY2014
2. Collaborators: Jason Bergtold and Cornelia Flora
3. Additional funding source USDA-AFRI grant

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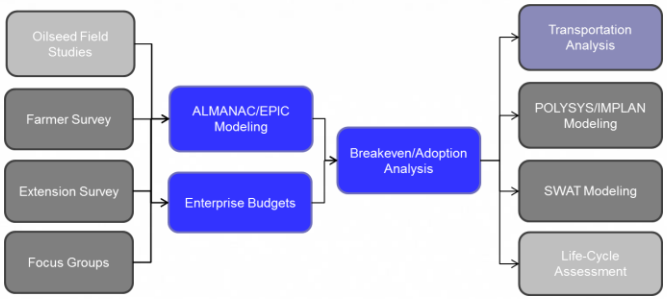
Objective 2. Develop strategic guidance to integrate HRJ biofuel feedstock production into existing agricultural land

Description

1. Identify where oilseeds can be economically produced, available supply, and sustainability impacts
2. EPIC model simulation, breakeven analysis, environmental impacts, POLYSYS and IMPLAN economic impacts



Key Accomplishments & Findings

1. **Completed simulations, economic analysis, transportation analysis, and LCA for one oilseed crop for all of North Dakota (~280,000 simulations).**
2. Complete model inputs (management, soil, weather) developed for Northern Great Plains
3. Partners Developed portable version of POLYSYS for economic impact analysis
4. Developed prototype Price Impact Explorer decision tool to display model results online
5. Model simulation showed most profitable oilseed production in areas of SW and NW North Dakota
   - $500/Mg oilseed price = 22.5 million gal/yr HRJ from ND

Tools & Methods

1. Conduct EPIC model simulation and breakeven analysis for each soil, weather station, and predominant crops within the wheat belt
   - Identified historical crop sequences using NASS-CDL
   - Management files and crop budgets developed based on NRCS management database, refined using information from field trials, farmer survey and focus groups, and extension crop budgets
   - Soils inputs derived from NRCS NCSS database
2. Use land use results with POLYSYS to estimate national-level crop price impacts
3. Link oilseed production results to transportation and LCA

Project Management Information

1. Launch: FY2011, Termination: FY2015
2. Additional funding source USDA-AFRI grant
3. Closely connected with ALMANAC model oilseed simulation work at Temple, TX (Jim Kiniry, Kate Behrman, Kim Hunter) ; and NAL data management (Peter Arbuckle, Don Gourley, Susan McCarthy)
4. Subaward to USDA-OCE (Harry Baumes) and U of TN provided linkage to POLYSYS modeling
5. Other linkages: Life-cycle assessment (Mich Tech), oilseed field trials, transportation modeling (Volpe Center)

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