



Energy In Agriculture: Managing the Risk

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Farm Foundation



**USDA's Office of Energy
Policy and New Uses**



**Risk Management
Agency**



Perspectives on Energy and Risk

CHS Industry Perspective

Petroleum Refining

Grain Marketing


Ethanol Investments

Ethanol Marketing






Assumptions

- Ethanol is a petroleum fuel extender and oxygenate
 - Ethanol values/profitability are ultimately a function of
 - Corn Values
 - Crude Petroleum Values
 - Petroleum Crack Margins
 - State Mandates
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Corn Situation

- Presently 97 ethanol plants in operations
 - Presently 36 plants under construction or announced
 - We assume 20 new plants per year 2008 – 2010
 - 2006 - 78 Mill Corn Acres - 10.9 Bill Bu
 - 2011 - 95 Mill Corn Acres - 14.0 Bill Bu
 - 2007 - Ethanol prod - 2.15 Bill Bu Corn - 6 Bill Gal
 - 2011 - Ethanol prod - 5.36 Bill Bu Corn - 15 Bill Gal
 - 2006 - 76.9 Million Soybean Acres
 - 2011 - 65.0 Million Soybean Acres
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Petroleum Situation


- US Refinery Capacity
 - 17.125 Mill Bbls / Day
- US Gasoline Production @ 1:1 Gas Crack
 - 115.08 Billion Gallons / 320 day Year
- US Gasoline Consumption
 - 136.875 Billion Gallons / 365 day Year
- Implied Ethanol % at 15 Billion Gallons – 10.96%





Petroleum / Ethanol Economics

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- Crude Oil /Dec \$74.71 / Bbl
 - Gas Crack \$17.00 / Bbl / \$13 Net
 - Ethanol \$2.40 / Gal 4Q/1Q
 - Dec Corn \$2.10 / Bu
 - Manufacturing Expense \$1.15
 - Ethanol Margin is \$.78 / Gal or \$32.76 / Bbl
 - * With Subsidies \$55.45 per Bbl
 - Breakeven Ethanol Crack \$4.28 / Bushel on Corn
(without subsidies)
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Implications

- Ethanol Demand over 15 billion gallons (40 more plants) may require new technology due to lack of corn acres (cellulose?)
 - Corn Prices will go higher
 - If corn (and meal) prices go higher food prices will go higher
 - Politicians could switch from energy issues to food
 - Subsidies and Tariffs could be at risk
 - Petroleum crude prices between \$45 and \$80?
 - Petroleum crack margins may go lower
 - Gasoline prices lower? Reduced demand?
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