Ethanol and Cattle Feeding: Economic Implications

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High Plains Biofuels Co-Product Nutrition Conference
Garden City, KS - - February 20, 2008
Garden City Weekly Cash Corn Price, 1996 - Feb 2008

Source: USDA
U.S. Ethanol Biorefinery Locations

Source: Renewable Fuels Association
01.24.08
US Ethanol Production, 1995-2010 ('07-'10 forecasted)

Source: Renewable Fuels Association & own forecasts
Percentage of US Corn Production Used for Ethanol Production 1995-2010 ('07-'10 forecasted)

Source: Renewable Fuels Association, USDA, & own estimates
56 lbs. → 2.8 gallon → 17-18 lbs.
Distiller's Grain Production 1999-2010 (’07-'10 forecasted)

Source: Renewable Fuels Association, USDA, & own estimates
Is the Ethanol bubble about to burst?

No, but it is facing some growing pains.
Ethanol Gross Margin based on Futures Prices, April 2005 – January 2008

Center for Agricultural and Rural Development (CARD), http://www.card.iastate.edu/, Iowa State University, Ames, Iowa
Gross Value of Ethanol and Distiller's Grain Per Bushel of Corn, Weekly Nebraska, Feb 2007 - Feb 2008

Source: Livestock Marketing Information Center
Estimated Gross Margin of Ethanol Distiller's Per Bushel of Corn, Weekly Nebraska, Feb 2007 - Feb 2008

Gross Value ($/bushel of Corn)

Source: Livestock Marketing Information Center

Source: Yahoo Finance
US President George Bush  
State of Union Address Jan. 23, 2007

“To reach this goal, we must increase the supply of alternative fuels, by setting a mandatory fuels standard to require 35 billion gallons of renewable and alternative fuels in 2017 -- and that is nearly five times the current target.”

ETHANOL REDUCES AMERICA’S DEPENDENCE ON FOREIGN OIL.
Implications for High Plains Cattle Feeding

1. Higher grain prices
2. Greater grain price volatility
3. Stronger grain price basis & variability
4. Cattle on high energy feed less time
5. Regional shift of cattle to bio-refineries
6. Intense competition for trucks
Corn is more expensive

National Average Corn Price vs. Ending Stocks to Use Ratio, 1995/96-2009/10

Source: USDA
Corn is more expensive

National Average Corn Price vs. Ending Stocks to Use Ratio, 1995/96 - 2009/10

Source: USDA
Will we plant our way out of this?

Futures Prices February 15, 2008

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Contract Year</th>
<th>Price</th>
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<tbody>
<tr>
<td>Corn CBOT</td>
<td>DEC ’08</td>
<td>$5.38/bu</td>
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<tr>
<td></td>
<td>DEC ’09</td>
<td>$5.08/bu</td>
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<td></td>
<td>DEC ’10</td>
<td>$5.02/bu</td>
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<td>Soybeans CBOT</td>
<td>NOV ’08</td>
<td>$13.17/bu</td>
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<td></td>
<td>NOV ’09</td>
<td>$12.52/bu</td>
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<td>Hard Red Wheat KCBT</td>
<td>JUL ’08</td>
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<td>JUL ’09</td>
<td>$8.75/bu</td>
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Is releasing CRP the answer?

CRP Acres by State (Top Ten States), 2008

68.5% of 34.6 mln acres

State

TX

MT

KS

ND

CO

IA

MN

WA

MO

SD

Acres

0

500,000

1,000,000

1,500,000

2,000,000

2,500,000

3,000,000

3,500,000

4,000,000

4,500,000

68.5% of 34.6 mln acres
Corn Price is more variable & insurance more expensive

Annualized Implied Volatility, Corn Option Market, 1990-2007

62% increase in Price of an option

Corn price more expensive than NE and volatile price differences

Cash Corn Price Difference: Garden City minus Omaha,
Weekly Jan 2001 - Feb 2008
Weekly Garden City and Omaha Nearby Corn Basis,
Jan 2001 - Jan 2008
Distiller’s grain is more expensive in KS


Source: USDA
Corn is a poor cross hedge for DG price risk

Garden City Corn and Kansas Distillers Grain Prices,
Weekly 2006-Jan 2008
Corn is a poor cross hedge for DG price risk.


Distiller’s Price ($/ton) vs Corn Price ($/bu)

$40/ton basis variation

Source: USDA
Truck freight with ethanol production to almost double 2002 to 2020. Driver shortages projected to reach 219,000 by 2020. *Ethanol Transportation Backgrounder, USDA, Sept. 2007*
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