



Biofuels Policy Options

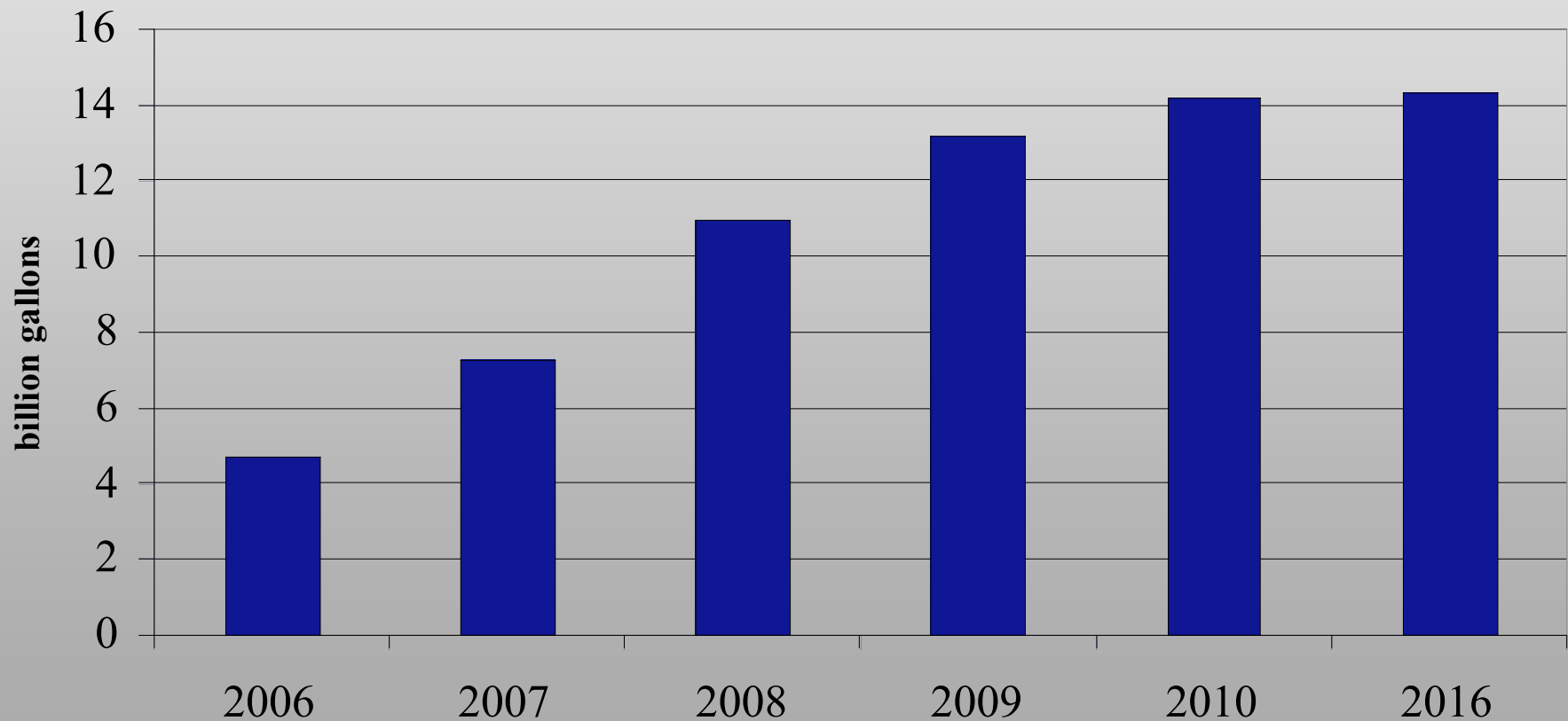
Bruce A. Babcock

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Rural Development**

Where We Are

- **Corn-based ethanol is poised to dramatically expand**

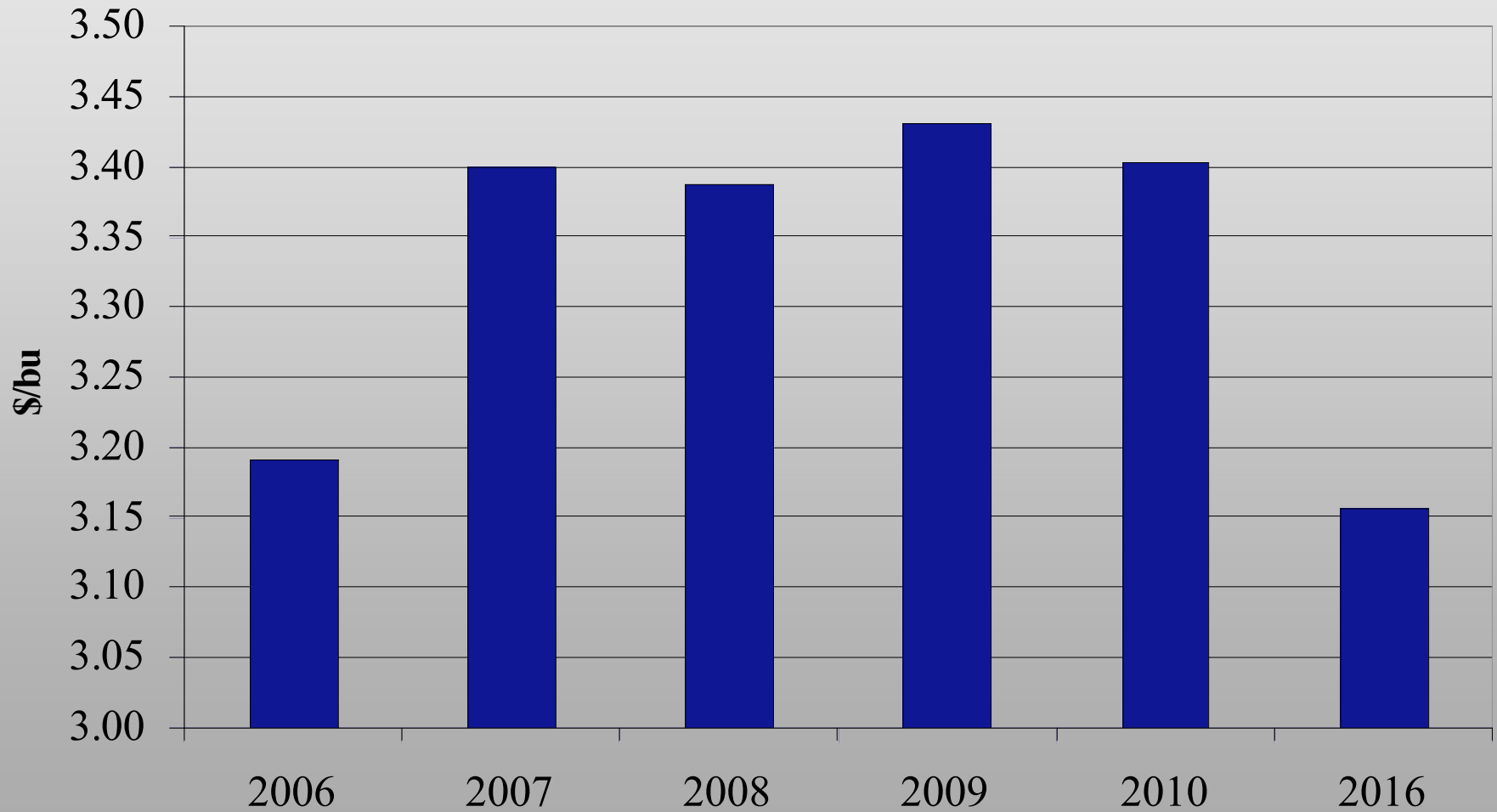
Projected Ethanol Production from Corn



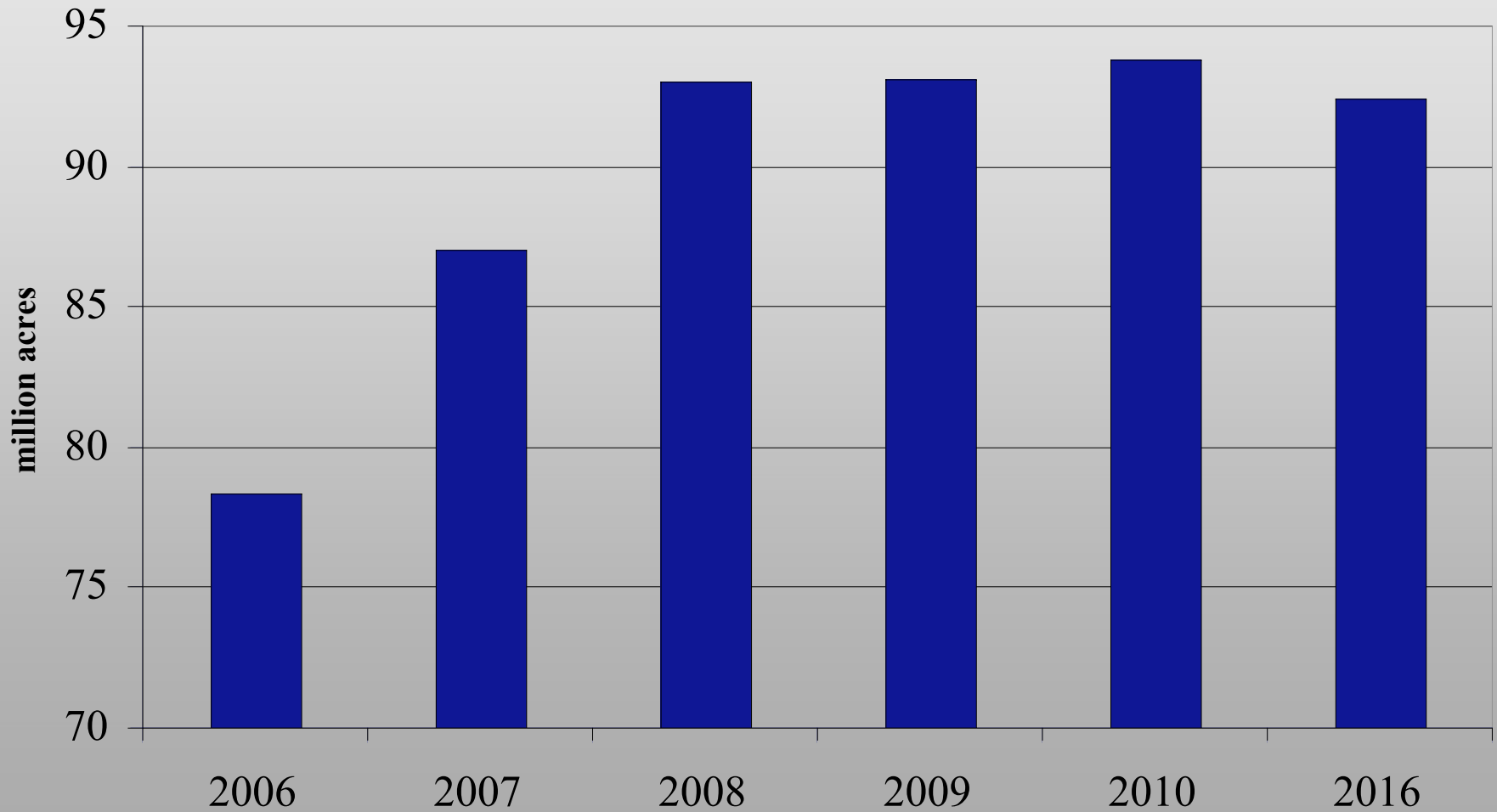
Where We Are

- Corn-based ethanol is poised to dramatically expand
- **New-crop corn and soybean contracts trading at all-time highs**
 - \$4.20/bu for corn and \$8.30/bu for soybeans

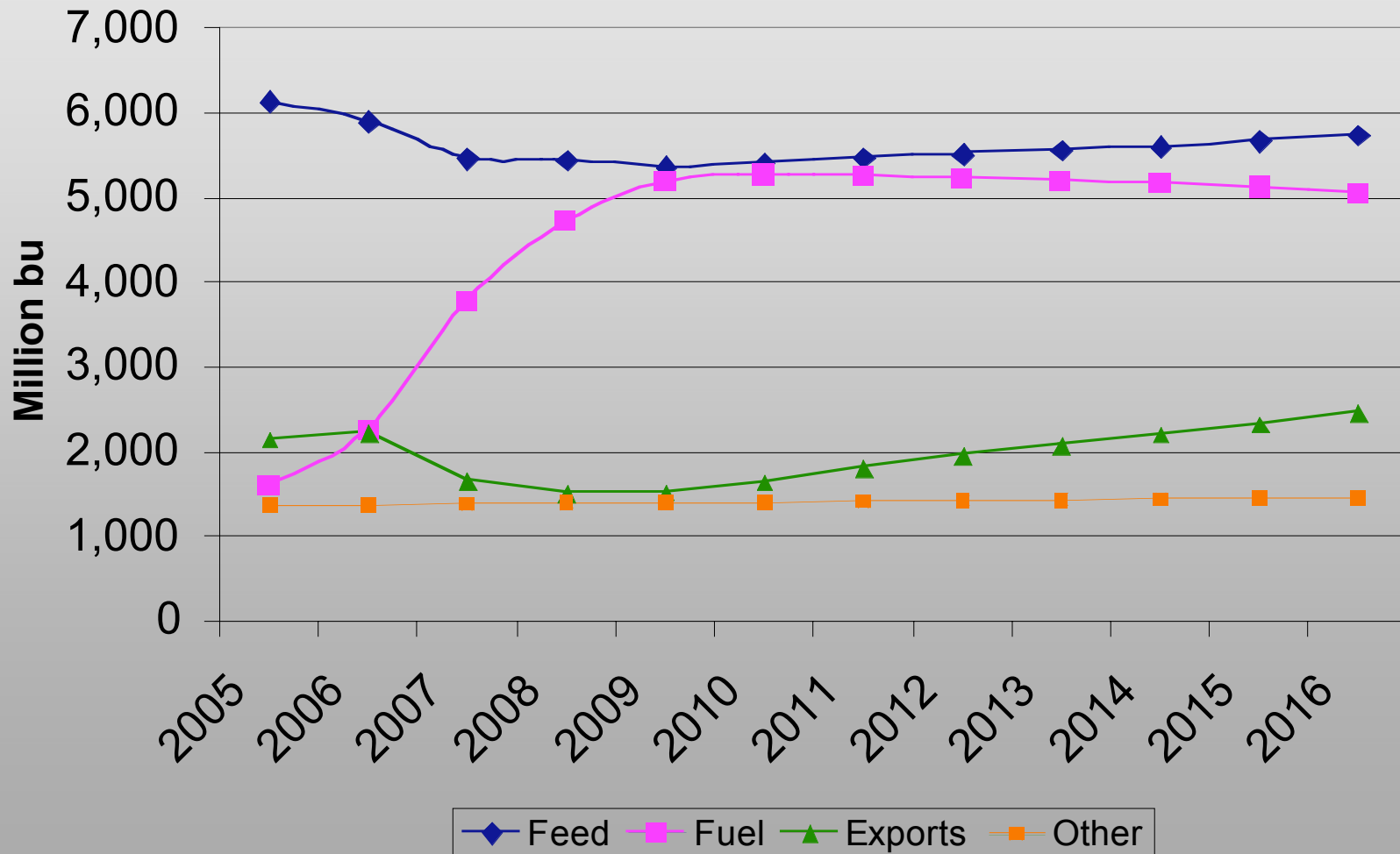
Projected Corn Prices



Projected Corn Planted Acreage



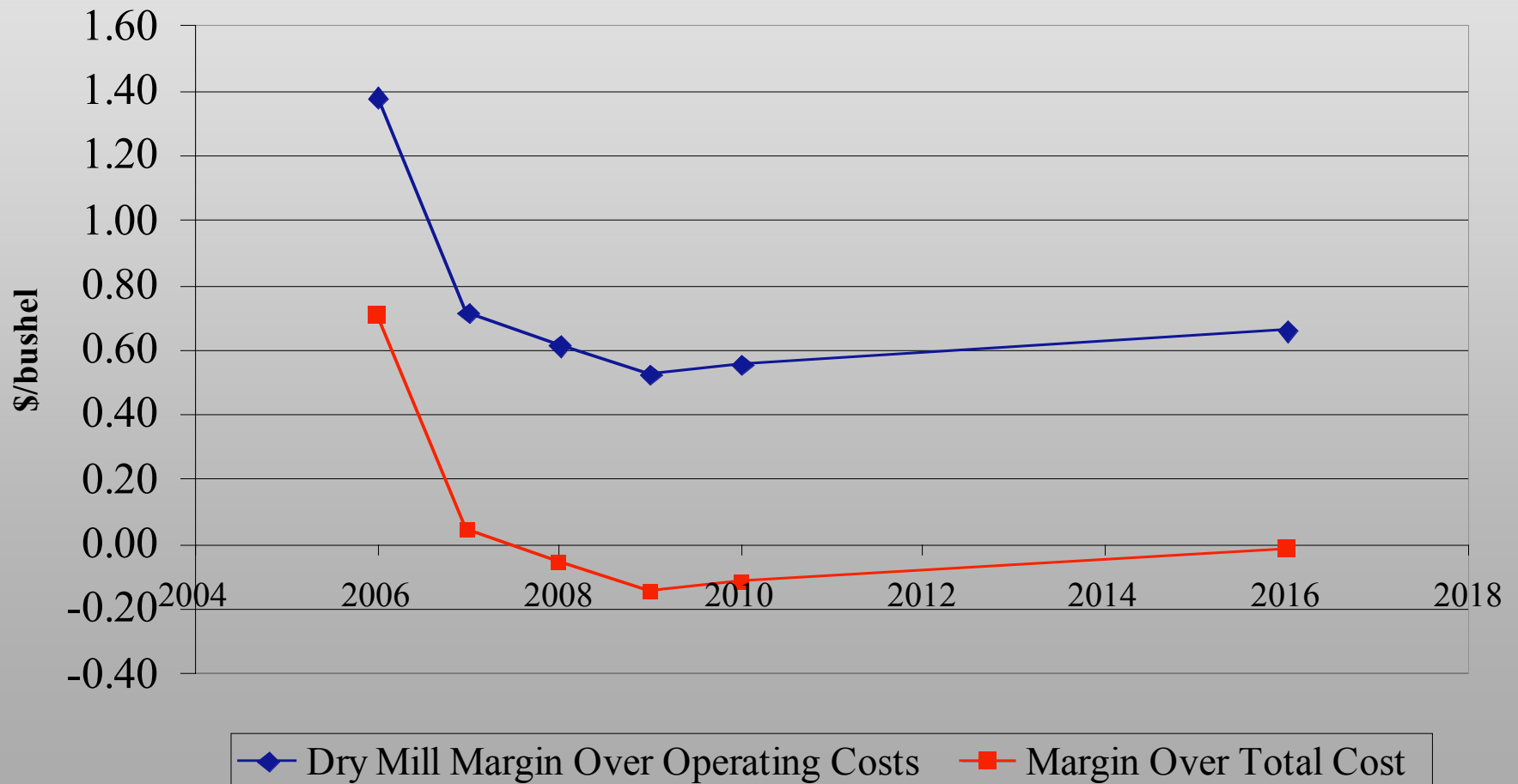
Projected Use of Corn



Impacts of Corn Ethanol Boom

- High commodity prices will lead to high land prices and land rents
- Livestock returns will drop until markets adjust
- Growth in U.S. livestock industry will slow
- High feedstock prices will cut returns to investments in ethanol and biodiesel plants

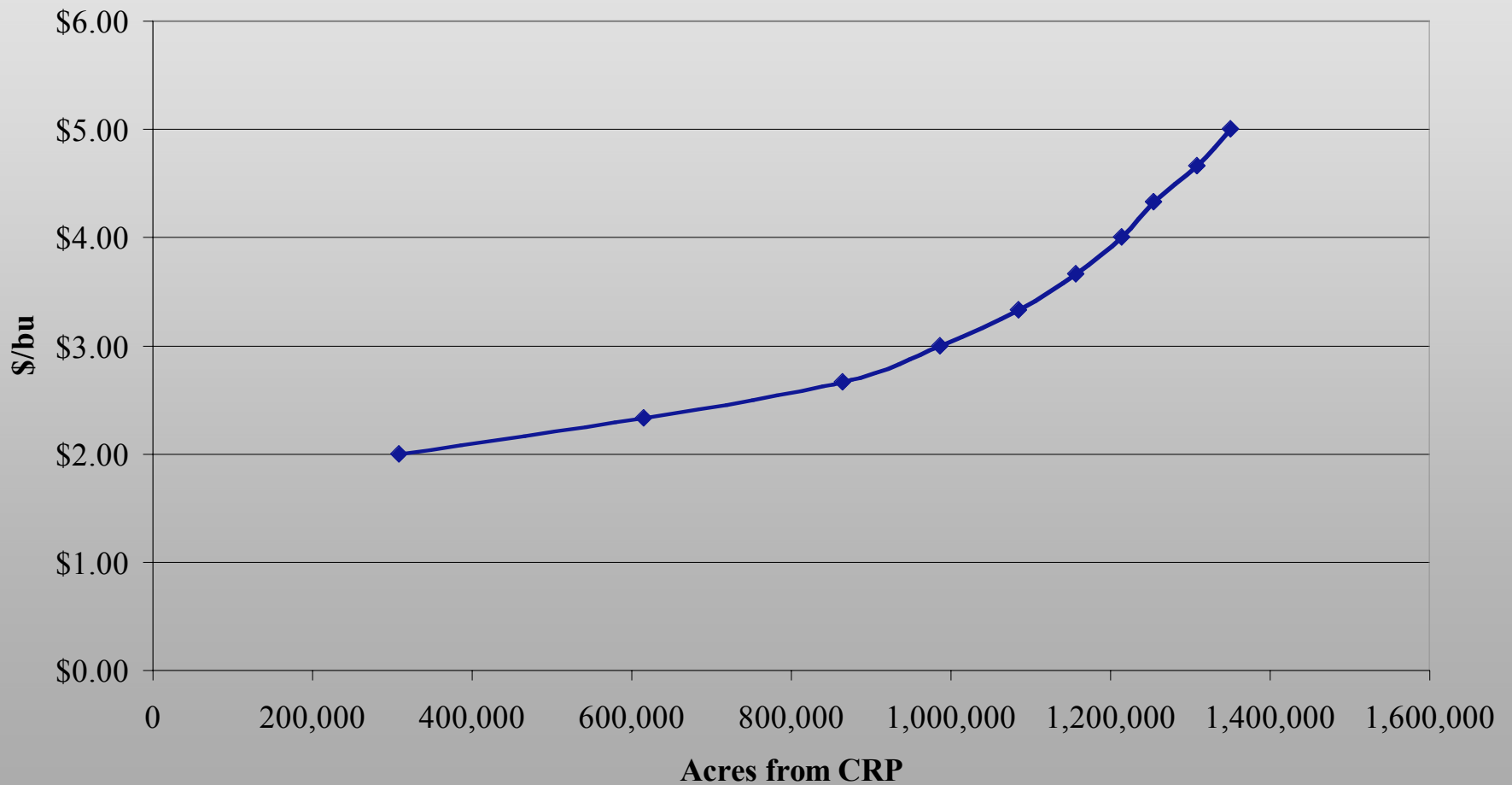
Projected Dry Mill Margins Over Operating Costs and Over Total Costs



Environmental Worries

- **CRP supporters believe that high corn prices will reduce CRP acres**
- **Increased corn acreage will increase nutrient and soil losses**

Supply of Iowa CRP Acres to be Cropped at Different Corn Prices



Does it Make Sense?

- Higher food prices
- Higher land prices
- Some environmental losses
- Lower growth rates in livestock industry
- For 10% of U.S. gasoline consumption

Societal Benefits of Biofuels

- **Reduction in greenhouse gas emissions**
 - **Increased energy security**
- **Are we achieving these benefits with current policies?**

Current Policy Incentives

- **\$0.51 per gallon fuel tax credit to blenders of ethanol**
- **\$1.00 per gallon subsidy for biodiesel producers who use virgin vegetable oil, \$0.50 per gallon for non-virgin oil**
- **Renewable Fuels Standard**
- **Various state initiatives to encourage ethanol**

Greenhouse Gas Reduction

- **Carbon dioxide emitted when ethanol or gasoline are burned**
- **But ethanol carbon source came from atmosphere**
- **Hence net emissions are lower with ethanol**

Corn Ethanol's Net Gain

- **Reduced because**
 - Diesel fuel, pesticides, fertilizer, irrigation electricity and propane all cause emissions
 - Electricity and fossil fuels used to run the ethanol plant and dry distillers grains

Net is positive but...

- **Much smaller than Brazilian ethanol from sugar cane**
- **Much smaller than it could be if plants were co-located with livestock**
 - **Save drying energy**
 - **Save transportation energy**
 - **Run the plant on methane generated from manure**

Increased Energy Security

- **Not energy independence**
 - Why should we strive for independence from Canada and Mexico who want to sell us energy for less than we can produce it for?
- **Energy diversification will reduce U.S. vulnerability to oil supply disruptions and price shocks**

Policy Choice

- **Is our objective more ethanol from corn or do we want to efficiently lessen greenhouse gas emissions and increase energy security?**

Efficient Greenhouse Gas Reduction

- **Create a general incentive for reducing greenhouse gases**
- **Let the private sector find the least cost way of doing it.**
 - **Cap total emissions, trade credits**
 - **Tax fossil fuels, don't tax other energy sources**

Efficient Energy Diversification

- **Create disincentive to use petroleum or natural gas**
- **Create incentive for anything else**
 - **Wind, solar, ethanol, biodiesel, bio-butanol, cellulosic ethanol, methane from manure, methanol, etc.**

Efficient Policy Principle

- **Be neutral with respect to means by which social objectives are met**
 - **Don't have government pick winners!**
- **Make market rewards proportionate to contribution to meeting objective**

Conclusions

- **Ethanol from corn is a huge success story for Iowa and the United States**
 - Demonstrates that biofuels can help meet social objectives
 - Starts putting in place the needed mindset and infrastructure to move away from fossil fuels

Is Corn Ethanol the Best Solution?

- **Can only tell if policy incentives become more neutral over time**
 - **Less focus on ethanol, more focus on meeting broad incentives**
- **Result would be a change in the way we produce corn ethanol and we would get additional sources of alternative fuels**