

Bio-Fuel Revolution and Its Impact on Dairy and Agriculture Sectors

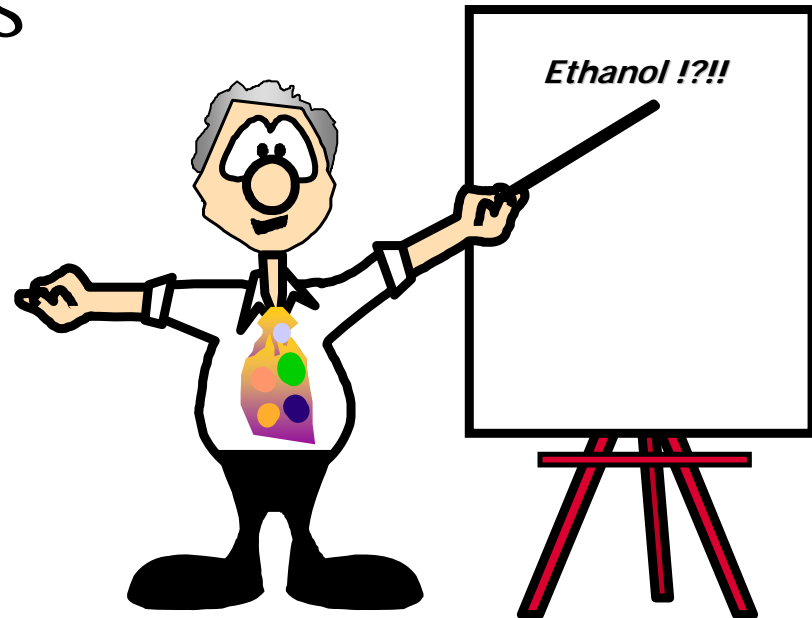
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Overview

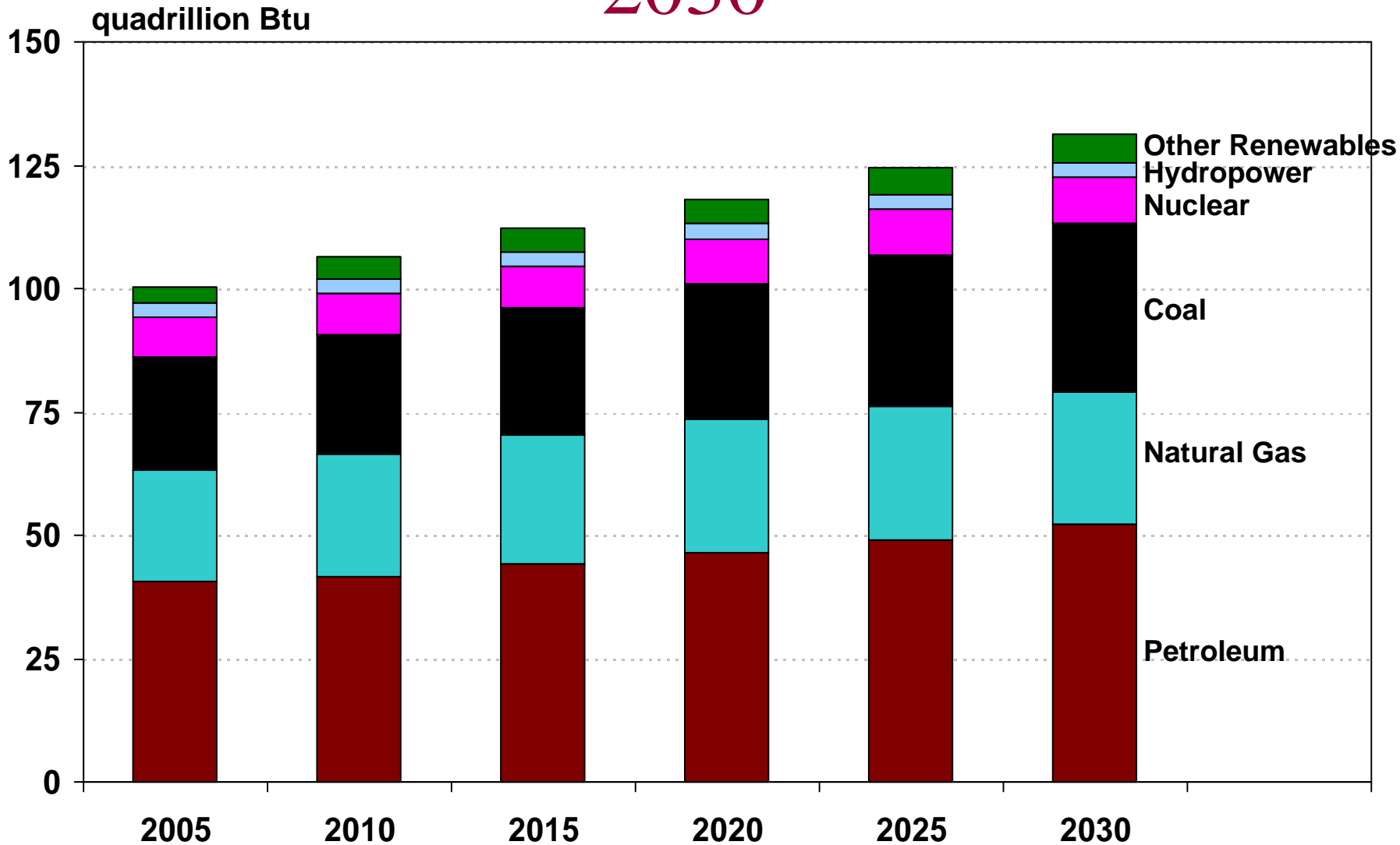
- Energy Overview
- Latest Renewable Fuel/Energy Bill
- Feed and Dairy Markets



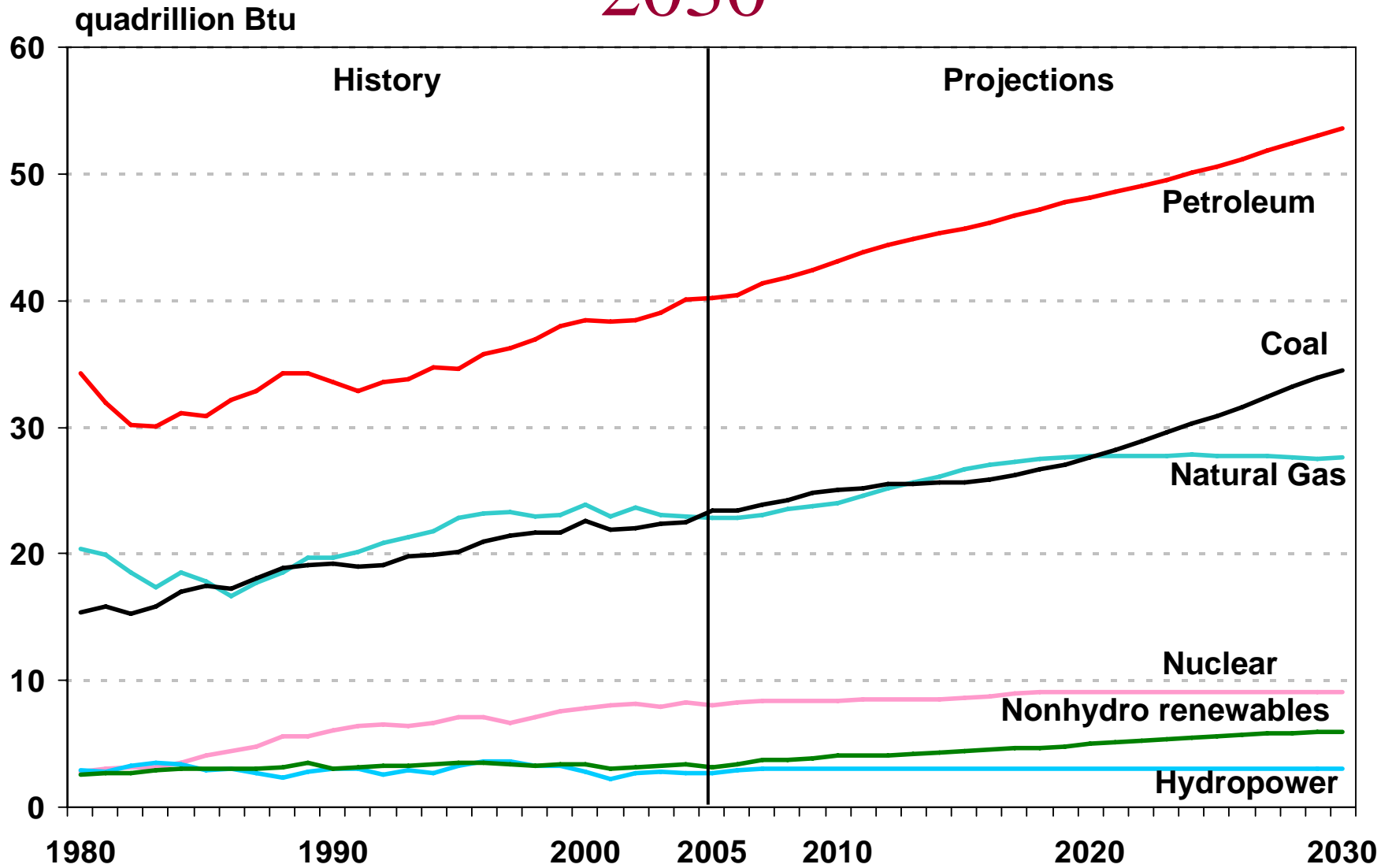
For Starters...

- Energy Markets Are Key
 - High priced oil
 - High energy prices
- Two Major Uses of Energy
 - Transportation fuel
 - Electricity generation
- Policies Are Important
 - Renewable fuel mandates, mandated demand
 - MTBE

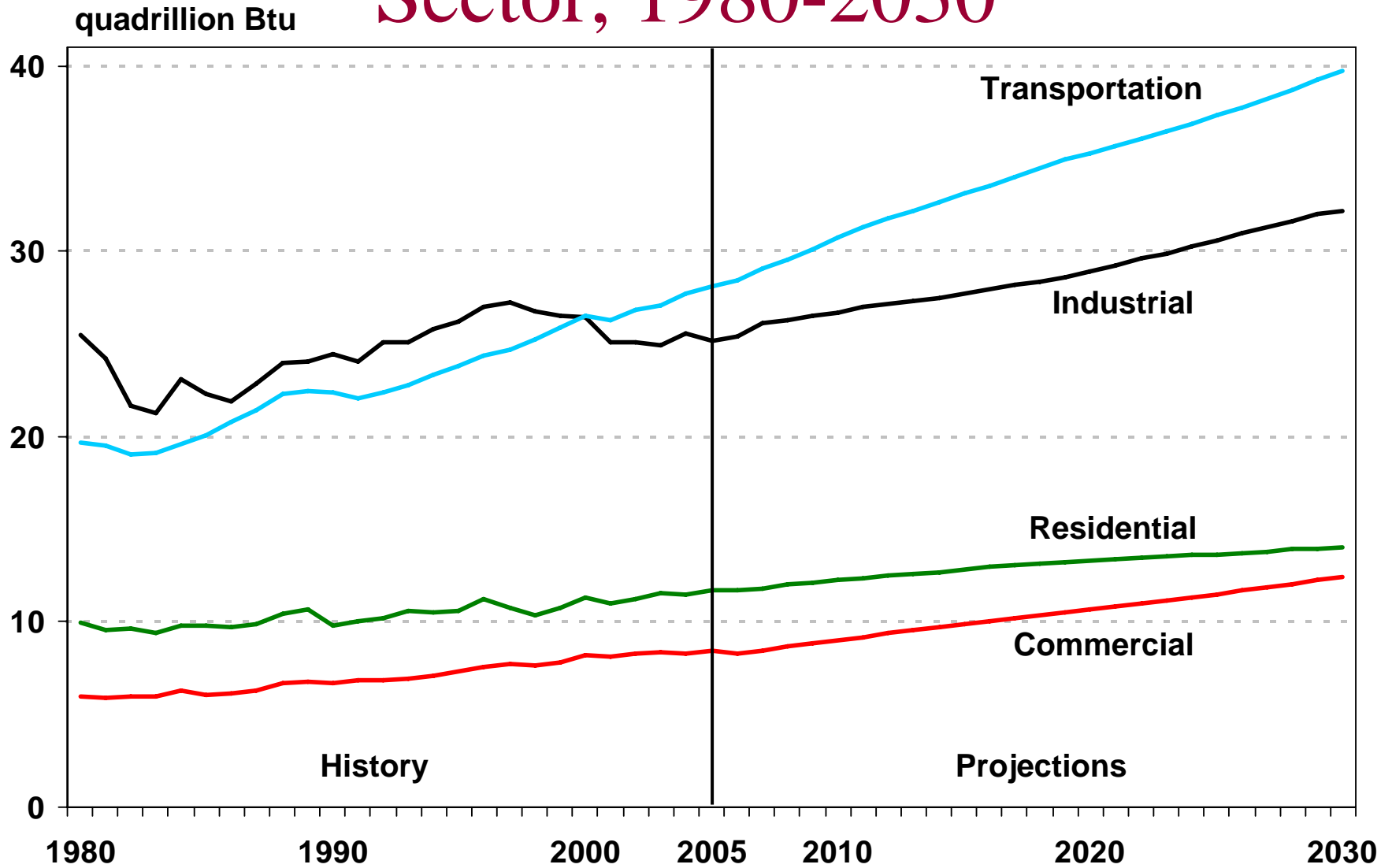
Primary Energy Use by Fuel, 2005-2030



Energy Consumption by Fuel, 1980-2030



Delivered Energy Consumption by Sector, 1980-2030

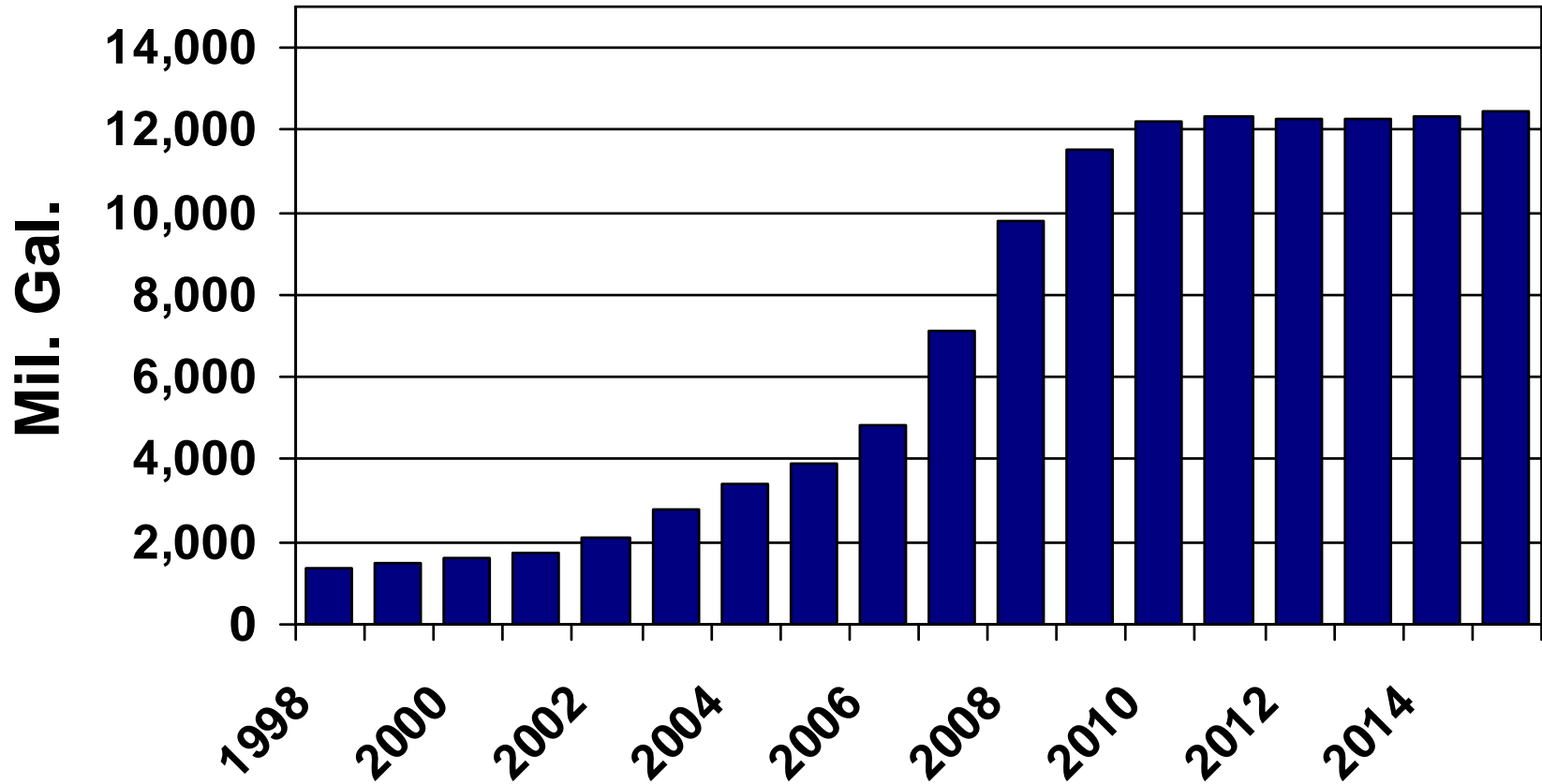


Energy Future

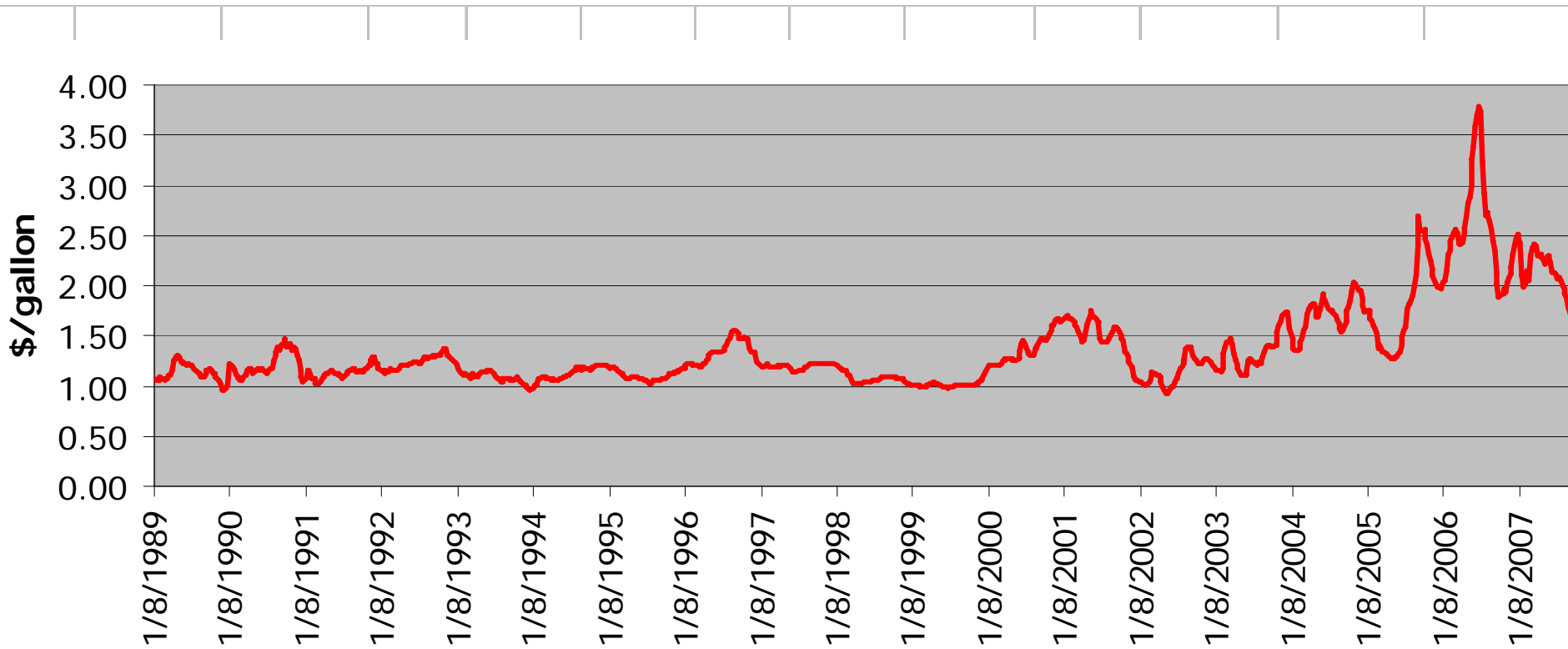
- World Economic Growth
 - China, India, other places
- Recession?
 - Does it slow energy use growth?
- How Do High Prices Effect Use?
 - Use less?

Renewable Fuel/Energy Bill

U.S. Ethanol Production



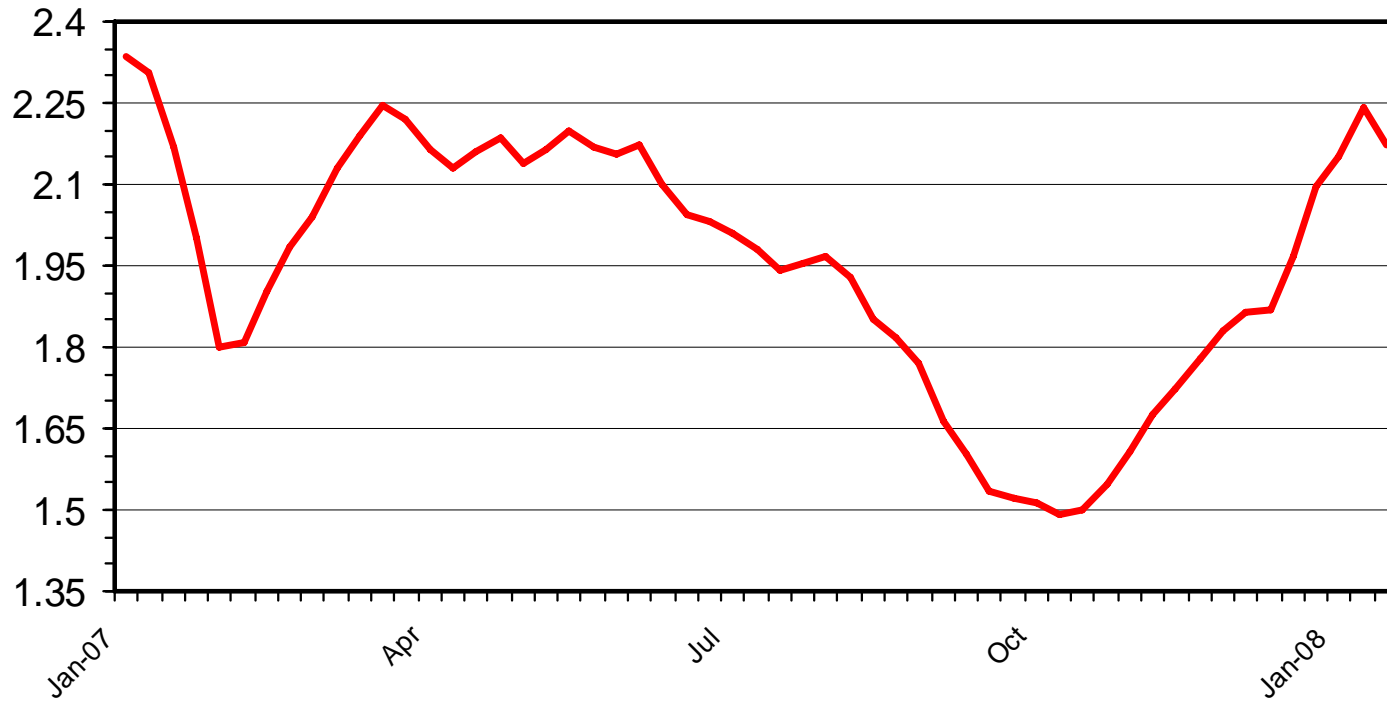
U.S. Average Ethanol Prices



IOWA ETHANOL PRICES

Weekly

\$ Per Gallon



What About Food Costs?

- What is More Important for Food Costs?
 - The raw ag. product, like corn or
 - The processing, transportation, marketing, labor, etc.?
- But, Raw material Costs Are Higher
- Most Studies, Probably, Underestimate the Impact on Food Costs
 - Because they only look at corn and not all crops
- Does Depend on the Type of Food Product
 - Milk, eggs, beef, pork are different than bread, twinkies, cookies, chips, etc

Ethanol Future

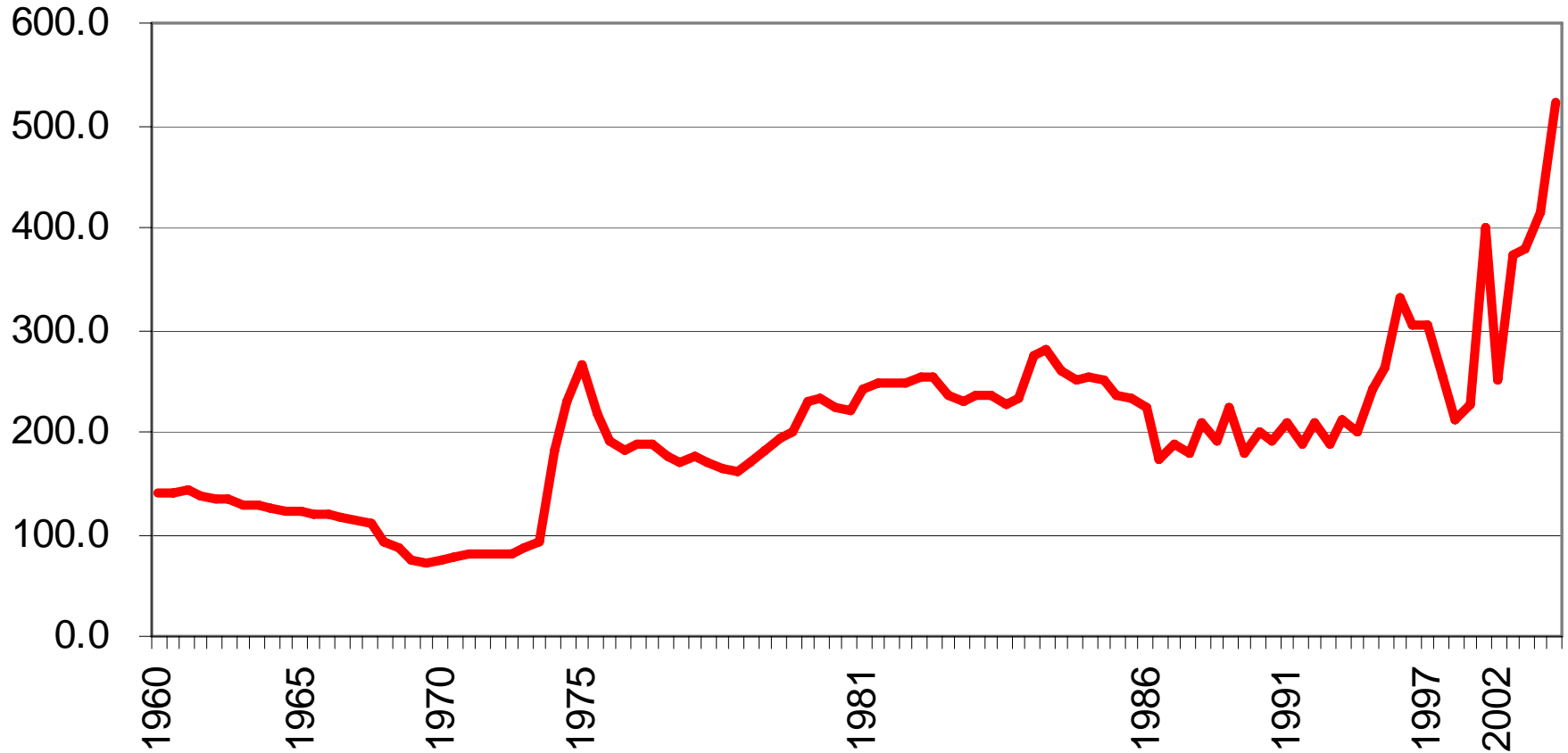
- Ethanol Plants Can Lose Money!
 - Oversupply, transportation bottlenecks
- Slower Growth in Ethanol Production
- More Corn Ethanol Is Coming – More Corn
- How Long to Get to Cellulosic Ethanol
 - Those feedstocks aren't free
 - Forest wastes are used, corn stover adds to soil tilth, quality
 - Where do those acres come from?

Feed and Dairy Markets

What Are We Doing?

- Bidding for Acres
 - More soybeans, fewer corn?
 - Fewer cotton acres
 - What about hay?
 - How do the 350 million acres of crop and hay land get divided up?
- Can't Forget Fertilizer

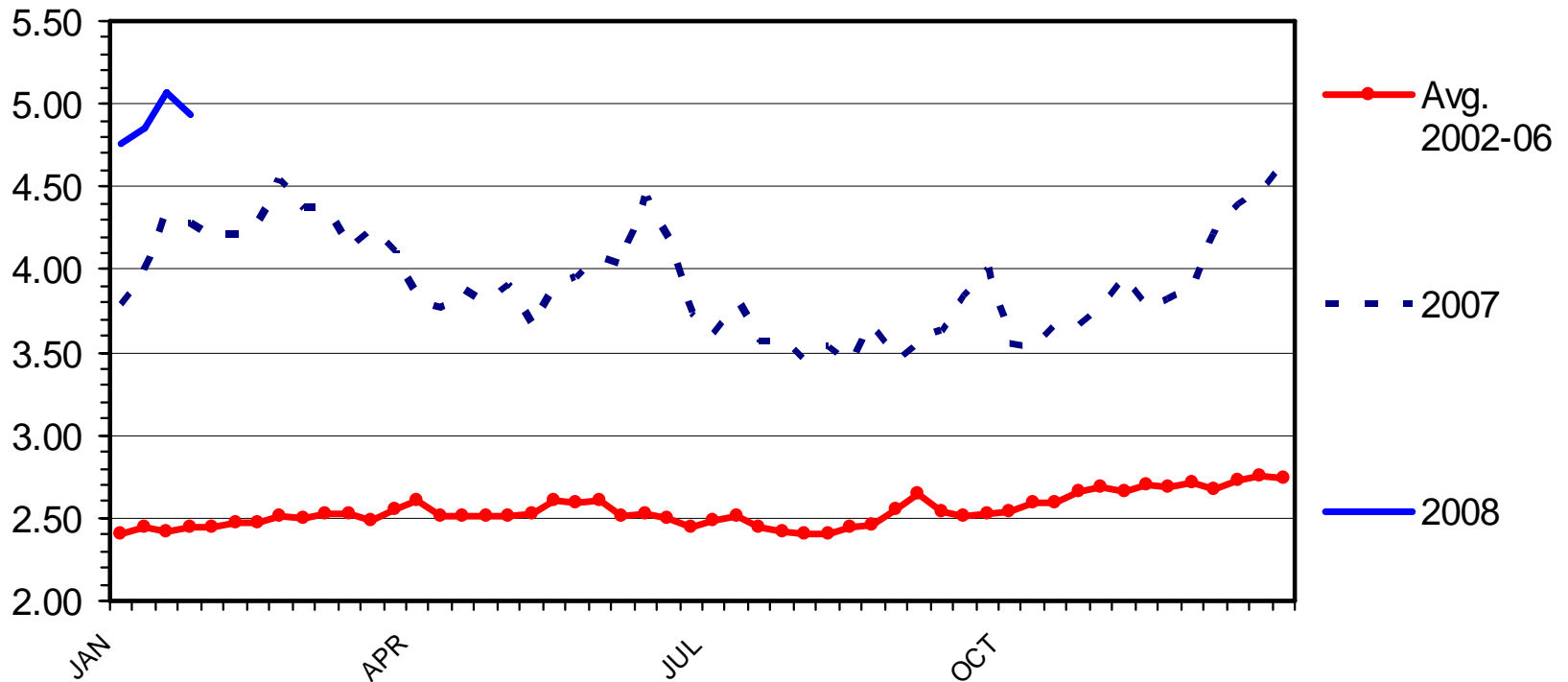
Anhydrous Ammonia Prices per Ton, 1960-2006



SOUTHERN PLAINS CORN PRICES

Weekly

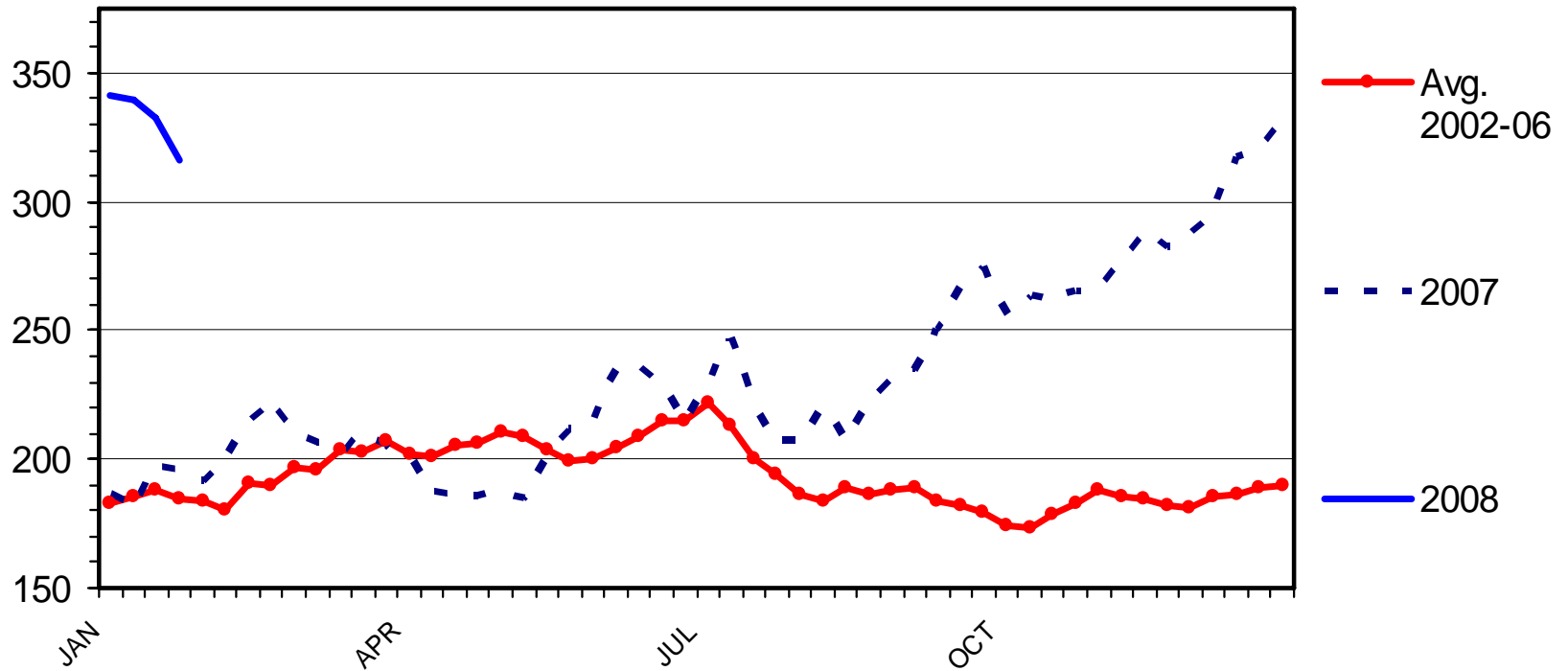
\$ Per Bu.



DECATUR SOYBEAN MEAL (48%) PRICES

Weekly

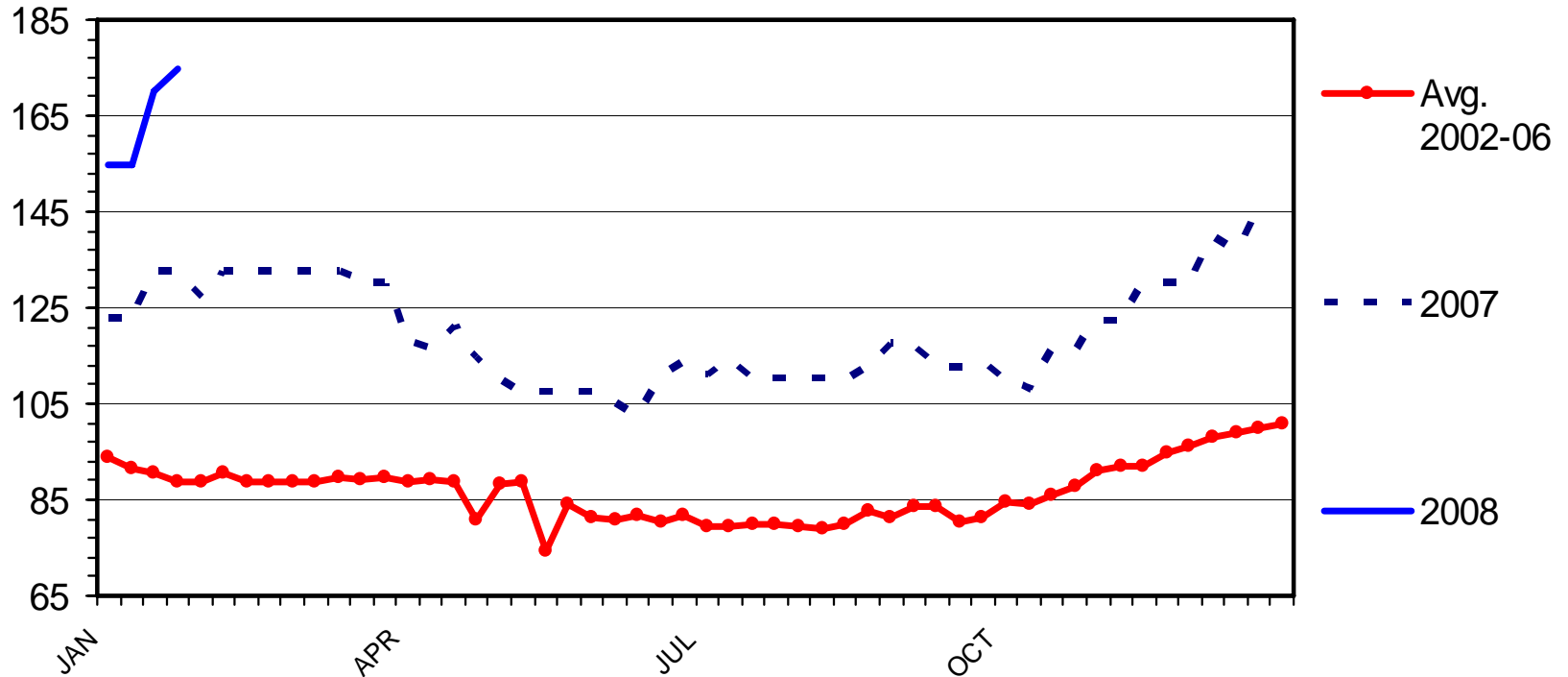
\$ Per Ton



DISTILLER DRIED GRAIN PRICES

Chicago Illinois, Weekly

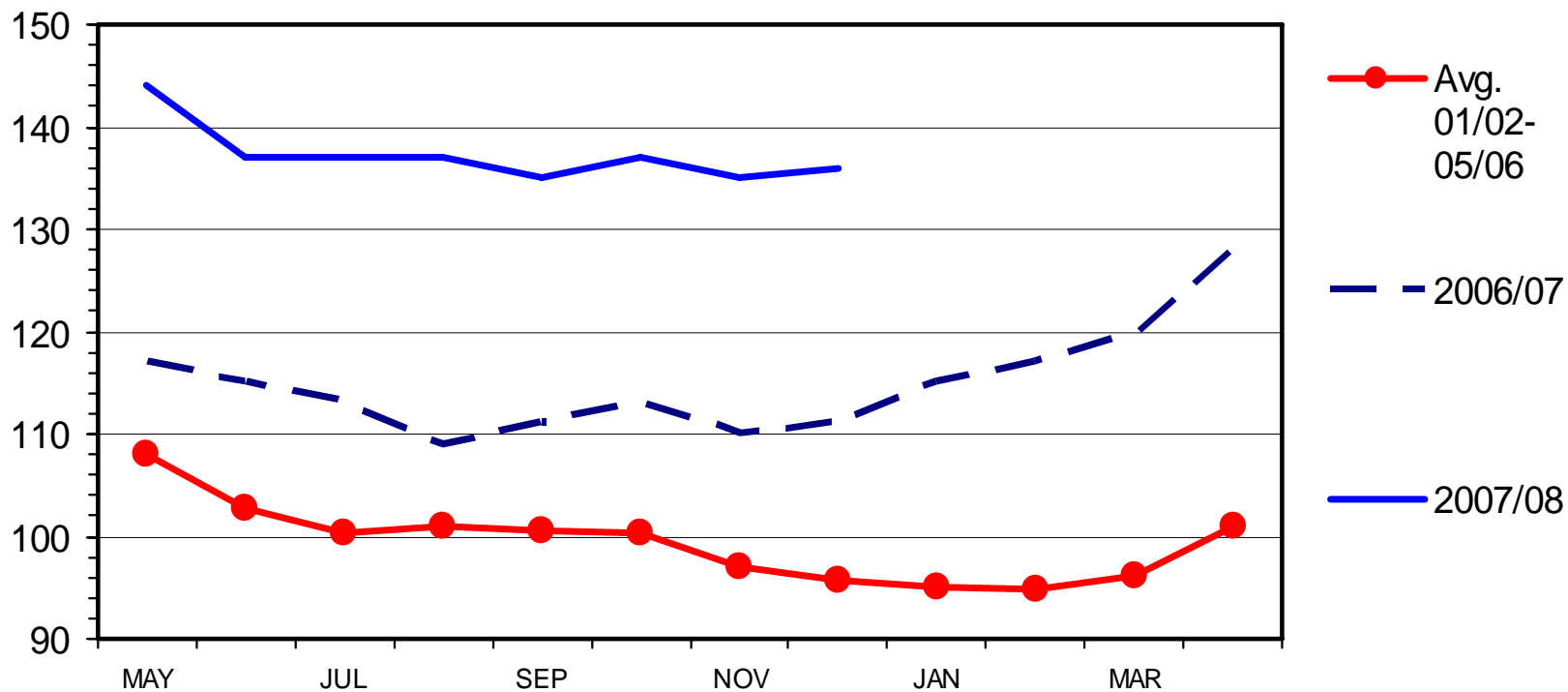
\$ Per Ton



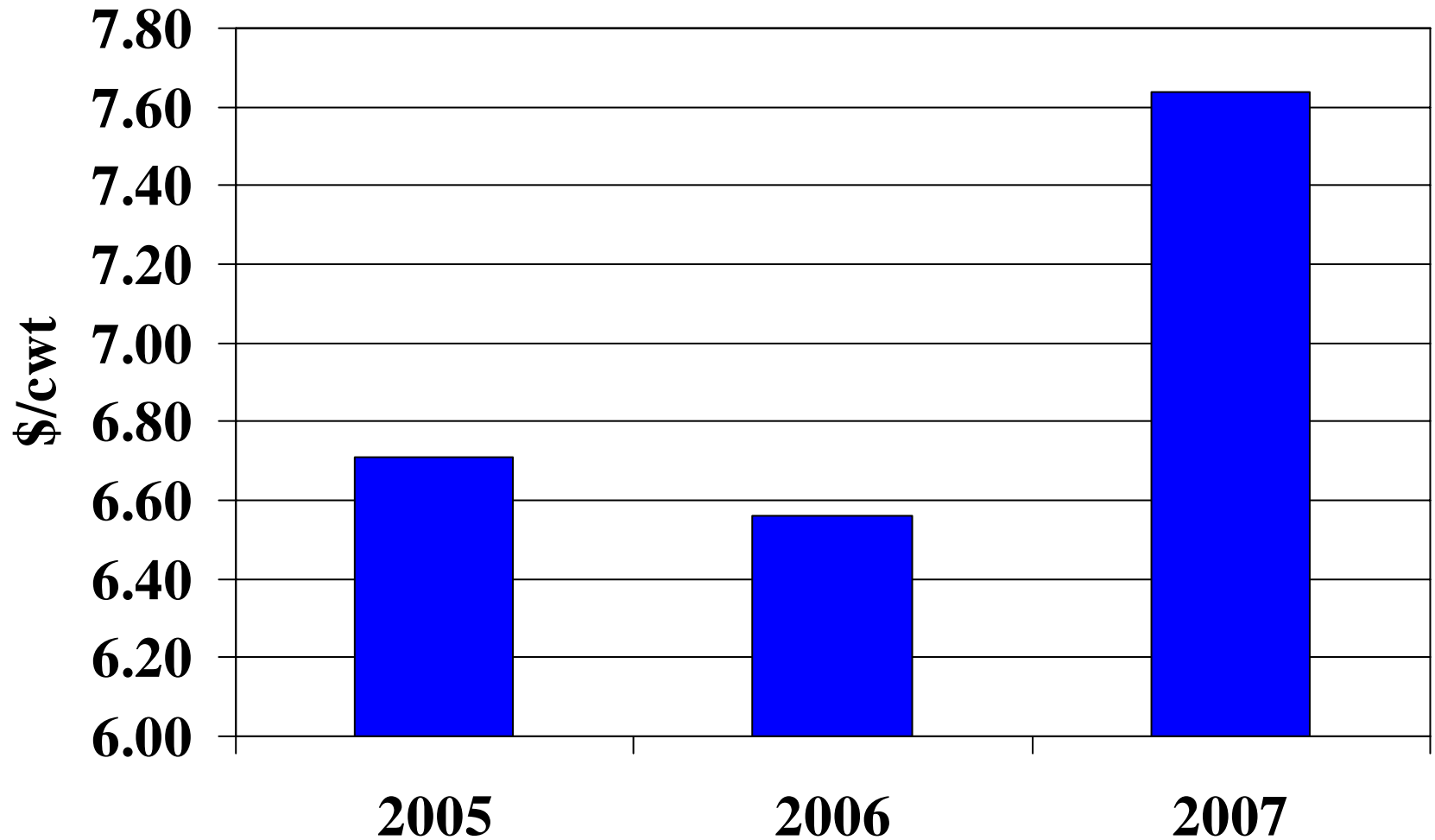
ALFALFA HAY - MONTHLY AVERAGE PRICE

Received by Farmers, U.S., Crop Year

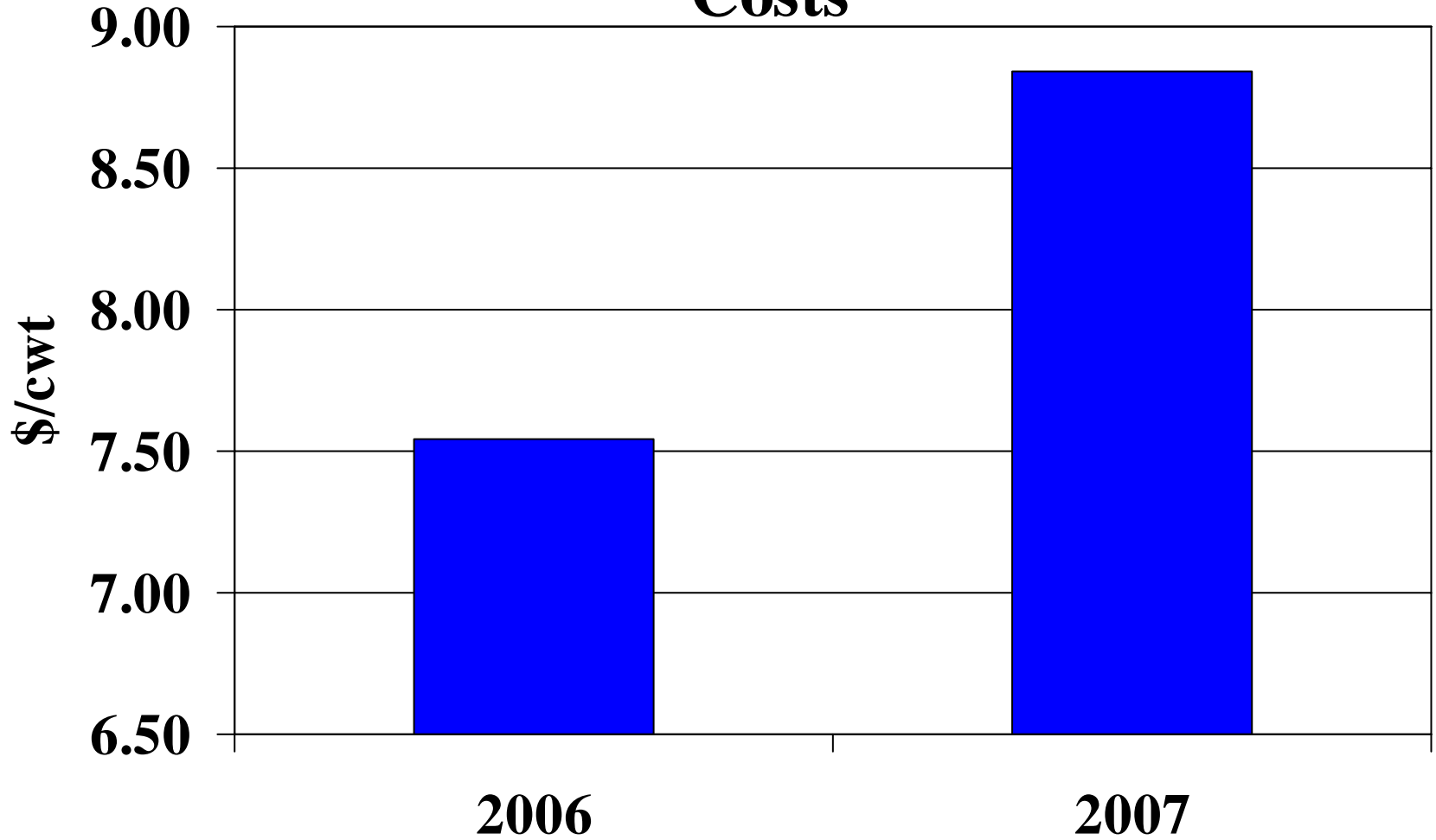
\$ Per Ton



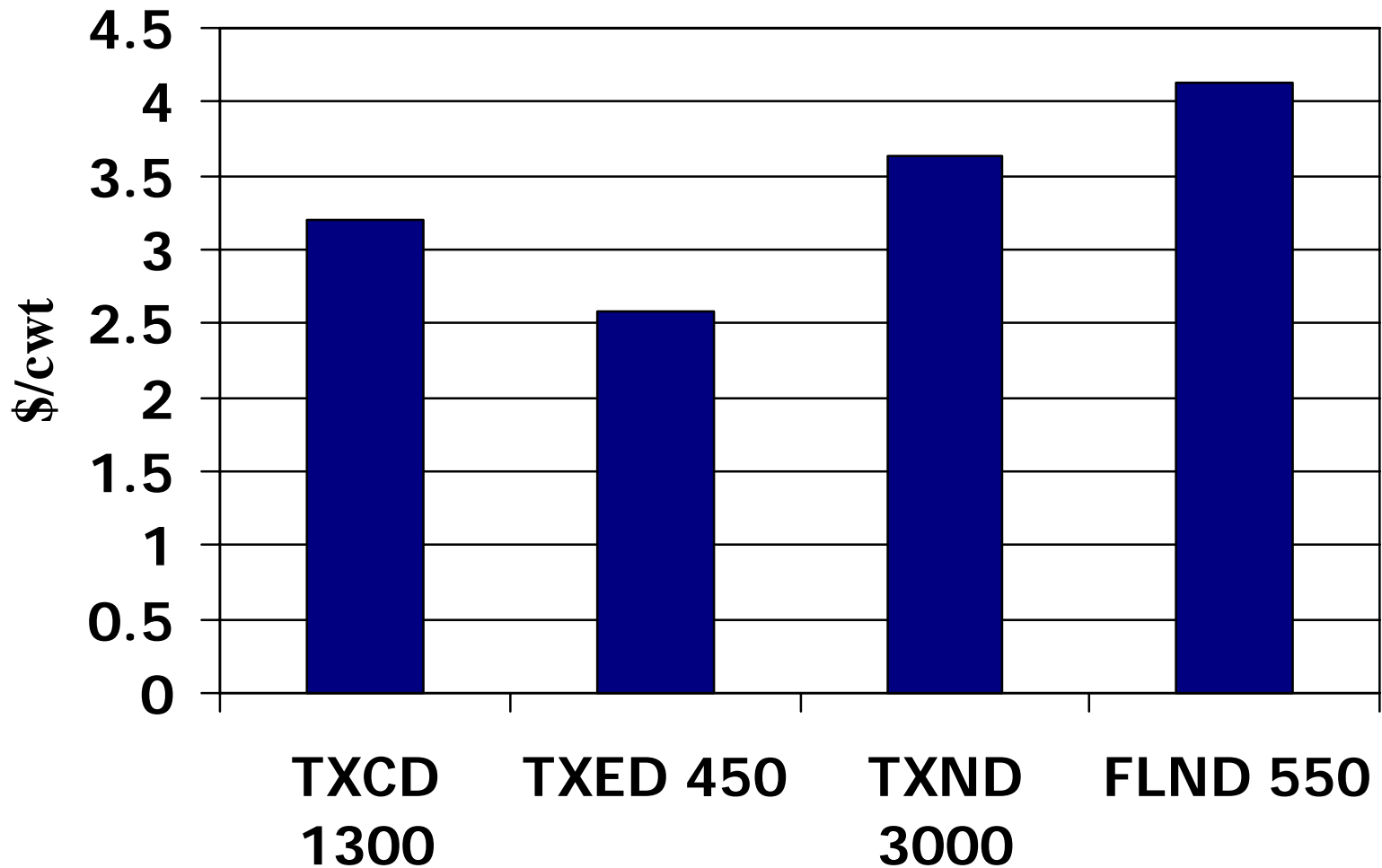
Genske, Mulder Top 25 % Feed Costs



Genske, Mulder Texas Clients Feed Costs



Increase in Purchased Feed Costs/cwt, 2006-2008



Conclusions

- Complex System
 - High Energy Prices = High Fertilizer
 - High Energy Prices = High transportation, everything else
 - High feed here to stay for a while
 - Can Oil Prices Come Down?
- Food Prices?
 - Corn prices vs transportation, energy, interest, labor, etc
- Transition and Adjustment