



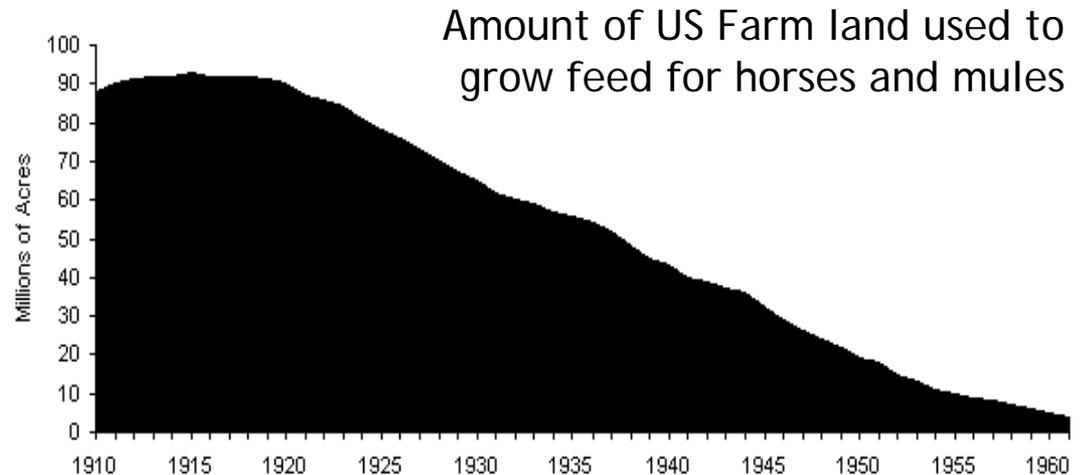
States Biomass/Clean Cities Information Exchange- Food and Fuel

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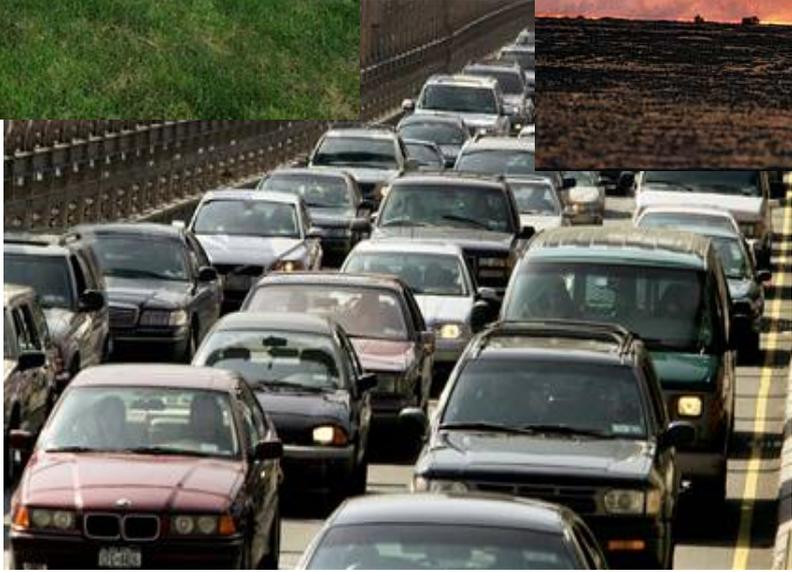
History

- In 1915, 90 million acres of US crop land were used to grow feed for horses and mules
- In 1900, 25% of all energy used in the US was supplied from wood
- Fossil fuels emerged as the new lower cost, sustainable energy alternative



Source: Historical Statistics of the United States, Colonial Times to 1970, Series K-498.

We've Come A long Way



Biofuels in Iowa



- 31 ethanol plants = 2.4 billion gallons
- 11 ethanol plants are under construction, these plants will add 1.36 billion gallons of capacity
- Ethanol utilizes about 30% of Iowa's corn crop
- Iowa annually consumer 1.6 billion gallons of petroleum, the state is a net exporter of fuel
- Between 2000-2005 Iowa's GDP grew 30% including 24% in the manufacturing sector and 29% in chemical manufacturing.*

**Source: Swenson, ISU 01/08*



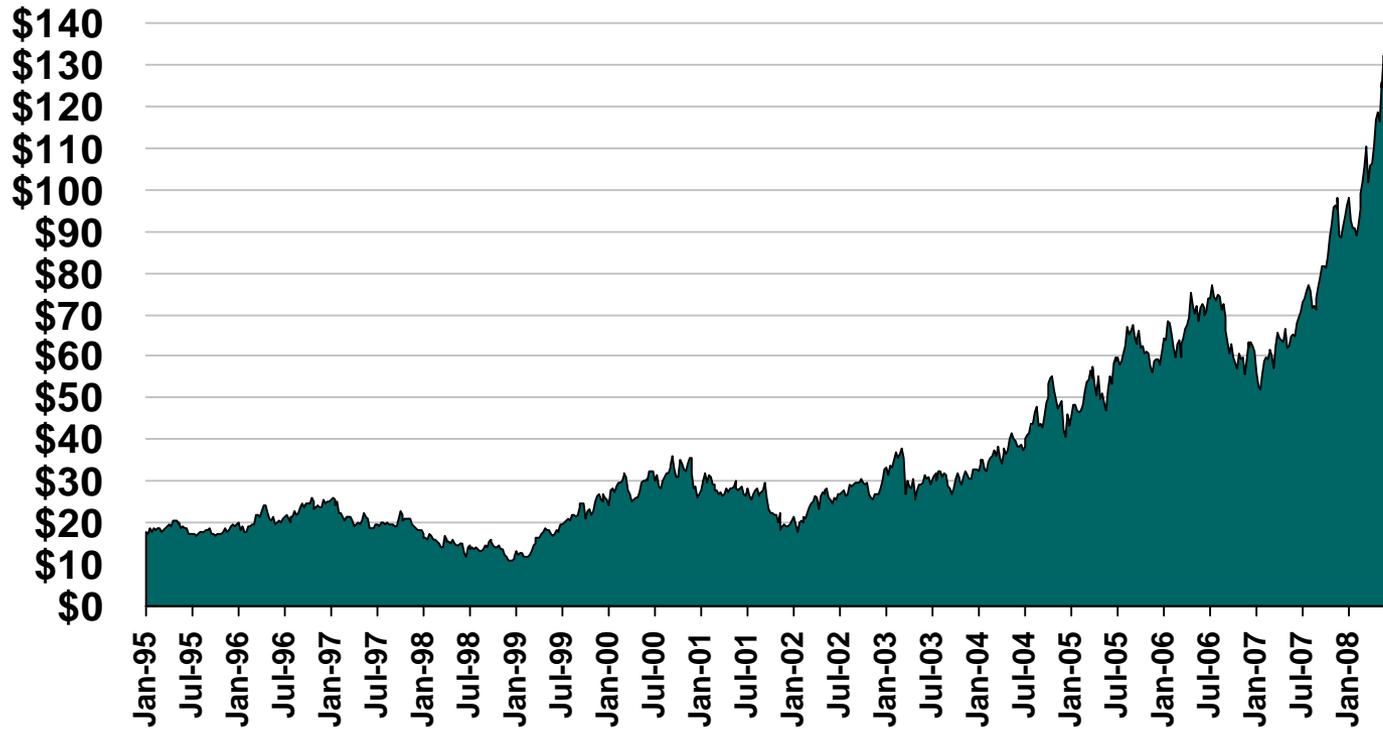
Food and Fuel Debate

Food Prices are Driven by a Variety of Factors



- higher energy costs
- higher farm input costs (fertilizer, etc.)
- booming demand (population growth and improving incomes)
- weakening U.S. dollar
- financial speculation
- weather

NYMEX Crude Oil Price





Fuel Price Report* 7/31/08

National Crude Oil Market Prices

Wall St. Journal / DOE Energy Information Administration

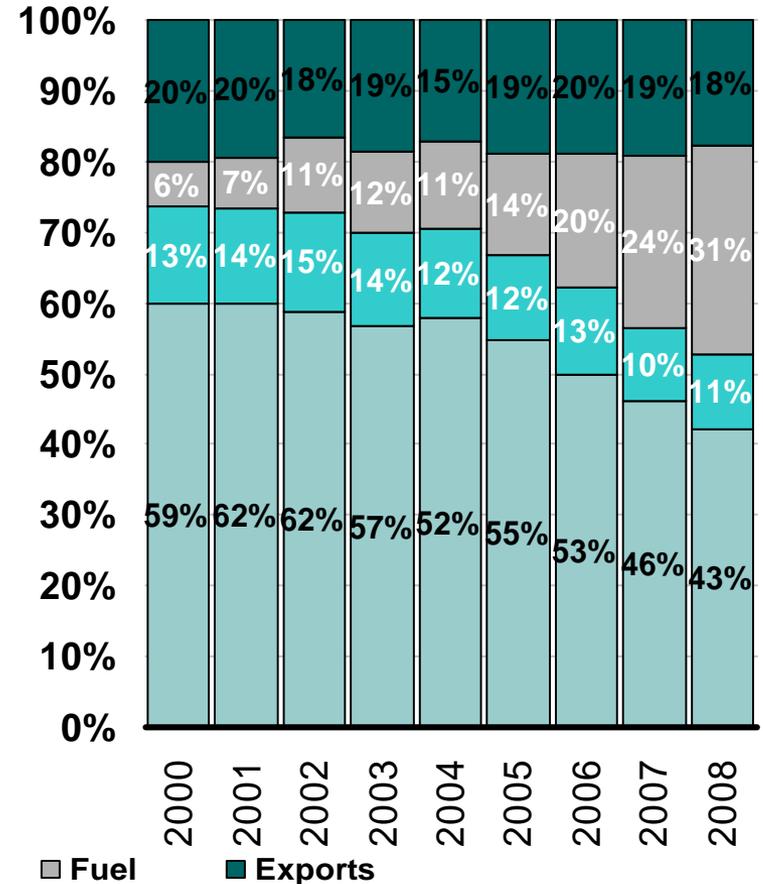
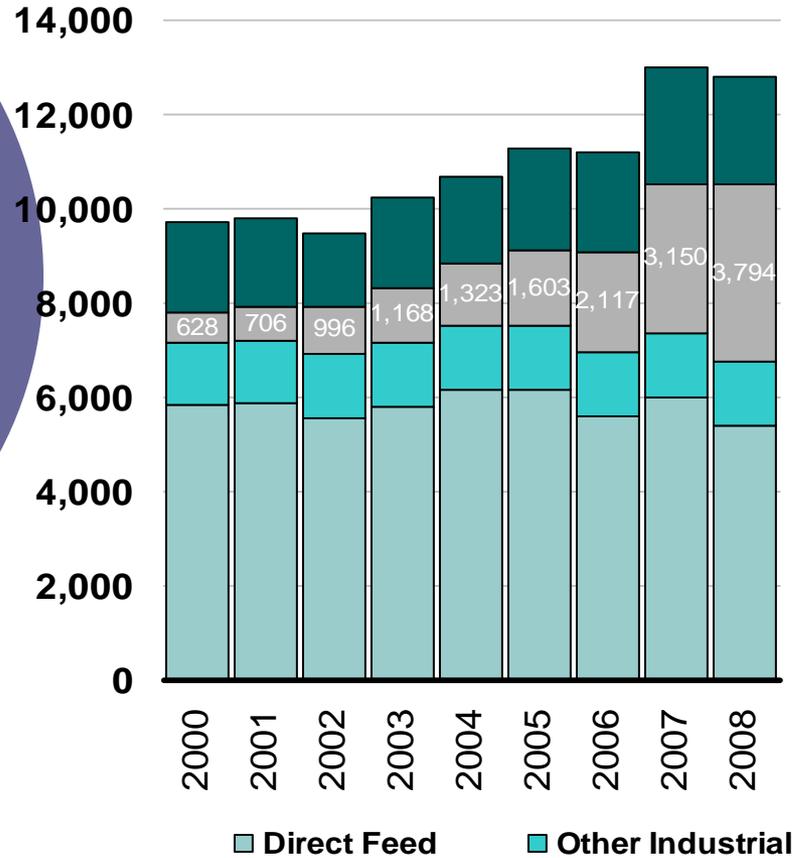
Current	\$126.77	Price Change
Last Week	\$123.69	2.49%
Last Month	\$145.28	-12.74%
One Year Ago	\$76.54	65.63%
Five Years Ago	\$30.56	314.82%
Ten Years Ago	\$14.25	789.61%

**Source: Iowa Department of Natural Resources*

United States Corn Utilization



Million Bushels



Population & Income Drives the Demand for Corn & Soybean



+13%

The growth in world **population** over the last 10 years

+36%

The growth in global **income** over the last 10 years

+21%

The growth in **meat** consumption (Beef +14%, Pork +11%, Chicken +45%) over the last decade

+34%

The growth in world **corn** consumption over the last decade

+52%

The growth in world **soybean** consumption over the last decade

+6%

The growth in world **crop area** harvested over the last decade



- From 1930 to 2000 United States corn production quadrupled, while planted acres decreased by 30 percent.
- Since 1975, U.S. corn farming has improved yields by 73 percent to nearly 150 bushels per acre.



- In 2007 25% of the U.S. corn crop went to biofuels production.
- Distiller's grains recover about 1/3 of every ton of corn used in biofuels production.
- Thus only 1/6 of corn is used for biofuels.

Conclusions



- Food aid is critical, but short-term actions should not impede long-term progress.
- Agricultural productivity can be greatly improved via technology and management practices in developing countries.
- Productivity gains are achievable in the developing world with current agricultural technologies – those technologies just aren't accessible everywhere.
- Extension and agronomy programming should accompany technology at the local level to ensure productivity increases are sustainable.



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