Emerging Trends in Agricultural Policy, Alternative Energy Sources and Food Consumption Trends

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Outline

• Ag Policy Trends
• Current Farm Setting
• Trends in Biotechnology Usage
• Energy Trends
• Food Trends
Ag Policy Trends

• Cooperation across parties – gone
• Perceived strong catalysts for change
  – Deficit
  – WTO negotiations
  – Administration
• Old guard interest groups getting diluted
• Emergence of AgroEnergy Policy bloc
Cropland Value has Steadily Increased

Source: NASS
Economics Still Rule: TX Dairy Industry Example

1980

2004

1 Dot = 1,000 Cows
What are the Comparative Advantages of the US Ag Sector Relative to its Major Competitors?

- **Abundant, fertile land**
- **Cutting-edge technology**
  - Plant and animal genetics
  - Pesticides and Fertilizers
  - Farm machinery
  - Management techniques
- **Highly skilled agricultural managers**
- **Marketing Infrastructure**

Perhaps the Most dynamic
Farm numbers are declining, while acreage per farm is rising.
Fewer But Larger Farms Produce the Majority of Output

311,000 farms (15%) with 89% of sales in 2002.

Source: USDA
Off-Farm Income is Important to Most Farm Sizes

Source: USDA
Farmland Lost to Development

Acres of Cropland Converted to Developed Land, 1982-1997

Each red dot represents 1,000 Acres
7,087,500 total acres converted from cropland to developed land, 1982-1987

Source: NRCS
Loss of Beef Cattle Numbers From 1980 to 2004 (1,000s) by County

Legend
1 - 30
31 - 85
86 - 255
### Four Firm Concentration Ratios (CR4): Selected Years

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<tbody>
<tr>
<td>Beef Packers</td>
<td>72%</td>
<td>76%</td>
<td>70%</td>
<td>81%</td>
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<tr>
<td>Beef Feedlots</td>
<td>37%</td>
<td>34%</td>
<td>44%</td>
<td>59%</td>
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<tr>
<td>Broilers</td>
<td>35%</td>
<td>44%</td>
<td>49%</td>
<td>50%</td>
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<tr>
<td>Pork Production</td>
<td></td>
<td></td>
<td></td>
<td>49%</td>
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<td></td>
<td></td>
<td></td>
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<td>(2002)</td>
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<tr>
<td>Food Retailing</td>
<td></td>
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<td>24%</td>
<td>38%</td>
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Source: USDA, trade association publications
US Acreage Using Biotechnology Continues to Increase

Percentage of Total US Acreage

- Corn
- Soybeans
- Cotton

* Estimate
Source: Council for Biotechnology Information
Agricultural Biotechnology has Spread Around the World

Biotech Crop Countries and Mega-Countries*, 2004

#1 USA*
- 47.6 Million Has.
- Soybean, Maize, Cotton, Canola

#2 Argentina*
- 16.2 Million Has.
- Soybean, Maize, Cotton

#3 Canada*
- 5.4 Million Has.
- Canola, Maize, Soybean

#5 China*
- 3.7 Million Has.
- Cotton

#7 India*
- 0.5 Million Has.
- Cotton

#10 Australia*
- 0.2 Million Has.
- Cotton

#4 Brazil*
- 5.0 Million Has.
- Soybean

#11 Romania*
- 0.1 Million Has.
- Soybean

#12 Mexico*
- 0.1 Million Has.
- Cotton, Soybean

#13 Spain*
- 0.1 Million Has.
- Maize

#14 Philippines*
- 0.1 Million Has.
- Maize

#15 Colombia
- <0.05 Million Has.
- Cotton

#16 Honduras
- <0.05 Million Has.
- Maize

#17 Germany
- <0.05 Million Has.
- Maize

*14 biotech mega-countries growing 50,000 hectares, or more, of biotech crops.

Source: Clive James, 2004
Biotech Acreage Increasing Worldwide

• China
  - 2003 – 6.9 million acres
  - 2004 – 9.1 million acres
  - Most acreage is Bt cotton, but the crop to watch is Bt rice.

• India
  - 2003 – 250,000 acres
  - 2004 – 1.24 million acres

• The World
  - 1996 – 4.3 million acres
  - 2004 – 200 million acres
  - 2010 Estimate – 375 million acres or 10 percent of the cultivable land, in 30 countries.

Source: International Service for the Acquisition of Agri-biotech Applications
Oil Consumption in Asia is Projected to More Than Double in 20 Years

Source: Energy Information Administration
Going to Have to Get Better at Projecting Energy Prices

Forecasts of World Oil Prices, 2010-2025

Source: US Energy Information Administration

Fossil Fuels 80.0%

Nuclear 11.3%

Other 8.7%

Hydro 3.9%

Geothermal & Solar 0.5%

Biofuels 0.4%

Wind 0.2%

Other alcohol 3.7%

Source: DOE, EIA; American Coalition for Ethanol; National Biodiesel Board.
Future US Ethanol Production

A 7.5 bil gal RFS:

- use 3 billion bushels of corn,
- 25% of USDA’s U.S. corn production
- Projection for 2012

...compared with USDA’s baseline of 14%

Current: 3.4 billion gallons in 2004

Renewable Fuels Standard: 7.5 billion gallons of biofuels by 2012

Current: 3.4 billion gallons in 2004

USDA's Feb 05 Baseline

Source: American Coalition for Ethanol
Food Expenditure Trends

Expenditures on Food Consumed at Home and Away from Home

- **Food Consumed at Home**
- **Food Consumed Away from Home**

Source: ERS
Food’s Share of Disposable Income Relatively Flat

Food expenditures by families and individuals as a share of disposable personal income

Source: ERS
Eating out trends

The Away from Home Market by Outlet Type

Percent of Sales


28 30 32 34 36 38 40 42

Full Service  Fast Food

Source: ERS
Food Product Introductions by Claim

Source: New Product News
Lifecycle Analysis: Low Carb Craze

- **November 1999** - “Low Carb Diets” on cover of *TIME Magazine*
- **February 2004** - low carb diet peak, 9.1% of Americans on the diet
- **May 2004** - Krispy Kreme Doughnuts blames low carb diets for profits coming in below Wall Street estimates
- **June 2004** - New World Pasta Company, nation’s largest pasta maker, declares bankruptcy
- **September 2004** - Interstate bakeries, maker of Wonder Bread and Twinkies, files for bankruptcy
- **July 2005** - 2.2% of Americans on a low carb diet
- **August 2005** - Atkins Nutritionals declares bankruptcy
- **October 2005** - Jack in the Box® launches “Bread is Back!” campaign
Low Carb Craze Fading Fast

New Low Carb Product Introductions

Source: Productscan Online
Conclusions

• Think about the last 10 years…
  – 1995 record crop prices
  – 1998-2001 market loss assistance payments
  – 2002 farm bill increase government support and low prices

• The Next 10 years likely to be at least as interesting

• Land values will depend on policy choices