Aggregate Market Impacts in Food and Agricultural Markets

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Points to Be Covered

• Will we “run out” of corn?
• Review the market impacts from the biofuels provision of the 2005 energy bill
• What will happen in “corn-short” years?
Figure 1. U.S. Corn Production, Domestic Use, & Availability for Exports--Projections to 2008

Source: Bob Wisner and Phil Baumel
Acreage Ratios Since Passage of Freedom to Farm

Corn to Wheat

Acreage Ratios Since Passage of Freedom to Farm

- **Corn to Wheat**
- **Corn to Soy**

![Chart showing acreage ratios since passage of Freedom to Farm.](image-url)
Acreage Flexibility is Actually Higher in the Corn Belt

![Graph showing acreage flexibility in the Corn Belt from 1994 to 2006. The graph compares corn to soy acreage ratios for Iowa, Illinois, and Indiana. The ratio decreases from 1994 to 1998, reaches a minimum in 2000, and then increases to 2006. The ratio for corn to soy is higher than 1.00 in most years.]
U.S. Corn Yield per Planted Acre: 1980 to 2005
Projected U.S. Corn Yield per Planted Acre through 2015

152 bu/ac

135 bu/ac
Projected Corn Production to 2015 Assuming Expected Yields Continue to Increase

Corn acreage continues recent trends, rising to 90.5 million acres

Corn acreage constant at 81.6 million acres
Who will use the increased corn?

• Current utilization is about 11 bbu per year due to the large recent crops
• Production will grow to between 12.4 and 13.7 bbu per year
• What can we do with between two billion bushels?
Two Billion Bushels

• Could produce another 5.8 billion gallons of ethanol (energy bill mandate = 7.5 billion gals)
  – Current production is forecast at about 4 billion gallons
  – Would create an additional 17 million tons of distillers grains to allow increased livestock production
  – Exports could be held constant

• Could feed another 75 million hogs and 20 million cattle
  – Current slaughter about 27 million beef cattle and 100 million hogs

• Could double our corn exports
Review of Market Impacts

• What will be the market impacts from the Energy Bill relative to no Energy Bill?

• Source: Pat Westhoff, FAPRI-Missouri, Implications of Increased Ethanol Production for U.S. Agriculture.

Impacts on Corn Markets
(relative to no energy bill baseline)

• 625 million more bushels to ethanol
  (total use = 2.63 billion bushels)
• Exports decline by 300 million bushels
• Corn prices rise by an average of 12.5
cents per bushel between 2010 and 2014
• Corn acres increase by 1%
Impacts on Other Prices, Acreage and Producer Returns

• Increased demand for energy component of feed increases prices for sorghum, barley, oats, and wheat.
  – But acreage remains largely unchanged

• Increased supply for protein from corn reduces demand for soybean meal.
  – Soybean prices are little changed due to lower acreage
Producer Returns

- 4% increase in average corn producer returns
- Balance between years in which we have LDPs and years in which we do not.
- When corn prices are low, increased demand from ethanol can actually reduce producer returns
- Average impact not larger because of substitution of market price for government payments.
  - Average reductions in payments = $1 billion
Impact on Livestock

- Price of corn increases, price of corn by-products and protein meal decrease
- Poultry producers are small net gainers
- Pork producers are small net losers
- Cattle producers may win or lose

- But all effects are small
What About Short Crop Years?

• Large concern is if we build up demand for corn, and then we have a short crop.
• How will corn be allocated?
  – It depends on availability of substitutes
  – Exports will go away first.
  – Ethanol will go away next if the price of gasoline if relatively low
Cumulative Distribution of U.S. Corn Production in 2015 with 85 Million Planted Acres
Cumulative Distribution of U.S. Corn Production in 2015 with 85 Million Planted Acres
Conclusions

• Fears of running out of corn are unfounded
  – Price will signal farmers to plant more corn
  – Impact on livestock producers reduced because availability of corn by-products
  – In short crop years, livestock feeders will have to compete for corn with ethanol producers, and will turn to corn by-products and other sources of feed.