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The Outlook for Corn and Ethanol

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The Outlook for Corn and Ethanol

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The federal government definitely joined in the spirit of cooperation this holiday season with the passage of the 2007 energy act and progress on the farm bill. These moves, along with developments in the energy and agricultural sectors, have improved the prospects for corn and ethanol over the next few years.

The 2007 energy act set out a higher renewable fuels standard (RFS) of 36 billion gallons of biofuels by 2022. For 2008, 9 billion gallons of biofuels are needed to meet the standard, and corn-based ethanol will fill the lion’s share. Corn-based ethanol is considered a conventional biofuel in the act. Table 1 shows the RFS volumes for conventional biofuels. Other advanced biofuels, such as cellulosic ethanol and biomass-based biodiesel, are to fill the rest of the RFS. This act supersedes the 2005 energy act that established an RFS of 7.5 billion gallons of biofuels by 2012.

The pace of ethanol plant construction is on target to reach and possibly exceed the new RFS over the next few years. As of early January 2008, the Renewable Fuels Association was reporting current ethanol production capacity of 7.5 billion gallons. With 5.8 billion gallons more capacity under construction, U.S. ethanol production capacity will exceed 13 billion gallons within the next three years. The RFS provides stability for the continued growth of the ethanol industry.

The market for ethanol continues to evolve as well. Ethanol prices were mostly on a downswing throughout 2007, but the last quarter of the year saw ethanol prices rebound from $1.55 per gallon to prices over $2.00 per gallon. This upswing in prices was due to several factors, including infrastructure improvements for ethanol transportation and usage, expanding interest in using ethanol in underserved areas of the country (especially the Southeast), and higher overall energy prices.

Crude oil recently hit $100 per barrel, and the outlook for oil remains strong. Currently, crude oil futures prices are above $90 per barrel for all contracts through December 2009 and are above $88 per barrel for all contracts through December 2016. The markets are not anticipating any sizable drops in energy demand any time soon. Gasoline futures are over $2.50 per gallon near-term and are holding above $2.25 per gallon throughout 2009. These higher prices are spurring additional interest in ethanol for discretionary blending. Current nearby ethanol futures are $2.30 per gallon, roughly 20¢ below that of gasoline. This price gap, along with the 51¢-per-gallon tax credit given to blenders, makes ethanol attractive to both fuel blenders and consumers. With ethanol futures beyond April 2008 hovering at around $2.00 per gallon, it looks as though ethanol will continue to be less expensive than gasoline for some time and will be able to penetrate additional markets over the next couple of years because of its pricing advantage.

The CARD ethanol gross margin graphs (available at http://www.card.iastate.edu/research/bio/tools/) show that margins have markedly improved over the last three months. While corn costs have risen, the surge in ethanol prices has more than covered the cost increases. Based on current futures prices, ethanol margins will back off slightly over the next two years but will remain above last fall’s levels.

The continuing expansion of the ethanol industry is just one of several positive signs for the corn market. Corn usage for ethanol continues to grow and set records each year. Ethanol will become the second-largest use of U.S. corn this year, trailing only domestic livestock feeding. The growth in corn demand due to ethanol has been met with increased acreage devoted to corn and higher production. Over the past two
years, the United States has raised two solid corn crops—10.5 billion bushels in 2006 and a record 13.2 billion bushels in 2007—yet corn prices have continued to rise. While ethanol has been a driving factor, corn exports have also helped the strong price outlook. The latest USDA projections put corn exports for the 2007/08 marketing year at 2.45 billion bushels. That would be a record for corn exports, exceeding the previous record of 2.4 billion bushels for 1979/80. Cumulative export sales for the current marketing year are nearly 65 percent that of the USDA projection, well ahead of the average pace over the last five years of being at roughly half of the export projection. Outstanding export sales also show a brisk corn export pace.

The main factor supporting export sales is the relative weakness of the U.S. dollar. Table 2 shows the relative change in the value of the dollar in comparison with other currencies. Over 2007, the value of the dollar fell against many world currencies. A falling dollar makes our exports look relatively more attractive to importers and often spurs export demand. The effect for corn is twofold. First, the dollar depreciated against the real and yuan, the currencies of two of our major corn export competitors, Brazil and China. So U.S. corn is relatively less expensive than Brazilian or Chinese corn. Second, the dollar also depreciated against the currencies of corn importers, such as Japan, making U.S. corn relatively less expensive to import.

The corn market has taken the ethanol and export projections into account over the next three years and is currently maintaining corn prices between $4.95 and $5.35 per bushel on corn futures all the way through December 2010. Figure 1 shows the corn futures prices. The market is projecting stronger corn prices for the rest of the marketing year and continued strengthening in the 2008/09 marketing year.

But corn prices are not the only crop prices that are strong this year; wheat and soybean prices are also high because of a variety of events. These crops will compete with corn for acreage and will likely pull some acreage away from corn. Early estimates point to 88 to 90 million acres of corn, down from last year’s 93.6 million acres but still well above historical averages. Further price changes across the crop markets, higher fertilizer prices, weather, and possible input supply bottlenecks will continue to shape the planting outlook.

Overall, the picture looks bright for corn. Prices are high, production has been good, and demand attributed to ethanol and exports continues to grow. For the ethanol sector, 2008 looks to be another year of adjustment. Input prices (mainly corn) continue to be high, but energy—especially gasoline—prices are projected to stay higher. The passage of the 2007 energy act provides government support for additional ethanol production. The industry will continue to expand, but margins will likely remain relatively tight.

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**Table 2. Change in the value of the dollar (Jan. 1, 2007 – Jan. 1, 2008)**

<table>
<thead>
<tr>
<th>Currency</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU euro</td>
<td>-10</td>
</tr>
<tr>
<td>Australian dollar</td>
<td>-10</td>
</tr>
<tr>
<td>Brazilian real</td>
<td>-15</td>
</tr>
<tr>
<td>Canadian dollar</td>
<td>-16</td>
</tr>
<tr>
<td>Japanese yen</td>
<td>-6</td>
</tr>
<tr>
<td>Chinese yuan</td>
<td>-6</td>
</tr>
</tbody>
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**Figure 1. Corn futures prices (as of Jan. 16, 2008)**