policy pennings

Δ **Contact Dr. Daryll E. Ray** at the UT's Agricultural Policy Analysis Center by calling (865) 974-7407, faxing (865) 974-7298, or emailing dray@utk.edu. For more info, visit: www.agpolicy.org

Has Ethanol's Boost To Corn Prices Run Its Course?

DR. DARYLL E. RAY
Agricultural Economist
University of Tennessee

Recent news stories have been flush with reports about developments in cellulosic ethanol and other biofuels production. Maybe these reports help provide an understanding of why Informa Economics recently forecast corn prices below $3.00 with wheat prices below $4.00 and soybeans under $7.00 "http://www.hoosieragtoday.com/wire/news/02081_informaforecast_224610.php" http://www.hoosier agtoday.com/wire/news/02081_informaforecast_224610.php).

Let's look at the biofuels news first and then see what implications this news has for the long-term pricing of farm grains and oilseeds.

Poet recently announced that its research center in Scotland, SD is producing cellulosic ethanol in its pilot-scale plant. The plant has the capacity to produce 20,000 gallons a year from corn cobs (HYPERLINK"http://www.sustainablebusiness.com/index.cfm/go/news.display/id/17460" http://www.sustainablebusiness.com/index.cfm/go/news.display/id/17460).

Poet CEO Jeff Broin said, "After producing 1,000 gallons, we've already been able to validate all of what we learned in the lab and believe the process will be ready for commercialization when we start construction on Project Liberty next year."

According to the press report, "Poet is pursuing and integrated starch-and cellulosic-to-ethanol biorefinery model that could see cellulosic production capacity added to their 26 plants that currently produce 1.5 billion gallons of ethanol from corn per year."

To date, the biggest problem with cellulosic-to-ethanol production has been the cost – it costs more per gallon than ethanol produced from corn. Generally, the current research is not about how to make cellulosic ethanol, but how to do it cheaper.

In mid-January, Michigan State University Professor Bruce Dale and his doctoral student Ming Lau announced that they have patented a process that according to Dale is "75 percent more efficient than with traditional enzyme treatments" (HYPERLINK www.dailytech.com/MSUs+New+Cellulosic+Ethanol+Breakthrough+is+Cheap+Efficient/article 14031.htm" http://www.dailytech.com/MSUs+New+Cellulosic+Ethanol+Breakthrough+is+Cheap+Efficient/article14031.htm).

The MSU researchers note that in addition to setting up a pilot plant, they have attracted the interest of several major firms in the search for a process to profitably implement their cellulosic-to-ethanol technology in a commercial setting.

According to John Ranieri, Vice President and General Manager, DuPont is engaged in a two pronged strategy to bring biofuels to market "http://www.dailytech.com/MSUs+New+Cellulosic+Ethanol+Breakthrough+is+Cheap+Efficient/article14031.htm" http://www.dailytech.com/MSUs+New+Cellulosic+Ethanol+Breakthrough+is+Cheap+Efficient/article14031.htm).

According to the news release "The DuPont BioFuels business strategy is developing and commercializing an upstream biofuels technology to produce cellulosic ethanol that will use non-food energy feedstocks such as corn cob and switchgrass, and a downstream biofuel technology to produce biobutanol, a high-performance biofuel that can be delivered through existing gasoline distribution channels."

DuPont in a joint development with BP plans to have a biobutanol pilot plant in operation in 2009 with the goal of having a commercial plant completed by 2010. Biobutanol has the advantage over ethanol in that it can be transported through the current petroleum pipeline infrastructure.

On the cellulosic-to-ethanol font, DuPont's Danisco subsidiary is working with the "University of Tennessee to build a pilot and demonstration facility for the cellulosic ethanol technology, groundbreaking scheduled later this month. Pilot production utilizing corn cob and switchgrass is expected to begin in 2009 with commercially viable economics by 2010."

A year ago it looked like ethanol would be using nearly 5 billion bushels in ten years with prices during the ten year period in the mid-$3.00 range. The high prices were partially contingent on increasing ethanol demand for corn.

With the economic crisis and low crude oil prices, ethanol production is projected to use 3.6 billion bushels this crop year compared to year-ago projections of 4.1 billion bushels.

With some plants experiencing construction delays until the financial climate improves and the speed with which cellulose-to-ethanol research is progressing, one cannot but wonder whether or not these investors will wait a little longer and then accelerate the trend toward cellulose-to-ethanol facilities.

That change in plans could scrap the need for as much as 1 billion additional bushels of corn that the market was assuming, just a few months ago, would be needed for ethanol production in the years ahead.

In addition to that, there is the distinct possibility that some of the current plants will remain, or will be, shuttered because of low margins and other financial problems – like bankruptcy. That could mean that a portion of the 500 million bushel reduction in corn-use for ethanol this crop year compared to earlier expectations may not be a temporary situation.

All together, we could be talking about up to 1.5 billion bushels of anticipated growth in corn demand over the next 6 years or so that may not occur. Of course, the 1.5 number is an extreme possibility, but unexpected is not an uncommon descriptor of recent events in the corn market and the general economy.

The bottom line is that depending on crude oil prices, it could be that the US may have hit a plateau for corn use by ethanol plants. If that is the case, Informa's projections may be optimistic. Δ