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The Ethanol Effect

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When Sen. Ted Cruz, R-Texas, narrowly won the Republican Iowa Caucus in February, the results riled both pro-ethanol and anti-ethanol forces alike. After all, the presidential hopeful had vowed to "tear down the EPA's blend wall" and declared his opposition to subsidies for the corn-based fuel—and still won the first presidential primary contest of the 2016 election season.

It raised many questions. Political pundits discussed if Cruz's win meant voter support for ethanol—an untouchable priority in Iowa presidential campaigns—is eroding. Analysts considered whether ethanol still makes sense in a time of $32-per-barrel crude oil prices.

And most importantly for farmers, what would happen to corn demand and prices if the renewable-fuel mandate is lifted?

Adopted by Congress in 2005 and expanded in 2007, the Renewable Fuel Standard (RFS) requires refiners to blend a certain amount of renewable fuel into gasoline and diesel. The intention was to lower greenhouse gas emissions, support U.S. energy independence and encourage the development of the biofuel industry.

As such, the RFS has had a significant impact on corn demand.

In the 2005/06 marketing year, corn for ethanol use was 1.6 billion bushels, says Darrel Good, professor emeritus at the University of Illinois at Urbana-Champaign. With the advent of the RFS, that figure climbed steeply—increasing to more than 5 billion bushels annually in just five years.

Corn prices jumped too. In the 2005/06 marketing year, the average corn price received was $2 per bushel. As ethanol production increased so did corn prices, reaching a marketing year average of $6.89 per bushel in 2012/13 (see chart below). Ethanol wasn't the only factor pushing corn prices higher during that time. The 2012 drought also pushed down yields, reduced stocks and alarmed the market.

But much has changed since 2007, when Congress expanded the RFS. Critics charge ethanol's touted environmental benefits have been outstripped by the energy required to grow the corn and produce the fuel in the first place.

U.S. crude oil production has nearly doubled in that time, from approximately 5 million barrels per day in 2007 to 9.3 million barrels per day in 2015, according to the U.S. Energy Information Administration.

"As for the energy security argument for ethanol, well, we are awash in oil," says Jason S. Johnston, a law professor at the University of Virginia and an adjunct scholar at the Cato Institute in Washington, D.C.

The glut of oil in the U.S. market and beyond has also weakened the economic argument for ethanol production. "When oil prices are really high, the impact of the RFS isn't so big because the incentive to blend [the lower-cost ethanol into petroleum fuel] is already there," Johnston explains.

Right now, though, ethanol is actually more expensive than gasoline, with a wholesale price of $1.43 per gallon versus $1.15 for a gallon of 87-octane gasoline in January, according to Nebraska prices.

Given all those shifts, it's hard to rationalize the ongoing support for ethanol, Johnston adds. "It becomes just another example of pork-barrel spending," he says. "A lot of people say it would have gone away if it wasn't for Iowa having the early caucuses. What are the justifications that remain? It's just a question of the basic economics."

The ethanol market, and corn demand, might have more staying power than some expect, even if the mandate is lifted.

"How would refineries react if the mandate was lifted and they were no longer required to blend ethanol into fuel?" Good asks. His prediction: It would be business as usual for refiners, ethanol producers and farmers, at least for the first year or so.

"Initially, [any lifting of the mandate] probably wouldn't change a whole lot," Good adds. Refineries have made significant investments in their plant infrastructure to meet RFS requirements and won't necessarily change their processes immediately. Despite the "upside-down" relationship between ethanol prices and gas prices, ethanol remains "a relatively low-cost octane enhancer," particularly when compared to other petroleum-based alternatives. "People might be surprised to see ethanol hang onto a pretty big share of the market," Good adds.

What might farmers lose? The potential for growth in the ethanol market. “What [eliminating the mandate] would take away is any push for beyond the blend wall, like E85 or E15 fuel,” Good says.

Beyond a year, though, the impact of such a change is unknown, thanks to the inevitable swings in the commodity markets. “We’re in a low-oil-price world,” Johnston says. “Who knows how long this is going to continue?”

Farmers who have locked in their fuel prices might want to hope for a change in direction for oil prices, especially if Cruz’s sentiments about eliminating the mandate resonates with voters. “If corn prices were to go sharply higher and gas and crude oil prices stay low, then ethanol would lose its competitive advantage,” Good predicts. “That’s where the loss of the mandate would be felt.”

Such market—and political—trends are worth watching to make informed decisions about presidential candidates and their platforms this year.