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Is Ethanol profitable?

Ethanol Profitability vs. Gasoline Prices vs. Corn Prices

Darrel Good and Scott Irwin at the University of Illinois have produced the following chart which shows the “shutdown price of corn for ethanol plants” given differing levels of cost for crude oil and wholesale gasoline. The study suggests that even if the VEETC subsidy is not reinstated the end of this year, ethanol production would be profitable enough to exceed its mandated level for each of the scenarios presented in the chart if crude oil is above \$95 per barrel.

Alternative Scenarios for Crude Oil Price, Gasoline Price, and Shutdown Price of Corn for Ethanol Plants during the 2011-12 Marketing Year

Crude Oil Price (\$/bbl.)	Wholesale Gasoline Price (\$/gal.)	Shutdown Price of Corn for Ethanol Plants (\$/bu.)
75	2.00	5.89
95	2.50	7.84
110	3.00	9.78
130	3.50	11.72
150	4.00	13.66

[source: [Farmdoc](#)]

A further explanation of the chart by Irwin and Good:

For ethanol production to be profitable, the price of ethanol has to be high enough to cover the costs of production (adjusted for the revenue from the sale of the co-product, distillers’ grain). The largest and most variable component of ethanol production costs is the price of corn.

Absent subsidies, the highest price blenders can pay for ethanol and maintain blending profitability is equal to the wholesale price of gasoline. That price must also be high enough to make ethanol production profitable. The price of gasoline, in turn, is a function of the level of crude oil prices. What emerges,

then, is that the amount of corn consumed for ethanol production reflects an intricate combination of mandates, corn prices, crude oil prices, ethanol/gasoline price differences, and subsidies.

[...]

The forecast of the use of corn for ethanol production in the 2011-12 marketing year is certainly not straightforward. The challenge is to determine if both the blending margin and the ethanol/corn price relationship will motivate ethanol blending and production above the mandated level. **The approach here is first to assume that the blenders tax credit will not be extended beyond December 31, 2011.** Second, we calculate the likely price of gasoline (and therefore the maximum price of ethanol) at various levels of crude oil prices. Third, we calculate the maximum price an ethanol producer could afford to pay for corn for each gasoline/ethanol price scenario and still cover all variable costs of production, assuming all non-corn costs remain constant. Those calculations are presented in (the above chart).

The calculation of the breakeven price for ethanol producers is subjectively evaluated to judge if corn prices would likely be high enough under any of the yield scenarios to: (1) require ethanol prices to be above gasoline prices, or (2) to force a shut-down of ethanol production. Either of these conditions could result in ethanol production being limited to or falling short of the mandated level. **Our judgment is that ethanol production breakeven prices would be sufficiently high to avoid either of those conditions with crude oil prices above \$95 per barrel. While we assume different levels of ethanol use of corn for each yield scenario, ethanol production is assumed to exceed the mandated level for each of the scenarios.**

[source: [Farmdoc](#)]



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