



In the Crosshairs

The Great Ethanol Fallacy

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The Great Ethanol Fallacy

Sometimes one must wonder about the decisions made by the leaders of our great state and nation. It appears we have jumped feet first into the quicksand of ethanol commitment, all in the name of reducing dependence on foreign oil and becoming more GREEN. I don't want to burst anyone's bubble, but this couldn't be any further from the truth. The ethanol boondoggle has issues on multiple fronts. Let me explain.

Energy Source Efficiency

~ Ethanol as a fuel for internal combustion engines is far less efficient than gasoline, on the order of 2/3 as efficient. Translation: A 20 gallon tank of gasoline will transport you 400 miles while the equivalent sized tank of ethanol in the same vehicle will move you approximately 265 miles.

~ The amount of energy required to produce one gallon of corn ethanol equals the energy produced by burning that same gallon of fuel. So the net energy balance equals zero. Gasoline, on the other hand, contains 60% more energy than a comparable quantity of ethanol.

Ethanol Business

~ Corn ethanol is federally subsidized at 51 cents per gallon so consumers actually pay twice at the pump.

~ Imported ethanol carries a 54-cent per gallon import tariff that serves to protect U.S. ethanol production from foreign competition that would drive American market prices down.

~ Ethanol is BIG business! Just eight companies control 95% of all ethanol production and Archer Daniels Midland (ADM) actually controls close to 30% of the American market. How profitable is ethanol? A new 100 million-dollar ethanol plant operating in today's market can be paid off in less than two years!

Potential to Meet Energy Demands

~ University of Minnesota researchers estimate that converting the entire U.S. corn crop into ethanol would reduce gasoline consumption by only 12 percent!

Air Quality Concerns

~ Overall, ethanol does not reduce greenhouse gas emissions. In fact, it contributes significant amounts of atmospheric nitrogen oxides that combine with volatile organic compounds (VOC) to produce ozone. Studies have shown conclusively that ethanol use results in elevated ozone levels that impair air quality.

~ Ethanol plants are known to discharge ethanol vapors, carbon monoxide, VOC's and carcinogens into the air. The EPA has had to crack down on plants that were emitting 5 to 430 times more VOC's and carcinogens than their permits allowed.

Water Usage Concerns

~ USDA research in Nebraska emphasizes the impact ethanol production has on local water sources. These studies reveal that 2,100 gallons of irrigation water are required to produce one bushel of corn. A bushel of corn produces 2.7 gallons of ethanol. Thus, an irrigated field uses 780 gallons of water to produce one gallon of ethanol.

~ Ethanol production requires plentiful amounts of water to complete the process. A facility that produces 100 million gallons

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N Source:	70% Nutralene / 20% AS / 10% Urea
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Micronutrients:	4% Mg / 3% Mn / 2% Fe (all dispersible sucrates)
Rates:	4.55 (Low) 6.82 (Medium) 9.10 (High)
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of ethanol annually requires 400,700,000 million gallons of water or the equivalent water needs of a town of 5,000 residents. This ratio equates to 4.7 gallons of water required to refine 1 gallon of ethanol.

~ Therefore, the production of one gallon of ethanol from irrigated corn requires 785 gallons of water. Very careful consideration must be given to the location of these ethanol plants to minimize ground water shortages in aquifers that lack sufficient recharge capabilities.

Water Quality Concerns

~ As a feedstock, corn has one of the highest fertilizer (particularly nitrogen) and pesticide input requirements.

~ The USDA's CRP (Conservation Reserve Program) in Minnesota, Iowa, South Dakota and North Dakota has lost 750,000 acres to production as of October 1, 2007. The federal CRP program pays farmers to convert marginal or environmentally sensitive land to non-agricultural uses. Due to the lucrative corn market, which has seen the price of corn more

than double over the last several years, farmers are putting their CRP lands back into production. It is estimated that an additional 1.1 million CRP acres will be put back into production by 2010.

~ As more and more marginal land is converted to biofuels acreage, topsoil erosion will escalate, assisting additional nutrients and pesticides in moving off-site, polluting surface and underground waters. Sedimentation is currently responsible for 50% of the recently classified "impaired waters".

~ The MPCA is responsible for monitoring the effluent discharged from boilers and cooling towers at these ethanol production facilities. A by-product of the process, known as "stillage," is cause for concern as this material can promote eutrophication of the surface waters it is discharged into.

Food vs. Fuel

~ As more and more agricultural land is converted to corn ethanol production, less corn is available for human consumption and animal feed. The end result is an increase in food costs across the board. Shortages of U.S. corn imported by third world countries may result in increased hunger and political instability. Do you

remember the recent protests throughout Mexico when the price of the corn tortilla skyrocketed? Have you noticed the cost of fertilizers keeps climbing with no end in sight? One reason is increased demand as more acreage is converted to corn.

Minnesota currently has 16 operational ethanol plants, five under construction and 12 in the planning stages. No matter how you feel about ethanol as a fuel source, it should be apparent that there are some serious downsides to this product. Do we continue full speed ahead or step back and rethink our energy options for the future? Would the six to eight billion dollars spent annually on subsidizing the ethanol industry be better spent on further development of other types of renewable energy? What do you think?

Make plans to attend the 2008 March Mini-Seminar on March 11 at North Oaks Golf Club. This year the topic will be "WATER MANAGEMENT AND CONSERVATION," a topic that should be on the mind of any progressive golf course caretaker. Dr. Bob Carrow, University of Georgia, Dr. Barnd Leinauer, New Mexico State University and Dr. Brian Horgan will cover a variety of topics including BMPs, new technologies and current research. I hope to see you there.



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