

**ETHANOL IN THE DRIVER'S SEAT**

**NATURAL RESOURCES**

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Our American economy has soared to great highs, and it has sunk to great lows. In the history of modern civilization, it has stood the test of time. But in this ever demanding, always competitive, technology-savvy world we live in today, how does the United States remain a key player in worldly events? We must stay a step ahead of the rest and always push to be the best. Endless resources are at our fingertips, if we will take the time and have the patience to utilize them to their full potential. There is no viable reason for the United States to rely so heavily on foreign sources for our energy. Alternatives such as ethanol may hold the key to our energy future.

Ethanol is a clear, colorless liquid that has been produced as early as 1826 by the fermentation of sugars. From the 1940's to the 1970's, ethanol was formulated primarily from corn and not used in any consistent manner. In 1979 ethanol-gasoline blends were re-introduced and highly marketed. At that time the world oil market was highly volatile and unpredictable, making gasoline shortages common. Thus, Americans wanted to become more self-sufficient with their energy resources, and ethanol seemed like a good way to achieve this goal. Also, government agencies such as the Environmental Protection Agency, began to see the harmful effects that carbon monoxide and smog were having on the atmosphere, so they began to write Clean Air Acts. One of the conditions of these acts were to put oxygenates in fuel to make it cleaner burning. Ethanol was one solution, but there was also methyl tertiary butyl ether.

MTBE became the gasoline additive of choice for many. It was cheaper, easier to produce, and more readily available than ethanol. As years passed, the MTBE market took off, yet the ethanol industry saw only minor growth. The major reason for this was because at that time an overwhelming majority of ethanol was still produced using corn, which is not easily grown in most parts of the United States due to climate and growing season needs.

This trend continued until recently when traces of MTBE were discovered in drinking water. Though small this amount proved to be harmful to humans, and it has since been banned by many states. Since MTBE was no longer an additive option, cities had to find an alternative oxygenate to remain in compliance with the Clean Air Acts. Once again, ethanol was given a chance. This time though, the industry began to market the production of ethanol using many different crops, such as wheat, barley, sugar cane, and other starch or sugar-rich crops, a development that has proven to be beneficial to the ethanol industry.

The industry is now testing core ingredients such as wheat, plant byproducts, and perhaps the most promising yet, hulless barley. This barley-based ethanol could prove to be especially beneficial to Oklahoman's, rural and urban alike. With our hot, dry climate, corn is not able to survive through the summer without irrigation. Barley on the other hand, is similar to wheat, and can easily thrive in our climate. Barley can also be even more advantageous for farmers to grow, because it not only

produces twice the yield as wheat, but also is harvested in the spring, so farmers can potentially grow another crop on the same land for a double-rotation harvest. Also, the plant's feed byproduct can be used in livestock operations, a combination which may allow farmers to grow a feed grain at a profit.

The automotive industry has also joined forces with the ethanol industry by producing and marketing flexible fuel vehicles. A flexible fuel vehicle of FFV is one that runs interchangeably with E-85 and gasoline. The only problem consumers have is finding a fueling station that sells E-85, a mixture of eighty-five percent ethanol and just fifteen percent gasoline. To help make this fuel available to consumers, the National Ethanol Vehicle Coalition has teamed up with General Motors and good Monsanto, with the most recent promotion being Monsanto's Fuel Your Profits program. Under this program, High Fermentable Corn, a corn hybrid developed by Monsanto, is used to make the ethanol. The use of these hybrid corn plants increases the amount of ethanol produced per bushel of corn and decreases production costs for ethanol facilities. Plants that participate in this program are then eligible to have an E-85 pump installed free of charge. It also helps boost the ethanol industry with increased publicity and incentive for fueling stations to become equipped with E-85 pumps.

Nationwide more than three million vehicles are capable of running on E-85. By running one's vehicle on E-85, consumers are not only

helping support a clean atmosphere, but also are saving money. Though E-85 contains less energy per gallon than gasoline, the difference in fuel economy is off set by lower pump prices. While the price of E-10 is only a few cents lower than that of gasoline, prices of E-85 range from thirty-eight to forty-one cents lower per gallon. why?

The advantages of producing ethanol go far beyond the farm where the crop is being raised and the vehicles the fuel is being burned in. The crop must first be converted into ethanol before it can be used. This is where most of ethanol's advantages to the rural economy come into play. Nearly four billion dollars has been invested in over seventy ethanol production facilities operating in twenty different states across the country. These plants bring in a great amount of revenue to the surrounding area. Eighty percent of all revenue generated by an ethanol facility is spent within a fifty-mile radius of the plant, thereby creating substantial pockets of rural economic development. These plants also bring in more jobs and increase the price of the crop that is being used to produce the ethanol. The American Coalition for Ethanol states that the economic activity created by the ethanol industry has generated thirty billion dollars in the economy in the last four years alone.

Ethanol has come a long way since its re-introduction in the 1970's. Production has increased steadily, with sales doubling in the past three years, to now producing 2.7 billion gallons of ethanol per year, and representing more than twelve percent of the United States motor gasoline

good point

sales. Ethanol use will probably never totally eradicate the use of fossil fuels for our energy, but it does help extend the petroleum supply, as well as making us less dependent on foreign suppliers. As a rural Oklahoman, I am excited about the potential ethanol industry could have on our agricultural economy. With continued innovation and great strides in technology, the future of agriculture looks as bright and promising as ever.

## WORKS CITED

"Ethanol Information," retrieved from the world wide web. December 2003.

[http://www.bbiethanol.com/ethanol\\_info/](http://www.bbiethanol.com/ethanol_info/)

Gaebe, Lance, "North Dakota governor Hoeven to lead national ethanol group," retrieved from the world wide web. February 2004.

<http://www.ethanol-gec.org/02052003.htm>

"Gopher State using more waste soda to cut drying" 2003 Ethanol Producer Magazine

"Oklahoma pins hopes on barley for ethanol," retrieved from the world wide web December 2003.

<http://www.bbiethanol.com/news/view.cgi?article=739>

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I hereby certify that I meet all the eligibility requirements for participation in the state FFA public speaking event for the current year as set forth by the State Executive Committee and State Staff.

My speech entitled Ethanol in the Driver's Seat  
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March 30, 2005  
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