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American Coalition for Ethanol Releases Results of Fuel Economy Study

Sioux Falls, SD (August 24, 2005) – The American Coalition for Ethanol (ACE) today released the results of its recent Fuel Economy Study, a pilot study that researched the fuel economy, cost per mile, and driveability of various blends of fuel, including unleaded gasoline, E10, E20, and E30.

“As ethanol production and use continues to expand from coast to coast, increased public discussion and media attention have often turned to a debate over ethanol's fuel efficiency,” said Ron Lamberty, ACE Vice President / Market Development. “Because there was very little scientific information out there, ACE commissioned a pilot study to determine whether there are variances in gas mileage between ethanol blends and gasoline.”

The research tested unleaded gasoline, a 10% ethanol blend (E10), a 20% ethanol blend (E20), and a 30% ethanol blend (E30) in three late-model vehicles. The Chevrolet Impala, Ford Taurus, and Toyota Camry were not flexible fuel vehicles, and no modifications were made to them for this research. Care was taken to eliminate any human inputs that might render the tests unscientific, including the use of a computerized data logger and strict controls on the vehicles, fuel, and terrain.

The test was conducted by Allen Kasperson, a Fuel Research Specialist and instructor with more than 30 years of experience training automobile and truck technicians at Lake Area Vocational Technical Institute in Watertown, South Dakota. The study also examined an E10 blend that had been denatured with iso-pentane and soy biodiesel, a denaturant combination that Kasperson had studied and found to have lowered the fuel's Reid vapor pressure (RVP). While the RVP tests in this study were inconclusive, the blend did perform better than unleaded in most tests.

[Read full results of the study at](#)

<http://www.ethanol.org/documents/ACEFuelEconomyStudy.pdf>

Miles per gallon

The three vehicles averaged only 1.5% lower mileage with E10, 2.2% lower mileage with E20, 5.1% lower mileage with E30, and increased mileage of 1.7% when using the specially denatured E10 blend.

Cost per mile

Although the MPG of ethanol blends was slightly lower than the unleaded, the cost per mile of operation was generally lower. Also, the higher the concentrations of ethanol, the lower the cost per mile. Using the study's average MPG, E10 is less expensive per mile than unleaded until

ethanol's cost is nearly 30 cents above unleaded. On a \$20 bill, drivers can travel up to 15 miles farther on ethanol-blended fuel than on straight unleaded.

Drive ability

Contrary to statements commonly made by vehicle manufacturers and technicians, no warning lights were displayed at any time while operating on any of the fuel blends. The data logger used for the research monitored all systems and detected no malfunction indicator lights (MIL), diagnostic trouble code lights (DTC), or emissions DTCs.

Also, it has been assumed that in older model vehicles the oxygen sensor could not recognize fuel with ethanol content higher than 10% and therefore caused a malfunction indicator light to be displayed. In all vehicles used, the car's computer seemed to have the ability to adjust the air/fuel ratio normally with ethanol blends even beyond the standard 10%.

The study cautioned that motorists should not use fuel with concentrations of ethanol higher than those recommended by the vehicles' manufacturers, but called for more research to determine if those fuels should be approved for use in standard, non flexible fuel vehicles.

"If drivers want to save money at the pump as gas prices reach new record highs, this pilot study confirms that ethanol is the fuel of choice," said Brian Jennings, ACE Executive Vice President. "Using ethanol is like money in your pocket, and you feel good about filling up on this homegrown fuel because it comes from America's farm fields, not the oil fields of the Middle East."

"The bottom line is that, in addition to offering higher performance and lower emissions, ethanol-blended fuel is easier on the pocketbooks of American motorists," Lamberty said.

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