

NREL survey shows dramatic improvement in B100 biodiesel quality

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The latest national survey of 100% biodiesel (B100) "blend stock" samples by the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) found that 95% of the samples from 2011-12 met ASTM International fuel quality specifications. The ASTM standards serve as guidelines for industry and are designed to ensure quality at the pump for consumers – along with reliable operation of the nation's vehicles powered by biodiesel blends.

"The [survey](#) showed a major improvement over results from previous years," NREL Senior Chemist Teresa Alleman said. "In our 2007 survey of B100 biodiesel, less than half of the samples met quality specifications. More stringent quality requirements, along with the voluntary BQ-9000 quality management program, are among the reasons for this marked improvement."

B100 is not commonly used as a fuel, but is blended with petroleum [diesel](#), typically in blends up to 20%, and has been part of the industry's steady growth in the past decade. B100 production increased from 27.9 million gallons in 2004 to more than 1 billion gallons in 2012.

For the most recent survey conducted from August 2011 to February 2012, NREL researchers collected fuel samples from 53 producers and 14 terminals from across the United States. Terminals from the East and West Coasts, the Rocky Mountain region, and the Midwest were tested for a range of critical properties, such as free and total glycerin content, metals content, and cloud point that could have an immediate impact on

operability.

To ensure product quality, ASTM published the first B100 quality standards in 2002. ASTM International does not enforce fuel quality, but it is a leader in the development and delivery of international voluntary consensus standards. Its specifications are frequently adopted by state and local governments to ensure fuel quality and are monitored by industry members. NREL is among the organizations participating in the development of standards.

More information: The anonymous data from the NREL study "Quality Parameters and Chemical Analysis for Biodiesel Produced in the United States in 2011" PDF are in publication and available on NREL's website for use by interested parties.

Provided by National Renewable Energy Laboratory

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