

Cow-a-bella -- making eco-friendly diesel fuel from butter

July 29 2010



Butter could provide an eco-friendly raw material for making biodiesel fuel.
Credit: USDA, Agricultural Research Service

The search for new raw materials for making biodiesel fuel has led scientists to an unlikely farm product — butter. In a new study in ACS' bi-weekly *Journal of Agricultural and Food Chemistry*, they report that butter could be used as an eco-friendly feedstock, or raw material, for making diesel fuel.

Michael Haas and colleagues cite rising global demand for biodiesel, and the desire to expand the [feedstock](#) base, as motivating factors for their research. The United States alone has committed to producing 36 billion

gallons of [biofuel](#) by 2022, a major increase from the current annual production level of about 11 billion gallons. Most of that was [ethanol](#).

Biodiesel production, now approaching 1 billion gallons annually in the U.S., is also slated to increase. As researchers seek additional and affordable feedstocks for biodiesel production, these scientists turned to butter, one billion pounds of which are produced annually. Could surplus, spoiled, or nonfood-grade butter be used to make biodiesel at competitive prices?

In an effort to find out, the scientists recovered the fat from a quarter-ton of butter and converted it into the fatty acid esters that constitute biodiesel. They found that the resulting material met all but one of the official test standards for biodiesel. The study concluded that with further purification or by blending with biodiesel from other feedstocks butter biodiesel could add to the supply of biobased fuel for diesel engines.

More information: "Butter as a Feedstock for Biodiesel Production", *Journal of Agricultural and Food Chemistry*.

Provided by American Chemical Society

Citation: Cow-a-bella -- making eco-friendly diesel fuel from butter (2010, July 29) retrieved 28 April 2024 from <https://phys.org/news/2010-07-cow-a-bella-eco-friendly-diesel-fuel.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.