

Biofuel. Is it the answer?

Blending fuel from chicken fat, corn and tree limbs instead of non-renewable petroleum sounds great. Where do I sign up?

While chicken soup may be good for your soul, the science for chicken fat in your fuel tank is shaky, says Mike Belluomo, BG's Product Technical Service Manager.

Baby steps

Mike warns that the non-petroleum biofuel alternatives fuel industry is in its infancy, lacking adequate quality control and accountability.

Biofuel is usually associated with diesel, but it's defined as any fuel that is not made from petroleum—anything you can distill, anything with a starch base. But some starches break down more easily than others, such as simple sugars. In Brazil, sugar ethanol accounts for 40 percent of fuel used.

Biofuels make up about 11 percent of total global energy despite transportation problems, inconsistent burning and low energy densities, says an article in the March 2007 issue of *Insight*, a magazine published by a conservative Washington think tank. In theory, *Insight* says, biomass could meet all of the world's energy needs, but faces expensive and unsolved technical problems.

Vegi-fuel

Today's better-known alternative fuel is ethanol, specifically E-85 that some newer Flex-Fuel vehicles such as the Ford Explorer/Mountaineer are designed to use. The benefits of E-85, derived from corn, other high-

starch crops and cellulose, are: fewer toxic emissions, cleaner engines, reduced national dependency on foreign oil and more money for U.S. farmers, says *Underhood Service*.

"Ethanol has been around for years but it is no be-all, end-all," Mike says. *Underhood Service* points out that E-85 delivers nearly 30 percent less fuel economy and is

corrosive to fuel systems. For more information, check out "Getting Tanked" by Glen Benard in the February 2006 issue of *Underhood Service*, or at www.underhoodservice.com.

No fat jokes

Another biofuel in the headlines is biodiesel; diesel fuel brewed out of soybeans, chicken fat, leftover cooking grease or other animal fats. "Any fat could replace petroleum diesel. All you need is a heavy oil for compression," Mike says.

Besides turning rancid, because fat molecules break down faster than petroleum molecules, other problems rise: Where did it come from? Has it passed through quality control? "Someone might have 1,000 gallons of cooking grease and an elaborate distilling setup, but what he produces may be as bad for your engine as what Uncle Jesse brews in his barn is for your innards," says Mike.

Beware of the gunk

A byproduct of biodiesel is glycerin, which presents other problems. A

broken-down semi with 200 gallons of biodiesel in the tank was towed into a Wichita dealership recently. Kansas BG Distributor Ralph Compton called BG's lab for help. "The fuel filter was plugged

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with glycerin, black gooeey stuff," Mike says. "They asked me what additive I could put in. I said put in a suction hose to take the 200 gallons of fuel off the truck, or you will plug your \$600 injectors." Biodiesel could be used in moderation to probably control the problem, but there is nothing to fix it, Mike says, there is no magic bullet.

A BG education

BG's future "is to educate clients and the general public to be aware that no one is policing the alternative fuel market, or inspecting the quality of the fuels out there," Mike says.

BG can help diagnose the problem and offer solutions. "You need to stay with a company that knows fuel and has the resources of instrumentation, equipment and personnel. Not everyone who sells additives has the resources or the expertise BG does."

Biofuels today are in the fad stage. When something new heats up the market, hang on. It is a bumpy ride as people ignore quality control and jump in fast to make a quick buck.

Like chicken soup, you have to trust that the people who cooked it know what they're doing and have used the best ingredients and processes, or the remedy itself becomes a problem. 🍲