



“Conservation Corner” for the  
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## **Biodiesel**

*by Mark Ciarametaro, Boscawen Conservation Commissioner*

Oakhurst Dairy's recent decision to convert 90% of its truck fleet (130 trucks) to run on biodiesel fuel has many people talking about the benefits of Biodiesel use. I thought for this month's conservation corner, I would devote some time to summarizing the pros and cons of this alternative fuel source. With winter fast approaching, unpredictable fuel costs, and recent concern over global warming, it seemed a timely topic to address.

Biodiesel is produced through a process in which organically derived oils are combined with alcohol (ethanol or methanol) in the presence of a catalyst to form ethyl or methyl ester. Biodiesel can be made from soybean or Canola oils, animal fats, waste vegetable oils, or microalgae oils. It can then be used just as fossil fuels are to burn for energy, transportation, etc.

What are the benefits of using Biodiesel? Since it is produced from plant matter, biodiesel use supports the American economy by providing a market for US growers and distributors. It has the potential to decrease our dependence on foreign oil and therefore make our nation less susceptible to the vagaries of the oil market and the political stability or lack thereof of oil producing nations.

Biodiesel produces 50% less ozone forming emissions than regular diesel fuel. It produces virtually no acid rain causing sulfur dioxides and sulfates. Substantial reductions in unburned hydrocarbons (67% lower), carbon monoxide (48% lower) and particulate matter (47% lower) have been measure in tests done by the EPA. In addition, biodiesel use has shown less emissions of nitrogen oxides, and other hydrocarbon pollutants. Biodiesel has been shown to produce 78.5 % less carbon dioxide than regular fuel when burned, making it less harmful in producing global warming. In addition, biodiesel is biodegradable, breaking down at a faster rate than sugar.

Despite all its advantages, biodiesel is no panacea. It still involves burning a substance and releasing harmful gasses into our atmosphere that are unhealthy to breath and contribute to global warming. There are also concerns about its production costs, increased fertilizer use, and increased pesticide use to grow crops to produce biodiesel fuel. However, until other technologies are further developed to solve our energy problems, biodiesel is one way to at least decrease the impact we are having on our environment. The evidence supporting the importance of decreasing air pollution is strong. The World Health Organization (WHO) estimates that 4.6 million people die each year due to causes associated with air pollution. This is more deaths than are attributed to automobile accidents. Most of the air pollution produced comes from automobiles, although a substantial portion come from stationary sources such as power plants. The EPA has estimated that decreases in our output of air pollution from cars would lead a decrease by tens of thousands of people in emergency room visits, hospital stays, heart attacks and premature mortalities.

For more info on Biodiesel, visit the official website of the National Biodiesel Board at [http://www.biodiesel.org/resources/biodiesel\\_basics/](http://www.biodiesel.org/resources/biodiesel_basics/)