

Renewable Fuel



Photo Courtesy of NREL

Renewable Energy Fuel Uses

Renewable fuel is defined as “fuel grade ethanol and biodiesel.” USDA supports the conversion and use of biomass (plant-derived material) as an important energy resource for on-farm use to reduce dependence on petroleum-based fuels. At this time, biomass and its fuel derivatives represent the only renewable alternative for liquid transportation fuel. Using renewable energy fuels can eliminate the use of toxic fuel additives, such as MTBE (Methyl Tertiary Butyl Ether); reduce air and water pollution; and reduce greenhouse gas emissions.

A companion Job Sheet, “Renewable Fuel Records,” is also available from NRCS field offices to assist with record keeping and converting fuel blends into components that may be eligible for payment as CSP enhancements.

Ethanol – Ethanol is also known as ethyl alcohol or grain alcohol. Ethanol is used as an alternative fuel and as an octane-boosting additive to gasoline. The U.S. ethanol industry produced more than 2.81 billion gallons in 2003, up 32 percent from 2002’s annual production of 2.13 billion gallons¹. Although this number is small compared to fossil fuel use for transportation, ethanol consumption continues to increase dramatically. Ethanol can be made from starch or cellulose. Bio-ethanol technology turns low-value plant material, such as corn stalks, sawdust, or waste paper into fuel ethanol.

Biodiesel – Biodiesel is a clean burning alternative fuel produced from oils and fats derived from a variety of renewable resources, including oils derived from canola seeds, corn seeds, sunflower seeds, flax seeds, and, most commonly, soybeans. Raw biodiesel contains no petroleum, but it is usually blended with petroleum diesel to create a biodiesel blend. Biodiesel fuel is made from oils or fats – both hydrocarbons. The hydrocarbons are filtered, then mixed with an alcohol (typically methanol) and a catalyst (sodium or potassium hydroxide). The major products from this reaction are biodiesel fuel, which is an ester, and glycerol, which has commercial uses, such as in cosmetics, soap, and other products. Biodiesel is simple to use, biodegradable, nontoxic, and essentially free of sulfur and aromatics. It can be used in compression-ignition (diesel) engines with little or no modification. Farm machinery is largely diesel powered.

CSP Payment: Under CSP, payments will be made to qualifying producers for the *bio-based portion* of eligible blended fuels in 100-gallon increments. A payment is offered for each 100 gallons of actual ethanol used in farm machinery.

Documentation Required: Receipts documenting the annual purchases of renewable fuels, such as ethanol and biodiesel.



Renewable Fuel Worksheet – Conservation Security Program 2006

Landowner _____

Renewable Fuel Records

Example

Date	Fuel Type	Amount (gallons)	Renewable Component (gallons)	Estimated Payment (\$\$)
August 8, 2004	E85	6,000	5,100 (6,000 x .85)	

Notes:

1. Renewable fuel (bioenergy, or biofuel) is defined as *biodiesel* and *fuel grade ethanol*.
2. Payments for renewable fuel under CSP are *limited to the bio-based portion* of eligible blended fuels in 500 gallon increments. For example, E-85 is 85% ethanol, therefore, for 589 gallons of ethanol, payment will be made only for the 500-gallon bio-based component.