

Research Stations
are using
Alternative Fuels

biodiesel



what is biodiesel?

- A renewable, nontoxic, biodegradable fuel
- Manufactured from vegetable oil or animal fat
- Can be used in existing diesel engines with little or no modification
- Can be used in combination with petroleum-based diesel
- Can be used in existing diesel engines with little or no modification

Why should I use biodiesel?

• Renewable energy source

• Reduces greenhouse gas emissions

• Improves air quality

• Supports local agriculture

• Biodegradable and non-toxic

• Compatible with existing diesel engines

biodiesel crops & fuel yield

in gallons per acre

Corn	18
Oats	23
Cotton	36
Soybean	48
Rice	58
Sunflower	102
Peanut	113
Canola/Rapeseed	127
Coconut	287
Oil palm	635



Sunflower
102 gal/acre

Corn
18 gal/acre

Soybean
48 gal/acre

why should I use ethanol?

- Environmentally friendly, reducing use of imported petroleum
- Using 100% carbon emissions that gasoline
- Supports millions of productive jobs
- Supports U.S. farmers and rural life

ethanol process





history of ethanol

historical background

what is ethanol?

- An alcohol based alternative fuel produced by fermenting and distilling starch crops into simple sugars
- Manufactured from corn, barley, wheat, sorghum, sugar cane, sugar beets, and sweetpotatoes
- Also produced from "cellulosic biomass" such as trees and grasses like switchgrass and miscanthus
- Most commonly used to increase octane and improve the emissions quality of gasoline

ethanol crops & fuel yield

in gallons per acre

Miscanthus	1500
Switchgrass	1150
Sweetpotato	1069
Poplar Wood (hybrid)	1000
Sweet Sorghum	900
Sugar Beet	714
Sugar Cane	662
Corn	370
Cassava	410
Wheat	277

