



Biofuels in Wisconsin

2011 Soy Biobased Products

Sept 7, 2011

Kenosha Public Museum, WI

Oil Yield of Some Common Crops

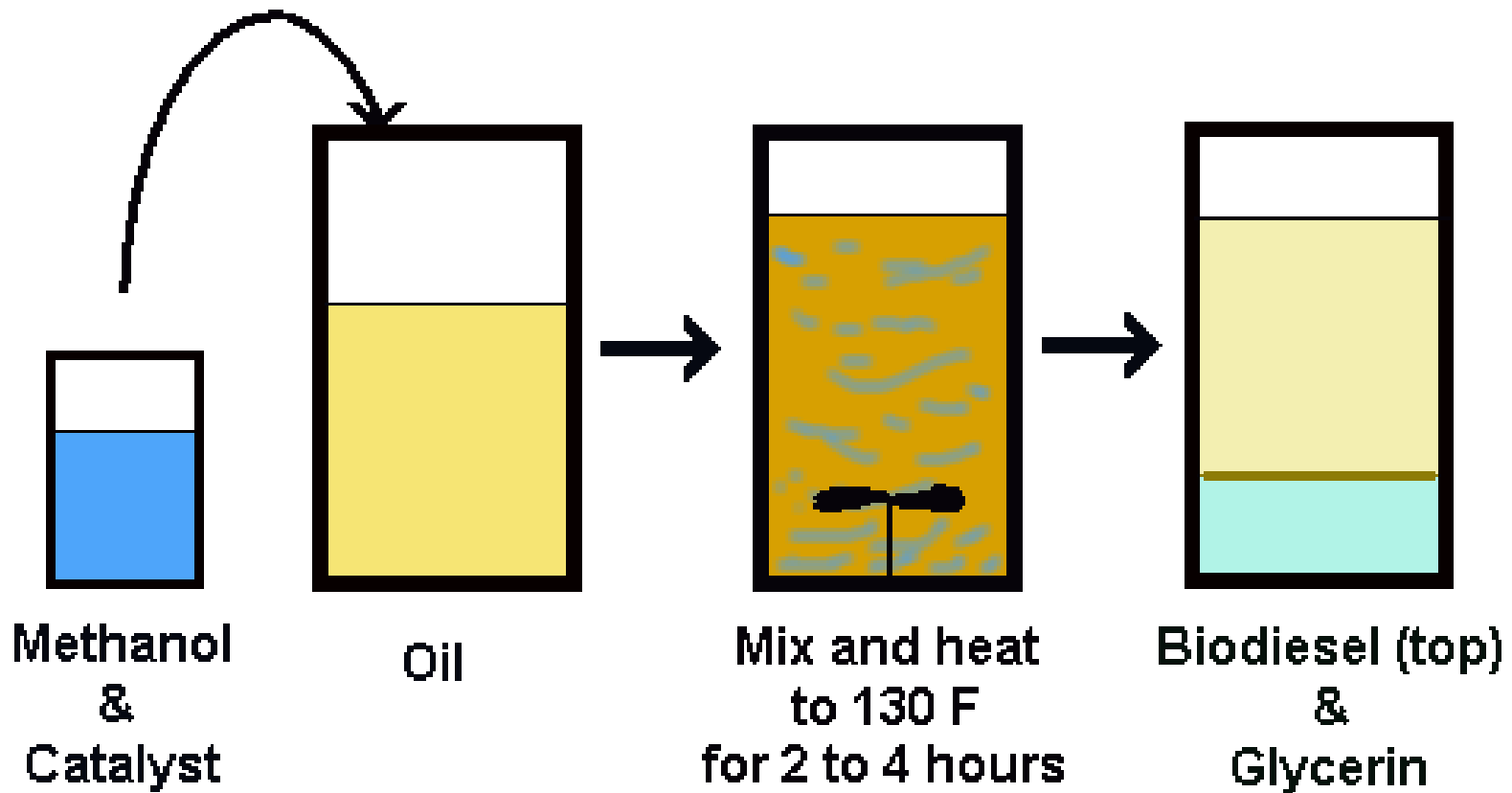
- **Soybean:** 40 to 50 US gal/acre (35 to 45,000 L/km²)
- **Rapeseed:** 110 to 145 US gal/acre (100 to 130,000 L/km²)
- **Mustard:** 140 US gal/acre (130,000 L/km²)
- **Jatropha:** 175 US gal/acre (160,000 L/km²)
- **Palm oil:** 650 US gal/acre (580,000 L/km²)
- **Algae:** 10,000 to 20,000 US gal/acre (9,000,000 to 18,000,000 L/km²)

Oilseeds

- Planting
- Harvesting
- Refining
- Bleaching
- Deodorizing
- Plant sterols in some vegetable oils can cause sediment formation in the biodiesel

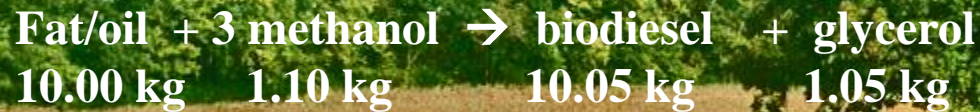


Biodiesel Production



The Biodiesel Reaction

- **Basic reaction quantities**



- **Catalyst is used to make the reaction go**

- **Catalysts used to make biodiesel**

- Potassium Hydroxide
- Sodium Hydroxide

- **Although the catalyst is not part of the products in the reaction, it is difficult to recycle and is considered a consumable in the process**

2010: Uncertainty

- Blender's Credit – will it pass?
- RFS – will it be enforced?
- Feedstock Costs – can margins improve?
- Will gas/diesel prices rise?
- Production not at capacity
- Quality is good
- Anticipation is positive
- Technology improvements

2011: Brighter Future

Incentives

- **Volumetric Blender Tax Credit**
- **Small Agri-Biodiesel Producer Tax Credit**
- **Alternative Fuel Refueling Infrastructure Tax Credit**
- **RFS2**

Ethanol

- <http://maps.google.com/maps/ms?msa=0&msid=114795702092705781866.0004506e7cf3ae206a7c0>
- <http://www.e85fuel.com/flexible-fuel-vehicles/>

Biodiesel

- Biodiesel Blender Pumps
- <http://maps.google.com/maps/ms?msa=0&msid=114795702092705781866.0004506e7cf3ae206a7c0>

Wisconsin Incentives

A photograph of a large, leafy tree in a field of golden-brown crops under a clear blue sky. The tree is the central focus, with its dense foliage in shades of green and yellow. The field in the foreground and middle ground is filled with tall, golden-brown stalks, likely corn or soybeans, ready for harvest. The background shows a line of trees under a clear, bright blue sky.

- **Wisconsin State Energy Office:**
- <http://energyindependence.wi.gov/category.asp?linkcatid=2989&linkid=1462&locid=160>

WI Biodiesel Facilities



- WalshBio Fuels, 5m
- Sun Power Biodiesel, 3m
- Bio Blend Fuels Inc., 2.6m
- Sanimax Energy, 20m
- Small Scale producers

Distributors



- Fusion
- Wolf
- Scully
- SunPower
- Bio Blend Fuels
- Ag Vantage
- Venture
- others

Retail

- **Scully Oil Company, 4 or 5 locations**
 - Lyndon Station, Mauston, Camp Douglas, Lafarge
 - B10
- **Bioblend Fuels, Manitowoc**
 - B20, B50, B99
- **Central Express, Westby**
 - B20, B5
- ~~**Smart Station, Monroe (maybe)**~~
- **An auto garage near a town somewhere where they make it in the shed...**



Small-Scale



- Lots of interest
- State 1000 gal. exemption
- Not reaching capacity
- Quality is mediocre and uncertain
- New projects are underway
 - New crops/feedstock
 - New production methods
- Business is improving for equipment manufacturers

Conclusion

A rural landscape featuring a large, full-canopied green tree in the foreground on the right. Behind it is a field of golden-brown crops, likely corn, with a small wooden structure partially visible. In the background, a line of trees stretches across the horizon under a clear, light blue sky.

- **Production is still down**
- **Quality is up**
- **Outlook is optimistic**
- **Prices are good (with incentives)**
- **Hard(er) to get!**