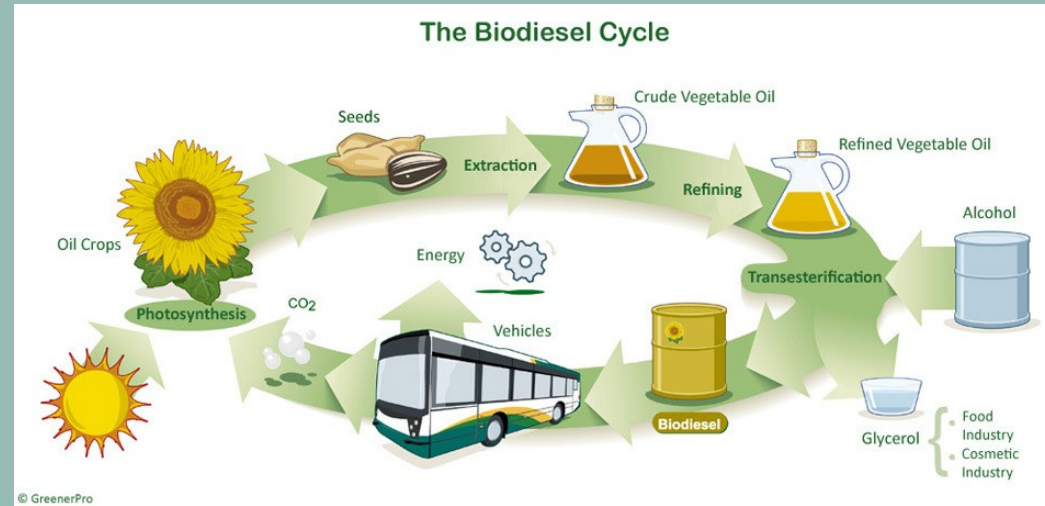


# BIODIESEL PRODUCTION





# Advantages of Biodiesel



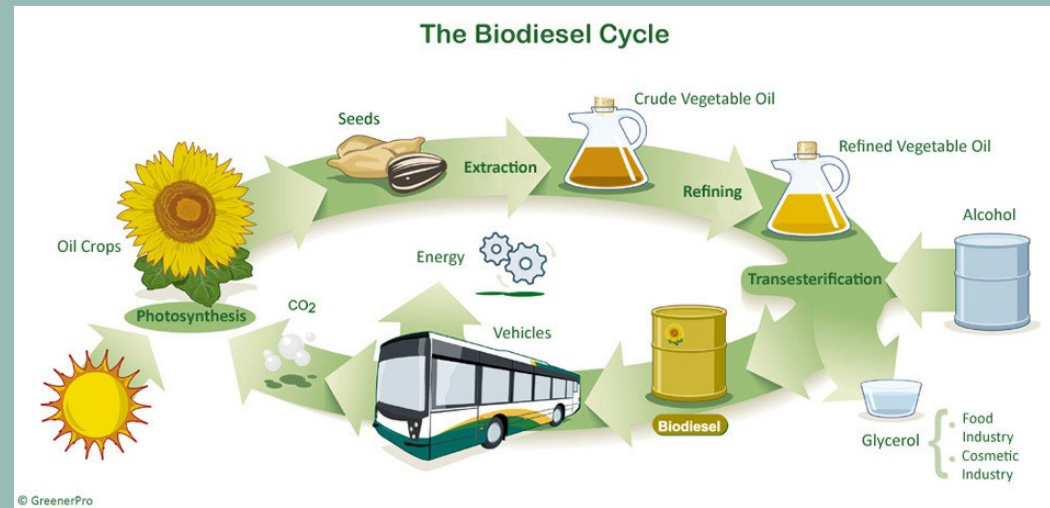
Source:metaefficient.com

- Renewable fuel, obtained from vegetable oils or animal fats.
- Low toxicity, in comparison with diesel fuel.
- Degrades more rapidly than diesel fuel, minimizing the environmental consequences of biofuel spills.
- Lower emissions of contaminants: carbon monoxide, particulate matter, polycyclic aromatic hydrocarbons, aldehydes.
- Lower health risk, due to reduced emissions of carcinogenic substances.
- No sulfur dioxide (SO<sub>2</sub>) emissions.
- Higher flash point (100C minimum).



PROS &

# Advantages of Biodiesel



Source:metaefficient.com

- May be blended with diesel fuel at any proportion; both fuels may be mixed during the fuel supply to vehicles.
- Excellent properties as a lubricant.
- It is the only alternative fuel that can be used in a conventional diesel engine, without modifications.
- Used cooking oils and fat residues from meat processing may be used as raw materials.
- No sulfur dioxide (SO<sub>2</sub>) emissions.
- Higher flash point (100C minimum).[4]



PROS &

# Disadvantages of Biodiesel

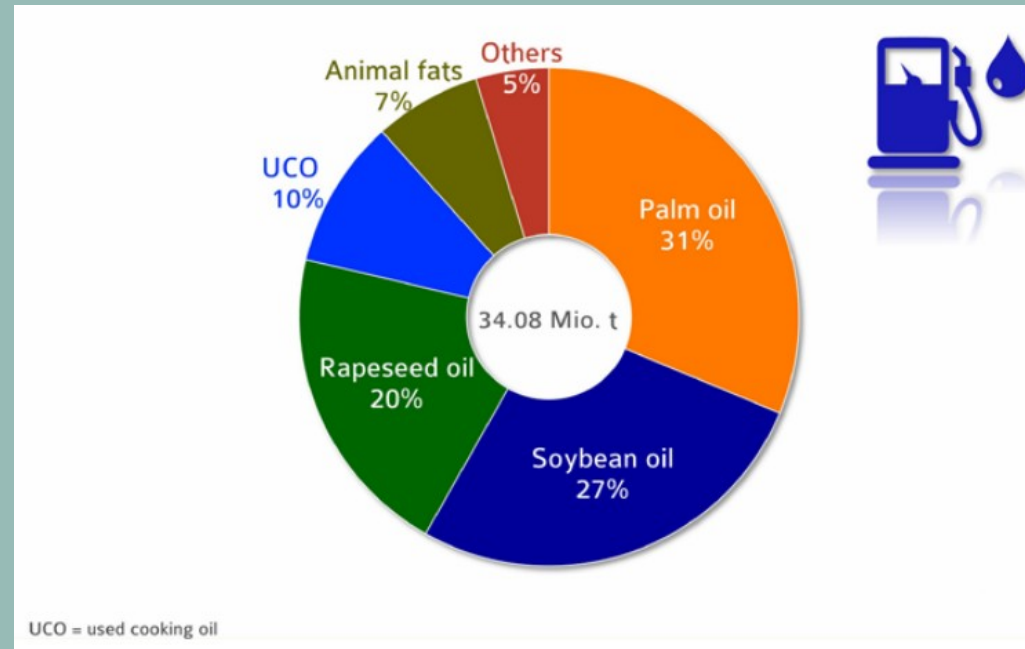


- Slightly higher fuel consumption due to the lower calorific value of biodiesel.
- Slightly higher nitrous oxide (NO<sub>x</sub>) emissions than diesel fuel.
- Higher freezing point than diesel fuel. This may be inconvenient in cold climates.
- It is less stable than diesel fuel, and therefore long-term storage (more than six months) of biodiesel is not recommended.
- May degrade plastic and natural rubber gaskets and hoses when used in pure form, in which case replacement with Teflon components is recommended.
- It dissolves the deposits of sediments and other contaminants from diesel fuel in storage tanks and fuel lines, which then are flushed away by the biofuel into the engine, where they can cause problems in the valves and injection systems. In consequence, the cleaning of tanks prior to filling with biodiesel is recommended.
- It must be noted that these disadvantages are significantly reduced when biodiesel is used in blends with diesel fuel.[4]



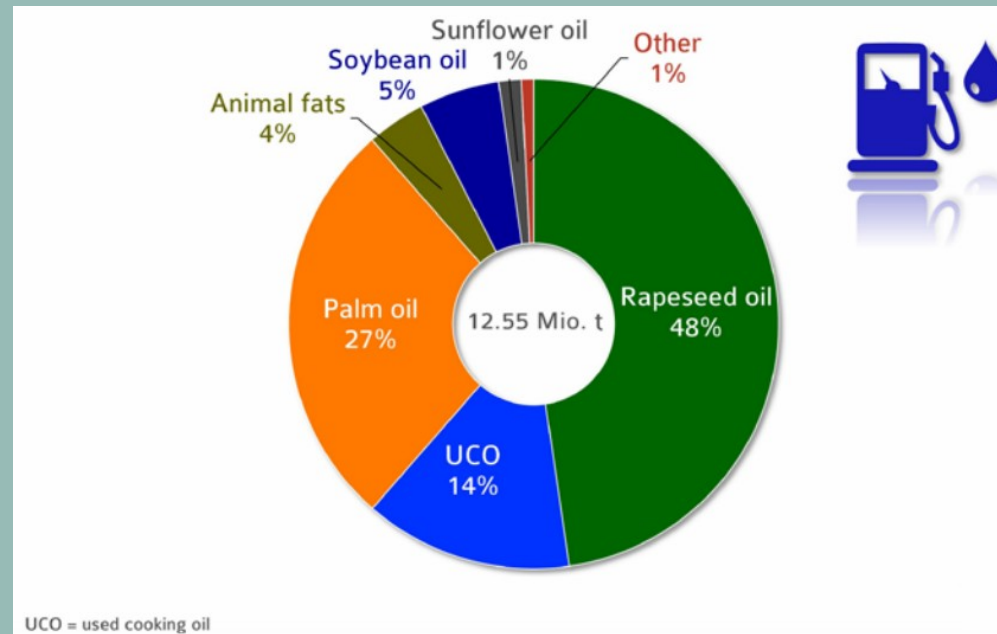
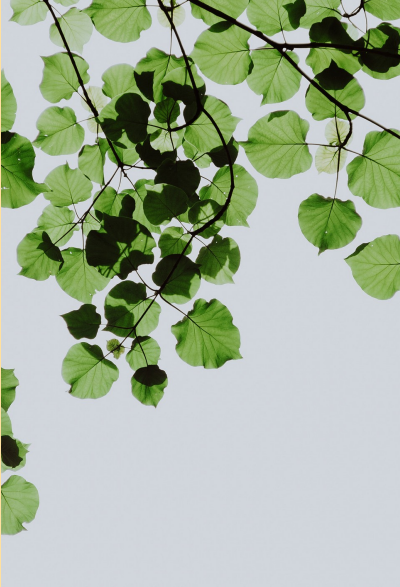


# Some Statistics About Biodiesel



Feedstock use in biodiesel production, worldwide, in 2016, in per cent.[5]

# Some Statistics About Biodiesel



Feedstock use in biodiesel production, in EU-28, in 2016, in per cent.[5]



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