



## Biodiesel production from oil extracted from seeds of *Thevetia sps.* and Waste Frying Oil

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**Abstract:** Yellow oleander (*Thevetia sps.*) tree is largely available in North-East India, and is widespread in American, Asian and African continents. The plant has been regarded as a potential source of biologically active compounds viz. insecticides, rodenticides, fungicides and bactericides. Waste oil has many disposal problems like water and soil pollution, human health concern and disturbance to the aquatic ecosystem, so rather than disposing it and harming the environment, it can be used as an effective and cost-efficient feedstock for biodiesel production as it is readily available. The main advantage of using WFO is the low cost, as low as 70-80%

of typical virgin oil price. The study analyzed the potential use of WFO, mixed with Oleander oil in standardized alkali process.

**Keywords:** Biodiesel, *Thevetia*, Transesterification, Waste Frying Oil

### Introduction :

Biodiesel is an alternative diesel fuel produced from lipid feed stocks and an alcohol. Biodiesel is produced through a transesterification reaction. In this reaction, in the presence of a catalyst, triglycerides react with an alcohol producing a mixture of FFAE and glycerol. The overall process is a sequence of three consecutive and reversible reactions, in which di and monoglycerides are formed as intermediates compounds. In spite of the improved and available industrial production in various countries, biodiesel can still not compete with the prices of petroleum diesel. According to Zhang *et al.* (2003), plant capacity and edible oils prices are the most significant factors affecting the economic viability of biodiesel manufacture. The key issue for large scale application of biodiesel as compared to petroleum diesel is the high cost of biodiesel which is mainly concerned with cost of feedstock oils as both the edible and non-edible oils

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