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# Olax scandens Roxb : A Rarefied Non Edible Potential Leafage of Bio Diesel for Diesel Engines

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**Abstract**

*In India, edible oils are in short supply and country has to import up to 40% of its requirements and use of edible oils for biodiesel production is ruled out. Availability of raw materials, collection of seeds and processing mechanism for the seeds are not well standardized. Olax scandens Roxb is one such plant species identified by authors as a promising source of oil for biodiesel production. The present work focuses on (a) Standardization of extraction procedures of olax oil from seeds.(b). Standardization of esterification of crude olax oil (c).Standardization of trans-esterified olax oil.(d). Study of different physical and chemical parameters of the processed oils for their biodiesel properties including elaborate analysis by gas chromatography (GC) (e). Engine testing using Olax biodiesel. Result revealed petroleum diesel blended with 10% to 20% olax biodiesel can be fuelled to diesel engines without any modification in engine hardware irrespective of a negligible power loss.*

## 1. Introduction

The depleting reserves of fossil fuels and the growing environmental concerns have made renewable energy an exceptionally attractive alternative energy source for the future [1, 2]. Biodiesel is one of these promising alternative resources for diesel engines. It is defined as the mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats and alcohol with or without a catalyst. It is renewable, biodegradable, environmentally friendly, non-toxic, portable, readily available and eco-friendly fuel [3–6]. *Olax scandens* Roxb of the family Olacaceae is a scandent shrub found often in ravines, stream banks in the sub-Himalayan tract in Kumaun, upper Gangetic plain, Bihar Orissa, Madhya Pradesh, Deccan and Western Ghats. It has regular bearing habit and high productive potential even in marginal lands that can provide huge quantities of oil rich seeds. Though it is a climber it can be trained as a standard and about 4,000 plants can be put in to cultivation in one acre of land.

Fig.1 shows leafage with fruiting habit in *Olax scandens;* at different stages of maturity.

Fig. 1 Leafage with fruiting habit in *Olax scandens*: at different stages of maturity

The fruits of *Olax scandens* were collected from three different places of Odisha (India) namely Charichhak in Boudh, Banigochha in Nayagarh and Munduli in Cuttack districts. Seeds were extracted from the drupes,