PROJECT REPORT ON

ISOLATION AND ESTIMATION OF LIPIDS FROM NON EDIBLE SEEDS AVAILABLE IN COASTAL BELT AND THEIR APPLICATIONS

PROJECT ASSOCIATES

AKSHATHA.K
(4NM06BT002)

SHERIGAR NEHA AITHAPPA
(4NM06BT038)

SUMEDA MADHURI
(4NM06BT043)

SUNIL KUMAR
(4NM06BT049)

UNDER THE GUIDANCE OF

Mr. VINAYAKA B. SHET

LECTURER

Submitted to the Visvesvaraya Technological University, Belgaum in partial fulfillment of requirement for the award of Bachelor of Engineering degree in Biotechnology.

2009-2010

DEPARTMENT OF BIOTECHNOLOGY

NITTE MAHALINGA ADYANTHAYA MEMORIAL INSTITUTE OF TECHNOLOGY
NITTE – 574 110

ABSTRACT

Isolation of commercial grade lipid from novel non conventional sources like non edible seeds from coastal belt was performed. The major sources used are *Adenanthera pavonia, Terminalia bellarica, Thevetia peruviana, Enteda rheedii and Calophyllum innophyllum.* The quantitative analysis includes the lipid extraction from seeds using different techniques and their yield was compared. High yield was seen in Soxhlet extraction. The property of lipid was estimated by Iodine value analysis, Saponification value, Acid value, and Unsaturation test. Comparative rancidity tests for every fortnight determined, *Terminalia bellarica* oil was the most stable and has good shelf life followed by *Enteda rheedii.* Quantitative estimation of the lipids were performed by using Sulpho-Phospho-Vanillin reagent test which determines that maximum lipid content of oil was seen in *Terminalia bellarica* with a 0.03g/ml. Presence of triglycerides was determined by TLC method. The isolated lipid was used to produce biodiesel by base catalyzed transesterification process.

Keywords: Soxhlet process, *Adenanthera pavonia, Terminalia bellirica, Thevetia peruviana, Enteda reedii,* Sulpho-Phospho-Vanillin reagent process.