



Utilization of Agro Waste as Carbon Sources for high Lipid Production by *Aspergillus Niger*

Madonna Shalma S, Ranjitha J, Vijayalakshmi S*

CO₂ Research and Green Technologies Center, VIT University, Vellore, India

Abstract: Effects of different agro waste as carbon source on biomass and lipid production of *Aspergillus niger* were studied. Different low cost feedstock substrate such as Orange peel, Banana peel, Potato peel, Sugarcane bagasse, Tomato waste, Rice bran, Rice straw and Rice husk was used as carbon source. There was a significant difference in the lipid accumulation process as related to the carbon sources was observed. It was found that when orange peel was used the biomass concentration and lipid content was 22.63g/l and 67.56% respectively and was high compared with other substrate used. Transesterification was carried out using acid catalyst and the yield was 69%. The FAME produced from the fungal lipid contains long chain fatty acids and higher number of saturated fatty acids and so it has the efficiency of acquiring high fuel and lubricating properties.

Keywords : fungi, *Aspergillus niger*, carbon source, lipid, biodiesel.

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