

International Conference on Nurturing Sustainability through Innovations in Science and Technology for Global Welfare



Contribution ID: 18

Type: Poster

Biofuel Properties Analysis of the Combination of Transesterified Lipids Derived from *Pseudomonas Aeruginosa* and Seeds of *Pongamia Pinnata*

This study investigates the potential of *Pseudomonas aeruginosa* as a candidate for biodiesel production through the analysis of fatty acid methyl esters (FAMEs) obtained from microbial lipid extraction and transesterification in comparison to that of leaves of *Pongamia pinnata*. Solvent-mediated lipid extraction in *Pseudomonas aeruginosa* and *Pongamia pinnata* was compared, revealing significantly higher lipid yield in the bacteria. Gas chromatography-mass spectrometry (GC-MS) analysis revealed the presence of predominant FAMEs, suggesting the capability of *Pseudomonas aeruginosa* to produce a diverse range of fatty acid derivatives suitable for biodiesel synthesis. Additionally, the analysis of biofuel properties demonstrated that the combined lipid composition extracted from *Pongamia pinnata* seeds and *Pseudomonas aeruginosa* meets biodiesel standards.

Primary author: Dr BORAH, Nayana (Jain University, School of Sciences)

Co-author: Ms GAUR, Stutee (Jain University, School of Sciences)

Presenter: Ms GAUR, Stutee (Jain University, School of Sciences)

Track Classification: Innovation and Technology for Sustainability