

Project:

Development of equipment to produce bioplastic raw material from BDF-by-product

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Summary:

Although production of biodiesel fuel is increasing globally, effective utilization of glycerin which is by-product from biodiesel fuel manufacturing process remains a unsolved problem. On the other hand, the demand for renewable plastics made from plant is expanding because these are "Carbon neutral". Poly lactic acid is a famous renewable source of plastic and applied widely. However, poly lactic acid has been made from corn or sugar cane. For this reason, production of poly lactic acid competes with food demand.

Therefore, the purpose of this research is to develop a new poly lactic acid producing process of which raw material is glycerin(by-product from biodiesel fuel producing process). In this research we built the lactic acid purifying and lactide(precursor of poly lactic acid) production equipment.

Results obtained by this research are summarized bellow;

- 1)It was confirmed that the new lactic acid purifying and lactide manufacturing processes were stable. Also, the production equipment was founded to be operational.
- 2)Yield of lactide is to be improved by appropriate management. High yield of lactide will contribute to cut down the lactide production cost.

Key words:

Biodiesel fuel, Glycerin, Lactic acid, Lactide, Poly lactic acid