Sustainable Cleaning Products from Probiotic Fermentation of Fruit Waste

Technology Overview

This invention uses novel probiotic strain in the fermentation process with fruit wastes to produce natural and chemical-free cleaning products with anti-microbial properties.

Features & Specifications

Probiotic strain was isolated from food source and identified via sequencing. Fermentation was performed using the isolated probiotic strain with fruit waste to produce supernatant and probiotic biomass. The harvested supernatant can be used as a cleaning agent, while the probiotic biomass can be potentially served as animal feed.

The antimicrobial test showed that the supernatant exhibited significant antimicrobial activity against bacterial strain *Escherichia coli*, comparable to commercial antibiotics. Therefore, suggesting that the supernatant might be formulated into potential sustainable cleaning alternative to commercial cleaning products. This could be due to the presence of the metabolites that were produced during the fermentation process that provided positive germicidal properties.

Customer Benefits

The products of fermentation could be formulated into potential sustainable and natural cleaning products as no toxic or sensitising agent was added. Thus, it can be used as a safe and effective anti-bacterial cleaning product for a wide range of applications.

Potential Applications

The products from the processes are used to formulate into sustainable cleaning agents, and the anti-microbial property of the cleaning agents was also evaluated. As this provides a means of fruit waste management, this sustainable approach also helps to conserve the environment and enhance the safety of individuals who are utilising natural cleaning products.

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