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PRODUCTION OF NANO- BIOSURFACTANT FROM PSEUDOMONAS AERUGINOSA AND IT'S APPLICATION IN BAKERY INDUSTRY

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Abstract

Surfactants are being used widely in detergent, cosmetic, food, textile and other industries. Due to their chemical nature they prove to be toxic to humans and the surroundings and are even found to have carcinogenic effect. Hence a need for Biosurfactants arose which is replacing the chemical surfactants in all the mentioned industries. Biosurfactants can be used in Food Industry as an anti-adhesive, anti-microbial agent and as food formulation ingredient. It possesses good emulsifying properties and has potential in bakery industry to solubilize the fat and improve the texture and quality of product. With the advent of nanotechnology we have been able to penetrate the molecular world. Nano-biosurfactant can thus be used instead of biosurfactant to explore better properties in terms of emusification, stabilization, texture etc. In this study first a biosurfactant was synthesized using *Pseudomonas aeruginosa* following which a proposed nano- biosurfactant was fabricated and the properties of both compared with chemical surfactant. Emulsifying activities of both in butter were measured which proved to be better in case of the proposed nano-biosurfactant.

Keywords: Biosurfactant, food, nano-biosurfactant, emusification