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Optimization of lipase production by solid state bioprocess using packed bed bioreactor

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Lipase catalyzes hydrolysis of lipids to diglycerides and monoglycerides, fatty acids and glycerol. Demand on lipase application in food, detergent, pharmaceutical and biodiesel industries was increased in last decade. We are reporting novel process for lipase production. Solid state bioprocess was used as production technique in packed bed bioreactor. Distiller's dried grains with solubles (DDGS); a co-product from ethanol industry was used as a substrate for lipase production in this process. Penicillium restrictium produced more lipase than Y. lipolytica or R. miehei. It was found that optimum conditions for lipase production were 70% moisture content, pH 4.5 and 8 days incubation time. Scale-up of lipase production by using packed bed bioreactor increased significantly lipase production.

Biography

Faiez Alani has obtained his PhD from University of Strathclyde. He is an Associate Professor and Chair of Biotechnology at McMaster University, Canada. He is serving as Editorial Board Member for The International Journal of Engineering Education (IJEE) and Member of the Society for Industrial Microbiology and Biotechnology. He has published more than 30 papers in world class journals.

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