The Torch
Vol. 2 (48)

Lipid production by strain development from microalgae

Sharvari Avinash Thorat

The rapidly increasing global population has resulted in increased energy demands. But the methods used for energy production are harmful to the environment. Hence, there is increased use of some renewable energies and the production of biofuels from microorganisms is one of the widely used alternative resources. Microalgae are the most reliable organisms for the production of biofuels as they can produce starch, oils and other biochemicals and also they utilise solar energy more efficiently than embryophytes (land plants). Hence, the rate of production of biofuels from microalgae is higher. Microalgae are majorly focused on the production of lipids. Development of improved microalgal strain is done by using various strategies like random mutagenesis, insertional mutagenesis, codon optimisation, using promoters and introns, genome editing and so on. Microalgal lipids are not only useful as biofuels but also utilised in treating diseases like atherosclerosis, Alzheimer’s and Parkinson's disorders. Lipids produced from microalgae have other advantages like providing a selectively permeable barrier to protect the cell from outside, maintaining optimum membrane fluidity for a variety of metabolic and biosynthetic processes, helping in cell signalling pathways, etc. Because of several benefits of lipids, their higher production is extremely necessary. Using various molecular techniques, microalgae with increased lipid production are developed. This advancement is an important step towards the use of microalgal lipids as biofuel that can further step towards the conservation of the environment. Microalgae are grabbing attention as the best producers of lipids because of the advantages they have over any other sources.

Keywords: Microalgae, Strain improvement, Lipids, Alternative resource, Biofuel

Citation:
Sharvari Avinash Thorat . Lipid production by strain development from microalgae. The Torch. 2021. 2(48). Available from: https://www.styvalley.com/pub/magazines/torch/read/lipid-production-by-strain-development-from-microalgae.