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The lipid content of some fungi (*Aspergillus fumigatus*) isolates from pulp fruits for usage in biodiesel production

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Biodiesel, which is derived from triglycerides or free fatty acids by transesterification or esterification with short chain alcohols, has become more attractive recently because of its environmental benefits, and the fact that it is made from renewable resources and nontoxic fuel. Most of the microorganisms like microalgae, *Bacillus*, fungi and yeast are all available for biodiesel production. In the study, the lipid accumulation properties of six fungi isolates, which are isolated apple, strawberry and orange pulp, were determined. The primers used for the amplification and sequencing of ITS1F-ITS4R encoding gene region. The PCR products were sequenced and analyzed using the BLAST program (National Centre for Biotechnology Information) to determine the closest available database sequences. Gas chromatography was used to determine the methyl ester yields. Both morphological and molecular examination identified all isolates as *Aspergillus fumigatus* (P1, P2, Ç, E1 and E2). Maximum lipid concentration was found to be P2 (2.760 oil level in the 50 mg fungal mass). Fatty acid profile of P2 showed presence of hexadecanoic acid (16,232%), 8,11-octadecadienoic acid (30,675%), 9-octadecadienoic acid (13,294%), octadecadienoic acid (7,810%). In conclusion, this work revealed the possibility of using the promising fungal isolates in biodiesel production from pulps.

Biography

Ferruh Asci has completed his PhD from Ataturk University, Turkey. He is the Researcher at Afyon Kocatepe University in Turkey. He has published more than 35 papers in reputed journals.

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