Chapter 5

Micro-algae: the Rise of Next Generation Biofuels

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ABSTRACT

The search for a suitable replacement to conventionally used fossil fuels as a feedstock for diesel production, has been gaining momentum over the recent years. The use of first generation feed-stocks such as edible and non-edible plant oils have been rendered non-feasible for large scale production, due to the food versus fuel dilemma. Research into the use of microalgae for the production of biodiesel has gained significant interest due to the ability of microalgal cultures to be grown to significant cell titres. They have an inherently faster growth rate in comparison to plant sources and have an ability to accumulate algal lipids up to 70% of its dry cell weight. Research into microalgae as a biodiesel feedstock is being conducted globally; these include many lavishly funded multidisciplinary international teams aiming to reduce the world's dependence fossil fuels.