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Biofuel similar to petroleum from microscopic algae: IISc

PTI

In their effort to find an alternate and cost-effective fuel, scientists at the Indian Institute of Science (IISc) have found it possible to extract oil from a type of single-celled microscopic algae 'Diatoms' by housing them within 'biological solar panels'.

The scientists proposed creating a biological solar panel, which will contain diatoms instead of photovoltaic cells.

Diatoms would float about in a nutrient-rich water solution and produce oil when exposed to sunlight.

Diatoms, commonly observed as a brown-skin coating on submerged stones in rivers and lakes and as phytoplankton in seas and oceans, typically contain oil droplets inside their cells, quite similar to petroleum.

The oil is a food source for the plants in lean times. Scientific analysis of diatom oil has shown that it is very suitable for use as biofuel.

"Here, we propose altering cells of the diatoms so that they actively secrete their oil droplets. We propose "milking" of diatoms without killing their cells similar to secretion of milk by selective breeding of cattle and alter their environment to maximise the rate of milk secretion," Prof TV Ramachandra of Centre for Ecological Sciences at IISc told PTI from Bangalore.

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