

Bio fuel from bottom mud

The research project on bio fuel production of the Siberian Federal University and the Institute of Biophysics SB RAS was supported by the Fundamental Research Program of the RAS Presidium. The scientists suggested using the bottom mud as a raw material for biodiesel production.

They experimented with the mud gathered from a small basin on Bugach river located near Krasnoyarsk. The researchers took tests of mud from various depths containing a large number of microalgae rich in fat that could be the basis for biodiesel production. Preliminary tests proved that biodiesel received from the Bugach river bottom mud meets European standards on burning temperature, number of calories received after full burning of one gram of this substance and resistance to oxidizing.

Mikhail Gladyshev, PhD, Professor of the Water and Land Ecosystems Department of the SibFU Institute of Fundamental Biology and Biotechnology and one of the authors of the project believed that production of bio fuel from bottom mud can be profitable as the raw materials extracted from the bottom are co-products of the environmental measures taken to renovate water. Every year the ponds and basins should be cleaned from mud. Thus, biodiesel is twice cheaper than traditional bio fuel.

The project was strictly assessed on the international level and then published in Biomass and Bioenergy Journal considered to have one of the highest scientific ratings among the world's biotechnology journals.

Today a group of scientists of the Siberian Federal University and the Institute of Biophysics SB RAS led by Mikhail Gladyshev works on production of biodiesel extracted from the primary bottom mud of the municipal waste disposal plants. The solution also allows to solve the problem of utilization of the bottom mud which is usually removed to the special areas unsuitable for any other activities for a very long period of time for this reason.

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