Is Algae The New Solution To Fuel/Oil Production?

OriginOil Inc. [1] has been developing a breakthrough technology to transform algae-a promising source of renewable oil-into a true competitor to petroleum. The company recently announced that prominent algae scientist Takaaki Maekawa has made a positive evaluation of the technology. Maekawa is professor emeritus at Japan's University of Tsukuba's Graduate School of Life and Environmental Sciences, and his recent research includes the "Development of Controlled Ecological Life Support Systems with Carbon Dioxide Fixation, Algae and Solid Fermentation." Production figures in the algae industry vary widely. According to the company, some sources say that in open ponds a daily growth rate of 2.0 grams of dry mass per liter (g-dm/L) is considered excellent, and that Professor Makoto Watanabe at the University of Tsukuba reported achieving 3.5 g-dm/L in the laboratory. These sources also indicate that in special cases, researchers at the Fraunhofer Institute in Stuttgart have reported a maximum concentration of 10 g-dm/L. Founded on meetings between Maekawa and the OriginOil team (after Maekawa reviewed the initial algae production metrics from the company's first Helix BioReactor™ prototype), Maekawa comments, "OriginOil did a good job of producing 13.5 g-dm/L of algae. "Based on my initial calculations, 20.0 g-dm/L per a 36-hour period meets the threshold for an optimal return on investment for large-scale algae refineries we are studying in Japan. It appears that OriginOil's Helix Bioreactor and its carbon dioxide supply techniques will help to reach this goal." OriginOil Co-Founder Nicholas Eckelberry reports, "With our first prototype, we attained approximately 13.5 g-dm/L of algae mass in a 36-hour period and more as time progressed. The early prototype has since been optimized, and we expect to attain 20 to 25 g-dm/L within a 24- to 36-hour period. "Due to the laboratory scale of the prototype, our encouraging results should be considered projections. Nonetheless, we are excited about the extraordinary algae growth rates in the Helix BioReactor." The company says much of the world's oil and gas is made up of ancient algae deposits, and its technology aims to produce new oil from this algae through a cost-effective, high-speed manufacturing process-all the while without disrupting the environment or food supplies. The company believes this endless supply of new oil can be used for many products, such as diesel, gasoline, jet fuel, plastics and solvents without the global warming effects of petroleum.

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[1] http://www.originoil.com