COLLEGE OF WILLIAM AND MARY
TECHNOLOGY TRANSFER OFFICE

TITLE (AND CASE NUMBER) OF INVENTION:

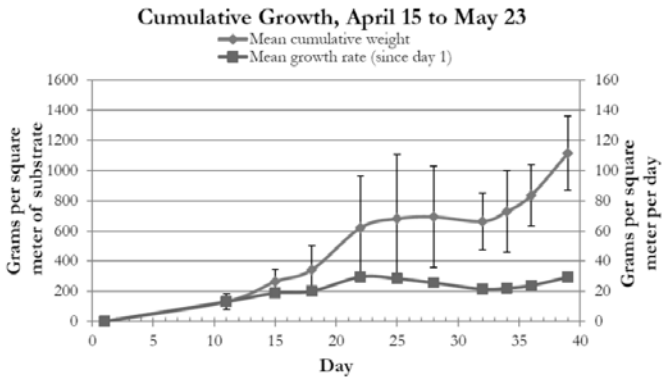
APPARATUS AND METHOD TO HARVEST ALGAE (WM-1104)

INVENTORS: Bill Cooke, Gene Tracy, Karl Kuschner, Emmett Duffy, Dennis Manos

APPLICATIONS: Alternative Energy, Fuel Production, Environmental Remediation

SUMMARY: We have developed a patented method and system for algae production for biofuel production and/or environmental remediation. Unlike other algae production systems used commercially, our in-water production system grows algae on *vertically* aligned substrates, rather than *horizontal* substrates. The vertically aligned substrates are closely packed and can extend fairly deep in the water, providing a huge increase in growing area per unit area on the surface of the water. This somewhat counterintuitive approach has been demonstrated to be successful in field trials covering a range of conditions, with production yields greatly exceeding those reported in the literature.

Algae has been widely cited as a desirable source of renewable energy, and has the potential to generate much higher yields of oil per growing area than other potential biofuels. Additionally, algae production and harvesting can play a significant role in environmental remediation. Algae absorbs nutrients such as nitrogen and phosphorus, and thus by intentionally growing and harvesting algae, it is possible to remove excess nutrients from polluted water systems.



Our approach can be used to create an automated, continuous, algae production system in open water, and it can provide substantially higher yields per unit water surface area than conventional algae production systems.

PATENT STATUS: United States Patent No. 8,689,482 (issued April 8, 2014)

CONTACT INFORMATION: Jason McDevitt (757-221-1751); jason.mcdevitt@wm.edu