

# Algae can be converted into drugs and renewable fuels with the help of high technology

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Scientists have come up with a method that could lead to inexpensive, eco-friendly ways to produce cosmetic, plastic and algae-based products.

Researchers say algae are valuable for the ability to produce useful products, but the lack of technical tools has hampered the basic research and industry development in decades. past year.



Scientists at the University of Edinburgh have sought to improve the efficiency of gene editing to increase the productivity of products currently using algae, including some supplements. High-tech advancement can allow algae to create new products, such as drugs.

This technique uses active molecules to pull DNA molecules - called CRISPR molecules - to allow researchers to add new genes or modify existing genes. So far, scientists have struggled to develop a technique that works effectively in algae.

To overcome this, the team added a way to pull the CRISPR molecule and short pieces of DNA into algae cells to make precise modifications to the genetic code.

Their new method is more specific and increases 500 times more effectively than previous techniques. This finding could boost the potential of the global algae industry, estimated to reach \$ 1.1 billion by 2024.

The group developed its technique to work in a famous algae called *Chlamydomonas reinhardtii*. This method can also be used to make plants to increase productivity, improve disease resistance or allow plants to thrive in extreme weather conditions.

The study is published in the Proceedings of the National Academy of Sciences, funded by the Scottish Biological and Biological Sciences Research Council.

Dr. Attila Molnar of the University of Edinburgh School of Biological Sciences, who led the study, said: *"Our findings mark a major step forward in large-scale gene engineering. I apply to many species, more and more effective applications in biotechnology"*.

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