

MSU researchers discover chemical trigger that doubles the yield of algal lipids for biodiesel from farmed algae

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Algal biofuel production could double in yield and in far less time, thanks to a chemical trigger discovered at Montana State University.

The chemical trigger is a well-timed dose of bicarbonate, a low-cost, easy-to-use chemical, similar to common stomach antacids. These results were presented on the first day of the Algal Biomass Summit in Phoenix, Ariz.

When given to [algae](#) during a specific point in its growth cycle, the bicarbonate doubles the rate of production of triacylglycerol, the key precursor to biodiesel. Some cultures have shown nearly three times faster rates of triacylglycerol accumulation, which would result in significant cost savings for biofuel manufacturers. This effect has been shown in both diatoms and in green alga.

The bicarbonate also shortens the time it takes to reach high [lipid](#) yields and can be used to further enhance the efficiency of almost any algal production facility. The use of the [bicarbonate](#) addition could be beneficial to any industry where improved triacylglycerol yields are critical, such as biodiesel production and the nutraceutical industry.

The technology is available for licensing to interested companies and entrepreneurs.

Provided by Montana State University

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