

Enhanced algae productivity in CO₂ direct air capture cultivation
Global Algae Innovations
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Global Algae Innovations has developed low cost algae production technologies aimed at achieving commercially viable production of biofuel and protein meal. Radical advances have been designed and implemented throughout the entire process, resulting in many industry breakthroughs for large-scale algae cultivation, harvesting and processing. In this project, algae will be cultivated solely on CO₂ captured through direct-air-capture. This project will focus on increasing the productivity with direct air capture through a novel strain improvement method and novel cultivation improvements. Rather than improving the productivity in one season, the target is to increase the annual productivity by at least 20% while maintaining at least 35% lipid in the algae biomass (105 GGE/ton).

The goals of the project are:

1. 20% improvement in annual productivity (all seasons).
2. A novel method for strain development that produces industrially relevant strain improvements and is available for use by the algae R&D community to accelerate algae technology development.
3. Novel genomic and transcriptomic data sets on improved strains that is published to improve the understanding of genetic changes that affect strain productivity
4. Projected cost of algae biofuel at \$2.50/gallon of gasoline equivalent, with 90% greenhouse gas reduction and 90% water use reduction.

This project will accelerate the commercialization of algae for commodities and provide valuable research toolkits for the algae R&D community to accelerate technology and strain development.