

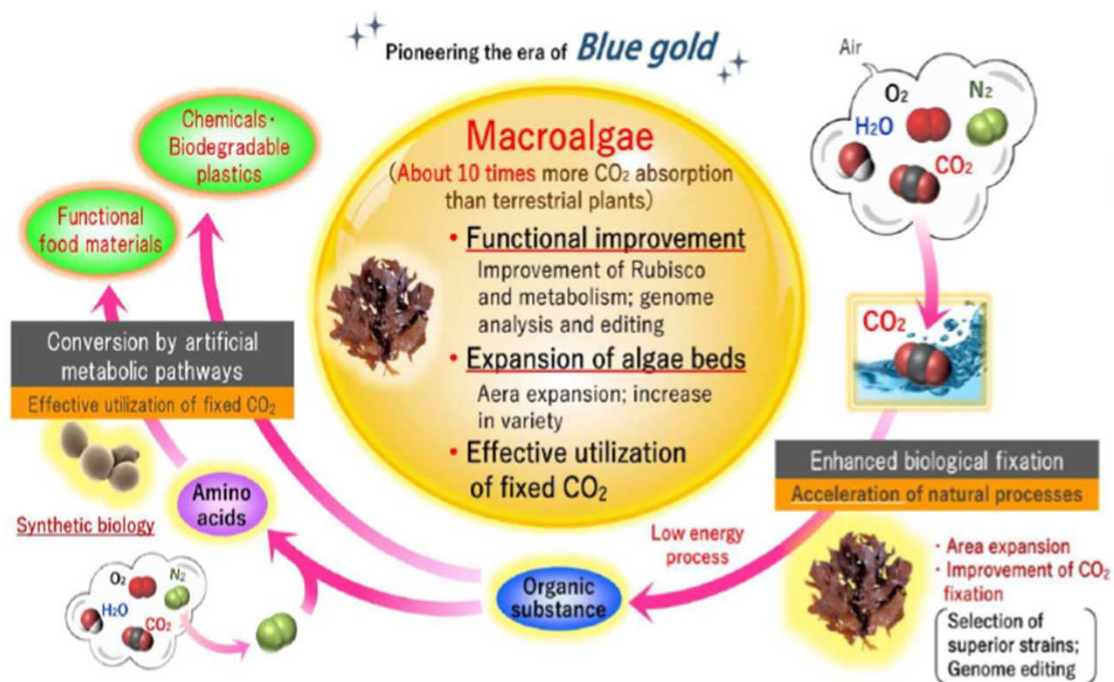


Redesign of Macroalgae for Highly Efficient CO₂ Fixation by Functional Modifications and Their Product Generation

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Summary

- (1) Selection and breeding of macroalgae with higher CO₂ fixing capacity than land plants
- (2) Genome editing of CO₂ fixation enzyme gene system and production of edited strains for accelerating CO₂ fixation capacity
- (3) Utilization of microbial functions to improve technology for utilizing macroalgae



KPI

FY2024

1. Enlargement of big algae bed will be successful around Japan.
2. Focus on the improvement of their function and growth will be progressive.
3. As Japanese natural growth resource and artificial culture of big brown algae are very original and attractive in the world, we will establish our special carbon neutral system between brown algae and bioenergy for "Cool Earth".

Implementation

Kyoto University, Kyoto Institute of Technology, Mie University, Green Earth Institute Co., Kansai Chemical Engineering Co.