

## Carbon sequestration and nutrient uptake by Red Macroalga, *Sarcodia suiae*

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As the aquaculture industry quickly grows, it simultaneously poses unprecedented environmental pressures. Typically, aquaculture generates large quantities of nutrients and organic carbon, which causes coastal eutrophication and greenhouse gas emissions (GGEs). In this study, we used marine macroalgae *Sarcodia suiae* to take up nutrients from aquaculture shrimp ponds in southern Taiwan. The preliminary results showed that *Sarcodia suiae* can produce approximately at least 1 kg-wet weight /m<sup>2</sup>/day (about 29 C-g/m<sup>2</sup>/day and 2.8 N-g/m<sup>2</sup>/day based on C-N-S EA instrumental analysis), respectively, under a suitable environment. The result suggests that *Sarcodia suiae* is not only a good candidate to efficiently regulate excessive nutrients from shrimp ponds, but also can play an important role in carbon sequestration, especially from anthropogenic CO<sub>2</sub> emissions.

Keywords: macroalga, carbon sequestration, nutrient