



GAME: Genetic Approaches and cultivation protocols to unravel **MEtabolite** production of *Porphyra* spp. targeted towards human and plant health applications

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Provision of consistently high-quality bioactive compounds for nutraceuticals, biostimulants and biocontrol industries

- Seaweeds = essential link in the development of a circular bioeconomy
- *Porphyra* (red alga):
 - occurs in the North Sea
 - fast growth
 - rich in bioactive metabolites
 - dynamic physiological response
 - can be cultivated on land and at sea




Our approach: Optimise, identify and develop



Porphyra biomass






Tailoring metabolite composition by understanding the effect of environmental conditions



Optimise pre-treatment, storage & Biorefinery

Identify *Porphyra* bioactives for potential as

Nutraceuticals



Agricultural Biologicals

Develop *Porphyra* based biostimulants and biopesticides

GAME focusses on most promising markets:

FIGURE A: Predicted seaweed market size by 2030 (\$ millions) with chance of market establishment indicated by color on a high-level market horizon timeline

