



Seaweed Quality: Chemistry and Effectiveness



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**The James
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Seaweed Research Areas



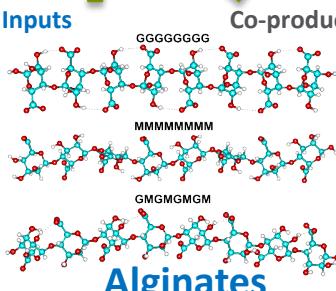
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Raw Material



Products

Inputs



Co-products?

Fucoidans
Mannitol
Heavy metals
Iodine
Protein

Essentials

Analytical know-how

Circular Economy

No Wastes

Biorefining

Efficacy

Lab - Greenhouse -
Field trials

Alginates

Elements (N/P/K/S...)

Phytohormones

Polyphenols



Biostimulants/ Fertilisers

Minerals

Fats

Polysaccharides

Protein quality

Heavy metals/ Iodine

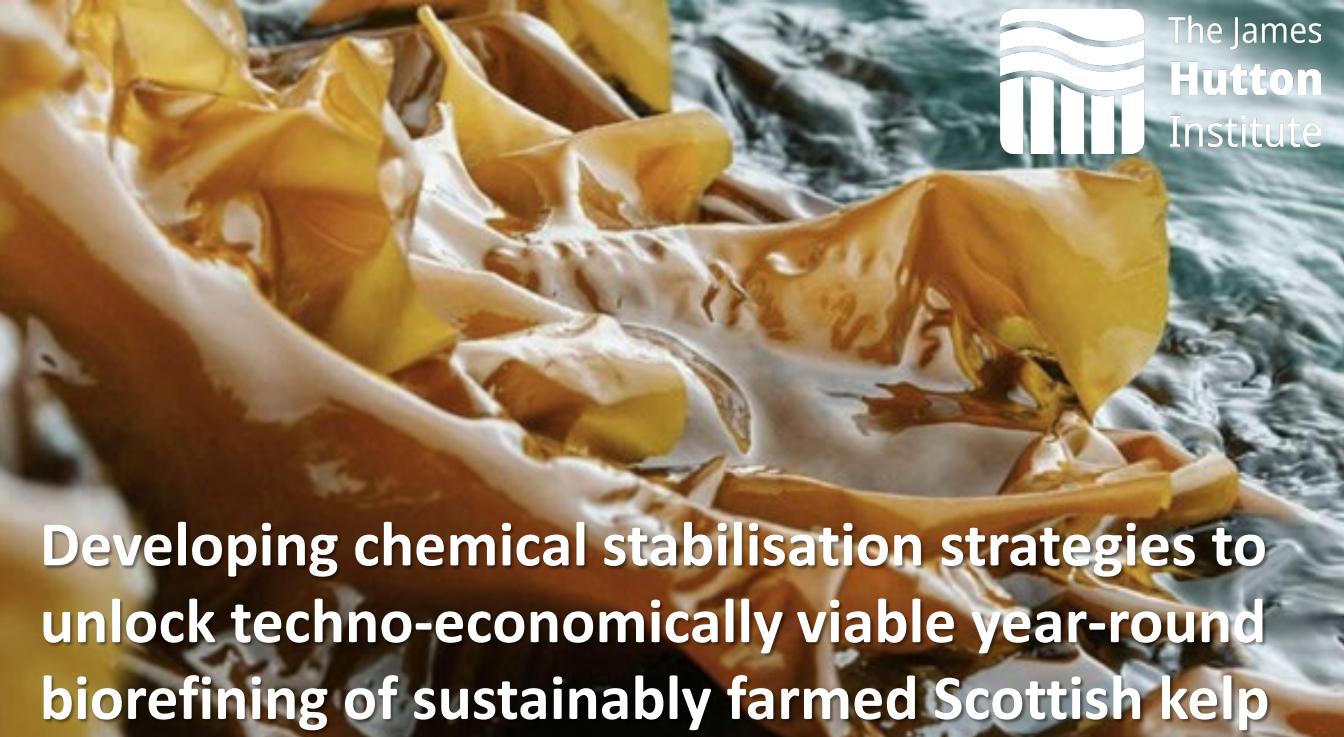
Methane reduction

Seasonality/

Location/ Storage/

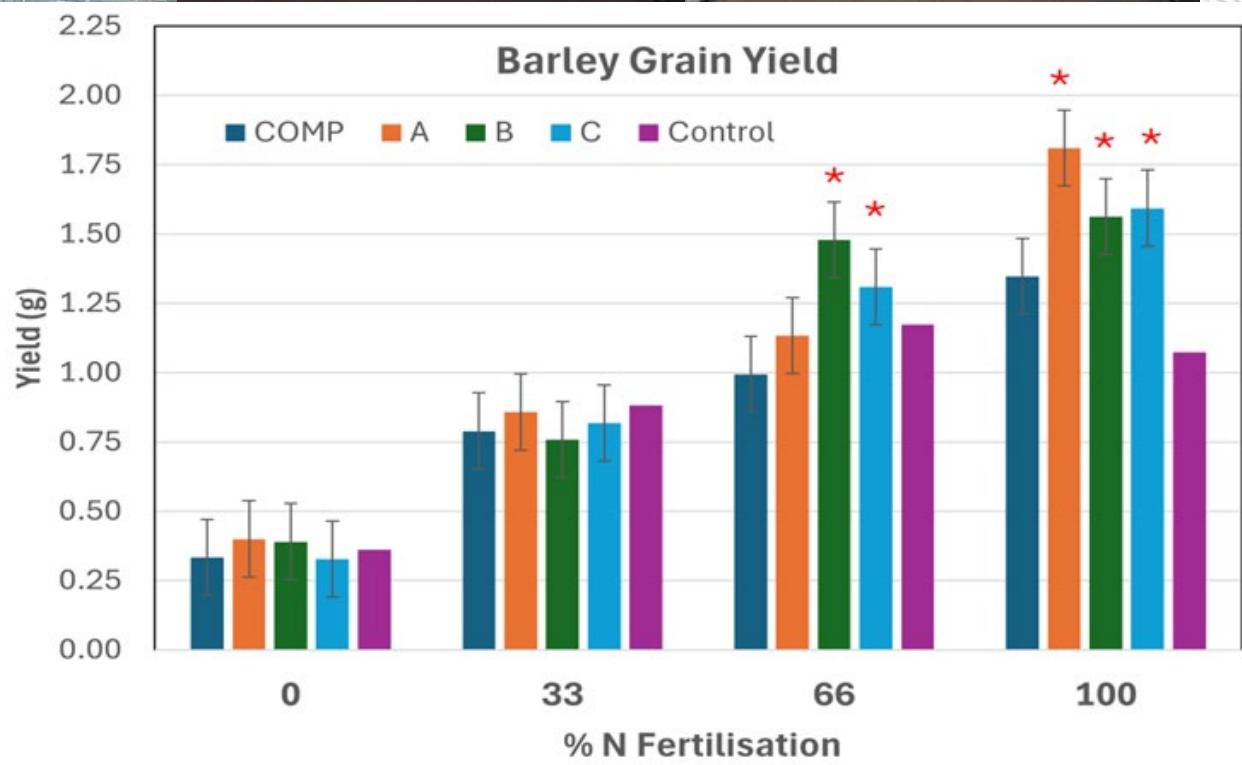
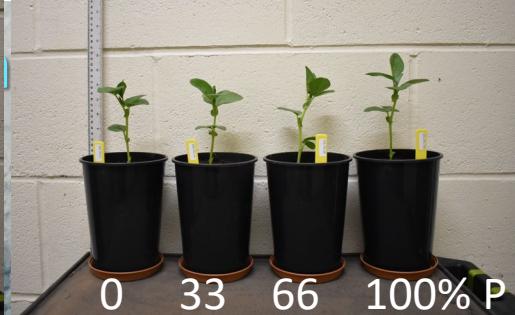
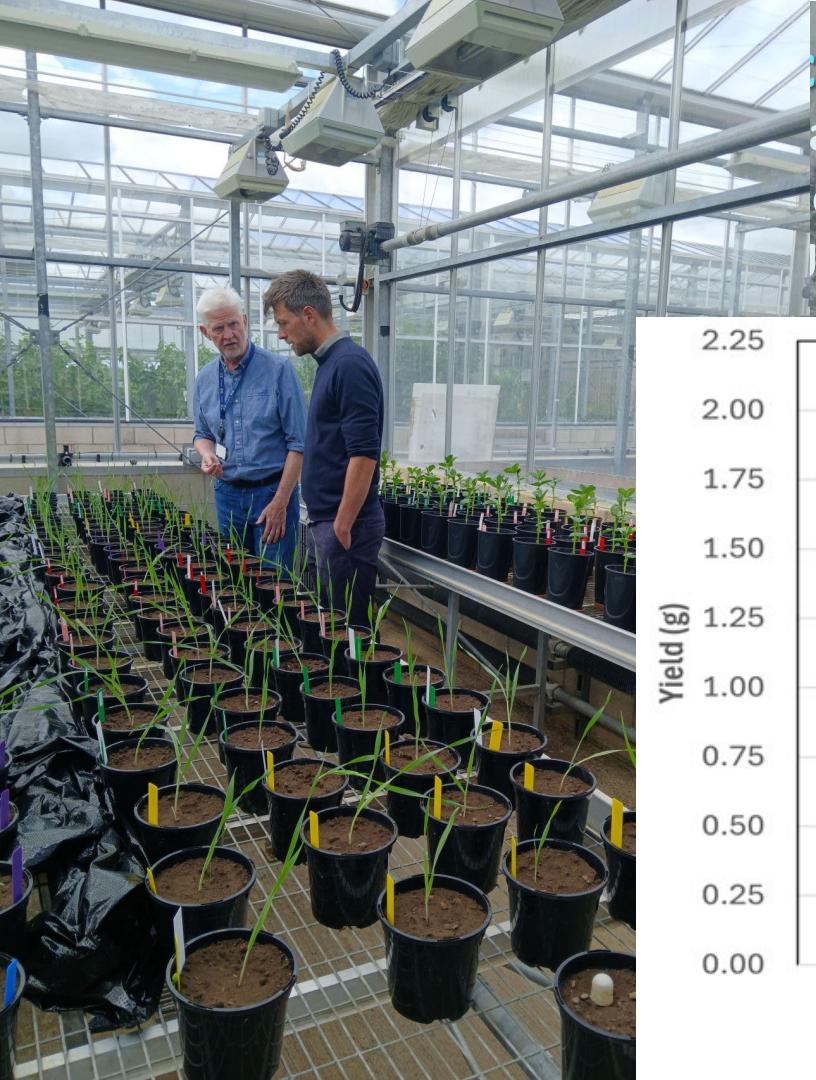
Stability





Developing chemical stabilisation strategies to unlock techno-economically viable year-round biorefining of sustainably farmed Scottish kelp





Other seaweed projects



- **Kelp Crofters Ltd** – providing analytical support to Innovate UK project on seaweed biostimulants development
- **SeaDyes® Ltd** – helping a fully integrated spin-in with the Hutton developing a scalable and fully traceable seaweed-based dye innovation for fashion and textiles with environmental and economic benefits
- **Continuing work** confirming composition for seaweed producers and processors
- **Field trials for seaweed biostimulant properties**

