BIOACTIVES FROM *Euglena gracilis* TO BOOST IMMUNITY AND DISEASE RESISTANCE IN FISH

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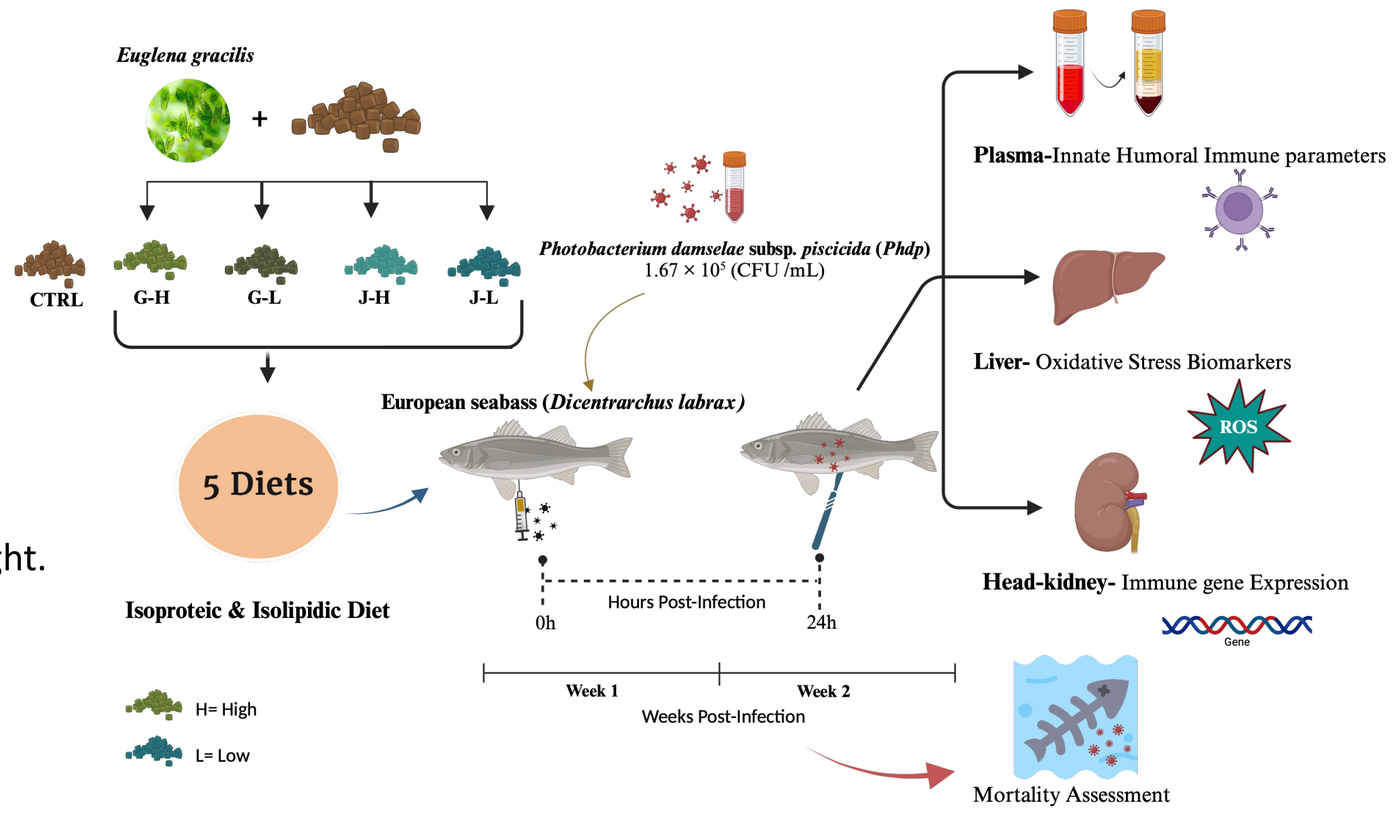
INTRODUCTION

1. Aquaculture expands to meet rising global demand.
2. Global warming and overfishing drive the search for sustainable alternatives.
3. Microalgae, underexplored sources, offer high protein and essential nutrients.
4. *Euglena gracilis* contains immunomodulatory bioactive compounds.
5. Algal paramylon (ß 1-3) boosts immunity, 50-70% of dry weight.
6. High intracellular concentration allows easy extraction and purification.

Evaluate the potential of dietary Bioactives from *Euglena gracilis* in enhancing immune responses and disease resistance in European seabass (*Dicentrarchus labrax*)

METHODOLOGY



RESULTS

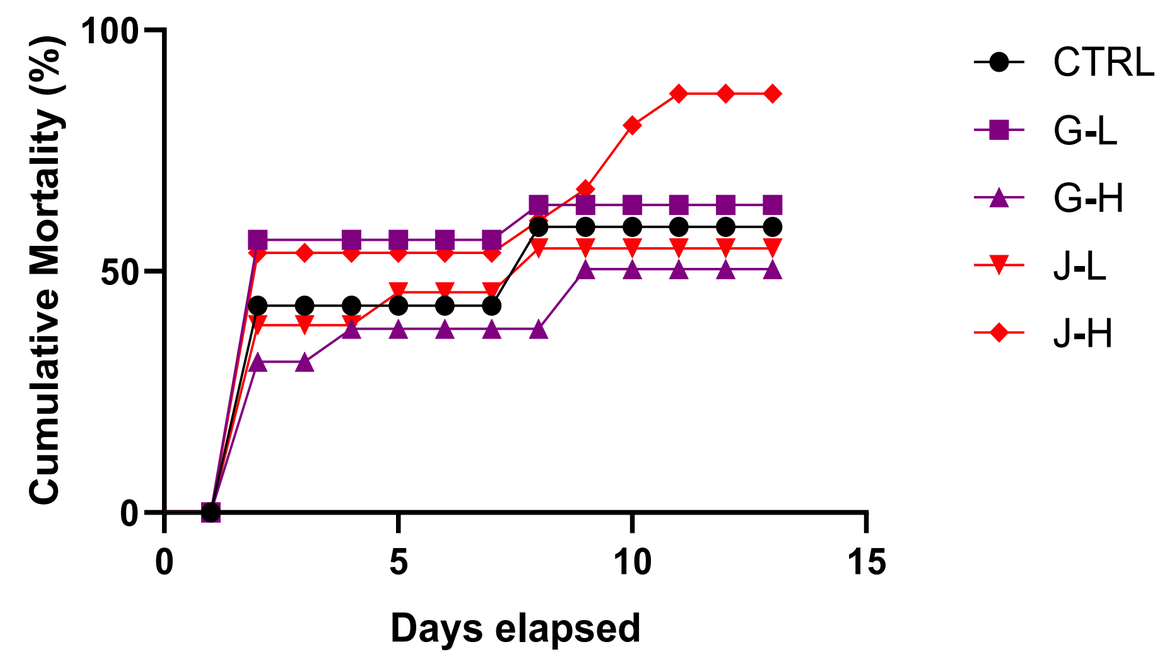


Fig 1- Cumulative mortality (%) of European seabass fed five experimental diets and subsequently challenged with bacteria *(Phdp)*

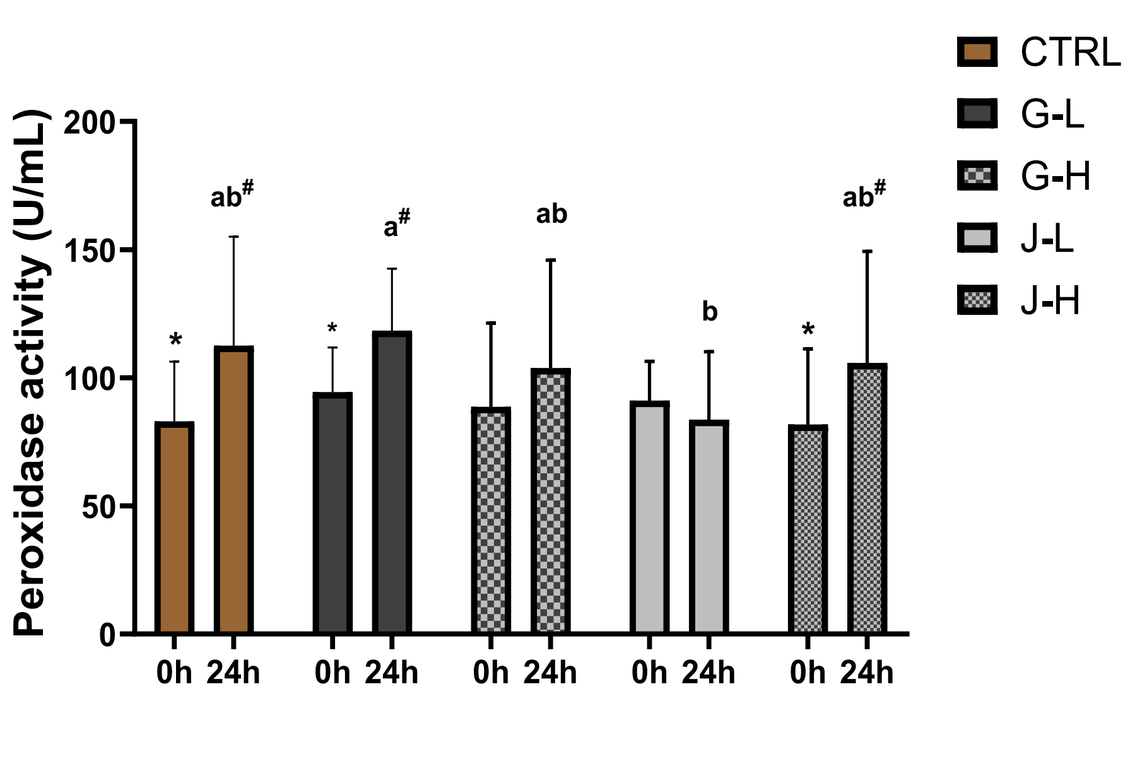


Fig 2- Peroxidase activity (units/mL) of European seabass fed different experimental diets before (0h) and after (24h) challenge *with Phdp*

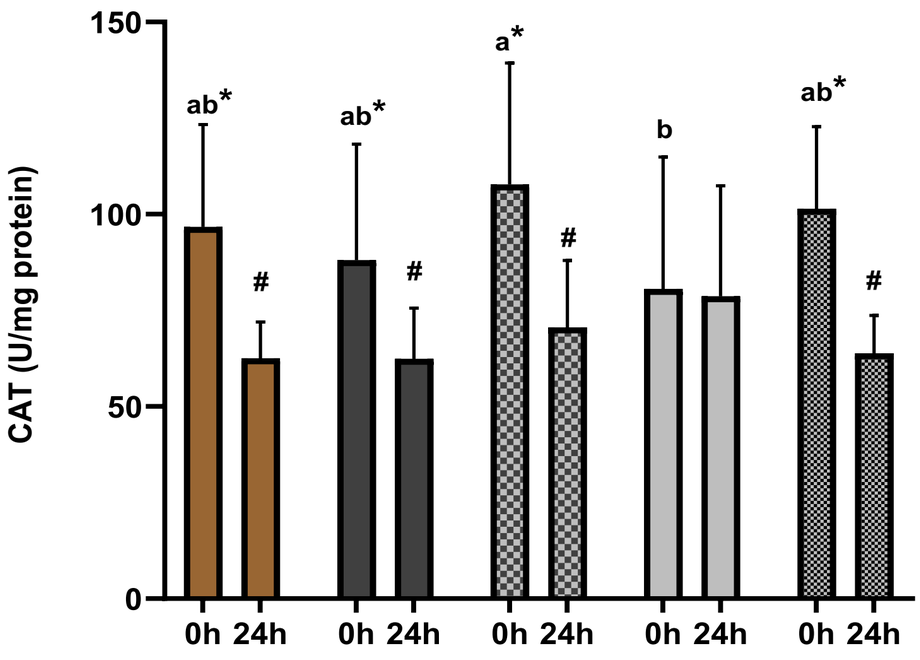


Fig 3- Catalase activity (U/mg protein) of European seabass fed different experimental diets before (0h) and after (24h) challenge with *Phdp*

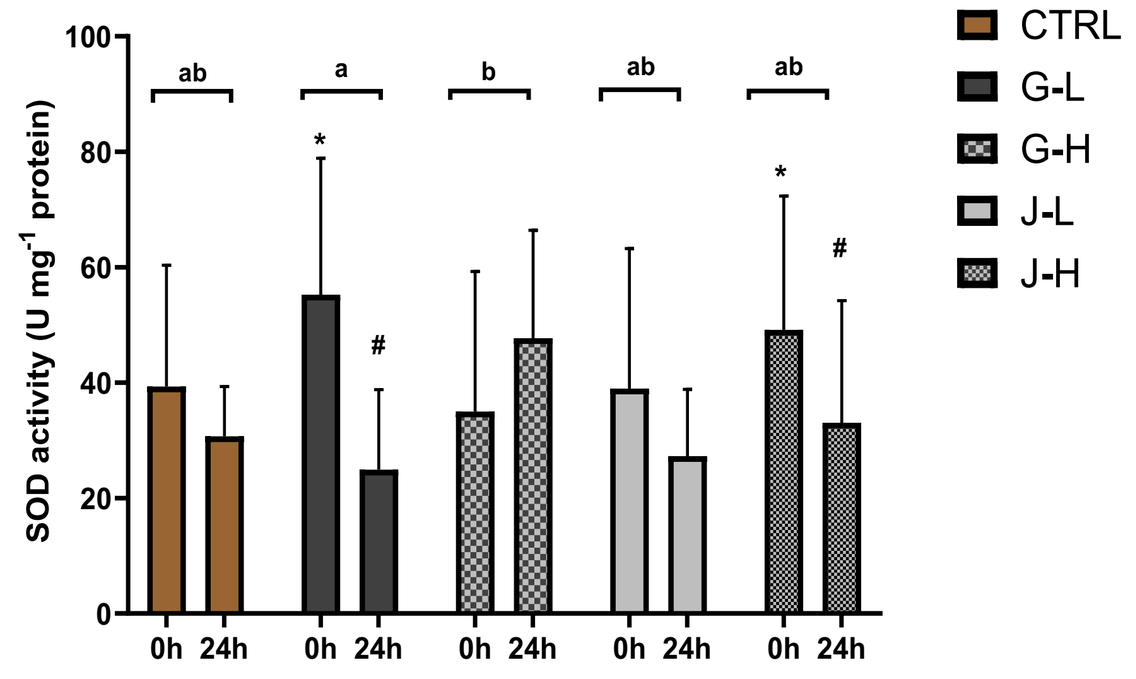


Fig 4- Superoxide dismutase activity (U mg^{-1}protein) of European seabass fed different experimental diets before (0h) and after (24h) challenge with *Phdp*

CONCLUSION

1. High dose of *Euglena gracilis* G-H tended to enhance fish resilience and health.
2. Innate and oxidative immunity parameters showed protective effects.
3. This work can contribute to UN Sustainable Development Goals.

FUTURE PERSPECTIVES

1. Research on optimized dietary dosing experiments.
2. Understanding inclusion rates and other relevant factors to improve health and disease resistance

REFERENCES

Acknowledgement

Funded by: MICROBOOST; Iceland Liechtenstein Norway grants; EEA Grants Portugal — Mecanismo Financeiro do Espaço Económico Europeu / European Economic Area Financial Mechanism / Unidade Nacional de Gestão / National Focal Point

Master's Funded by: ACES STAR; Co-funded by the Erasmus+ Programme of the European Union

Programme Operator: República Portuguesa — Economia e Mar; Direção-Geral de Política do Mar

PT-INNOVATION-0102-MICROBOOST