



ABSTRACT

Shellfish production sites in the EU are prone to closures due to the accumulation of biotoxins, with over 26 EU regulated toxins requiring statutory monitoring. Further impacts are exerted on fish farming industries through the production of feed from contaminated shellfish. The focus of this proposal is to isolate large quantities of biotoxins using enhanced biorefining methods for the preparation of reference materials and to allow for research to be conducted on the effects of biotoxins on other important aquaculture industries. Further work will focus on enhanced production of microalgae as fish feed. Biotoxins will be sourced from contaminated shellfish, bulk algal culturing, harvesting of algal blooms in situ and enzymatic conversions. Biorefining processes will be enhanced through optimisation of algal culturing, the development and use of novel immunoaffinity and polymeric columns, reducing cost and increasing economic viability.



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CONSORTIUM

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Topic:

- Feed
- Materials
- Environment and monitoring (e.g. biosensors, anti-fouling technology, bioremediation...)

Marine biomass:

- Molluscs
- Microalgae
- Fish

Keywords:

Marine biotoxins, biorefining, fish feed, reference materials, LC-MS, NMR, structure elucidation, HP20 resin, Harmful algal blooms, shellfish, monitoring, aquaculture

Total costs*: € 749.949

Funding granted*: € 749.949

Duration: 3 years (2016-2018)

** Exact amount may change after completion of national contracts*

