

AT A GLANCE

TITLE:
BIORAS_SHRIMP

CONSORTIUM:
10 partners

COORDINATOR:
Universita del Salento

DURATION:
November 2022- December 2024

TOTAL BUDGET:
€ 200 000

EU CONTRIBUTION:
€ 150 000



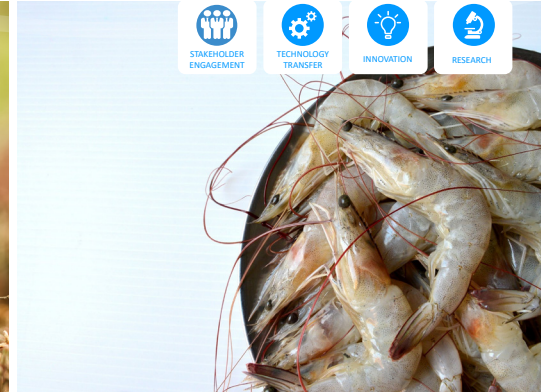
BIORAS SHRIMP

Improvement and innovation of a BIO-secure Recirculating Aquaculture System for SHRIMP and additional biomass circular production

BIORAS_SHRIMP CONSORTIUM

- Universita del Salento (Italy)
- NIBIO (Norway)
- AquaBioTech Group (Malta)
- University of Pisa (Italy)
- Biotecna s.r.l. (Italy)
- The Department of Fisheries and Aquaculture (DFA) (Malta)
- Biosyntex s.r.l (Italy)
- Kerala University of Fisheries and Ocean Studies (India)
- Omini Pharma srl (Italy)
- Akvaplan-niva AS (Norway)

This project is co-funded by the European Union's Horizon 2020 research and innovation programme under the ERA-Net Cofund project BlueBio (grant agreement No 817992). The funding agencies for the BIORAS_SHRIMP project are Malta Council for Science and Technology (MCST) Malta, Ministry of Universities and Research (MUR) Italy and Norges forskningsråd (RCN) Norway



BIORAS_SHRIMP PROJECT

BIORAS_SHRIMP project aims to develop, improve and innovate a bio-secure land based sustainable shrimp culture model to minimise waste, enhance productivity and recover energy and nutrient for additional biomass production, by applying integrated biosystems principles, in the view of a circular economy process. The high demand of shrimp for human consumption has led to rapid expansion of production all over the world. Development of sustainable, productive, climate-neutral and resilient farming systems is, nowadays, an obliged way to provide consumers with affordable, safe, traceable, healthy and sustainable food, while minimizing pressure on ecosystems.



Recirculation Aquaculture Systems
Increased shrimp density in safe and controlled environment with the ability to collect and treat the effluent



Artificial Intelligence
Optimization of the system design and facilitation of daily operations and data collection



Effluent Treatment
Reduction of load of nutrients discharged



Biofloc
Production of a protien-rich live feed



Algae Culture and Aquaponics
Integration of vegetal biomass in the production system

Objectives of BIORAS_SHRIMP

- Set up of a clear water RAS for shrimp culture with improved technology and husbandry efficiency.
- Development and test of a hybrid RAS-BFT farming system.
- Design, installation, and test of an innovative RAS effluent treatment system.
- Design, installation and test of a water quality monitoring system based in the AI applications for RAS and BFT.
- Development and testing of innovative protocols and methods for effluent solid waste and residual water reuse and valorization.
- Exploration of new bio-resources deriving from the additional biomass produced.
- High-quality shrimps for human consumption.
- A bio-fertilizer coming from the conditioned and thickened extracted solids.
- A set of bioactive compounds derived from the aquatic biomasses appropriately cultured in the nutrient-enriched residual water.

AT A GLANCE

TYPE:

Research SME

LOCATION:

Mosta, MALTA G. C.

CAPABILITIES:

R&D / Consultancy / Engineering

EXPERTISE:

Aquaculture / Marine Research
Blue Growth / Aquatic Environment



AquaBioTech Group

Who We Are

AquaBioTech Group is an international consulting, engineering and R&D company with over 20 years of experience in aquaculture, fisheries and other aquatic sciences. Located in the center of the Mediterranean on the island of Malta, although operating globally with clients and projects in over fifty-five countries.

The vast majority of the organisation's work is related to the marine or aquatic environment, encompassing aquaculture developments, market research/intelligence through project feasibility assessments, finance acquisition, project management, technology sourcing, technical support and training.



Our role in the BIORAS_SHRIMP project

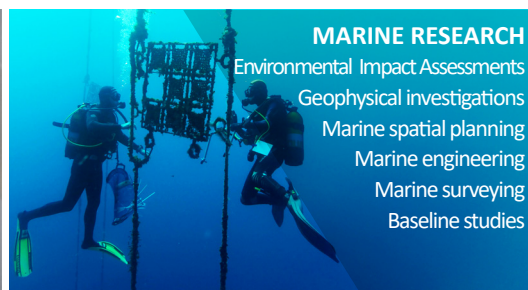
AquaBioTech Group's main tasks in the BIORAS_SHRIMP project include:

- Optimising RAS technology towards shrimp production
- Designing a modular biofloc system and connecting it to existing RAS water treatment units
- Testing a prototype hybrid shrimp RAS-Biofloc system
- Shrimp husbandry experiments in RAS
- Investigating the possibility of using video and computer vision for detection of abnormal behaviour related to water quality

Our Research Activities



AQUACULTURE R&D
Fish & shellfish hatchery technology
Health & disease prevention
Nutraceutical development
New species development
Aquatic nutrition research
Production techniques



MARINE RESEARCH
Environmental Impact Assessments
Geophysical investigations
Marine spatial planning
Marine engineering
Marine surveying
Baseline studies



WATER TECHNOLOGIES R&D
Recirculation Aquaculture Systems
Aquaponics
Wastewater treatment
Energy efficiency
Sustainability
Innovation



AquaBioTech Group

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