TECHNOLOGY OFFER
COLD EXTRUDED FEED FORMULATION FOR SEA URCHIN

Background

Sea urchins, such as *Paracentrotus lividus*, face challenges due to overexploitation of their natural stock and seasonal reproductive cycles, which affects the quality and characteristics of their gonads – a prized gourmet seafood. Aquaculture is a potential solution to meet the commercialization demand. However, current artificial diets are not suitable for large-scale production, as they make the feed labour-intensive and are expensive to produce.

Technology

The technology describes a cold extruded, dry and stable sea urchin feed, that enhances gonadal growth and colour of *P. lividus*.
The feed can be produced at a large scale and stored for an extended period of time. Furthermore, the feed has prolonged self-sustention in seawater and meets the nutritional requirements of *P. lividus* – with the ideal proportion of protein, lipids, carbohydrates, and pigments (carotenoids, 20 – 300 mg/kg). The ingredients are provided by natural sources including spices, vegetables, seaweeds, microalgae, and synthetic sources.

P. lividus gonads fed with the cold-extruded feed.

Advantages

- Feed pellets are stable in water for at least 3 days, contrary to commercial solutions available that have short stability;
- Feed promotes high feed behaviour and ingestion of the pellets, ideal for the particular feeding habits of *P. lividus*;
- Increase of economic value of *P. lividus*, with high-quality gonads meeting costumer standards.

PATENT STATUS

Portuguese Patent Application via INPI PT117061
Priority date: 12.02.2021
Granted in Portugal

DEVELOPMENT STAGE

TRL4 – Technology validated in lab
Further development for validation in large scale setups required.

APPLICATIONS

Sea urchin diets for gonadal growth.

COOPERATION

Licensing Agreement;
Commercial Agreement with technical assistance;
Manufacturing Agreement.

KEYWORDS

Sea urchin
Aquaculture Feed
Nutrition

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