

KEYWORDS

Sea urchins, roe enhancement, new seafood product, macroalgae reforestation

SPECIES

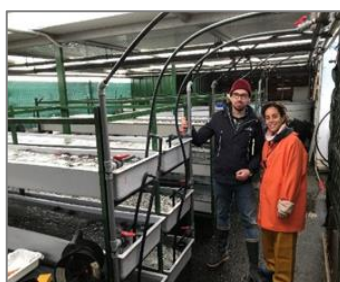
- *Strongylocentrotus droebachiensis* (green sea urchin)
- *Paracentrotus lividus* (purple sea urchin)

GEOGRAPHICAL BOUNDARIES

Case study 6 will take place in the northern Atlantic with a focus on activities in Galicia, Spain and both north and south Norway. In addition, we will link to activities from universities and industries in Canada.

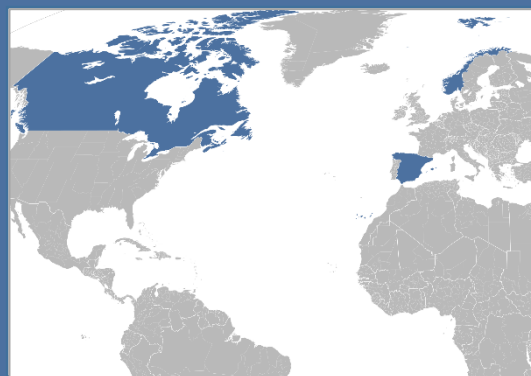
GOALS

- Develop and introduce a land-based sea urchin roe enhancement system
- Commercialise sea urchin roe enhancement of two sea urchin species in Europe & North America
- Quantify the environmental/socioeconomic/ecosystem services benefits of sea urchin roe enhancement



AT A GLANCE

- Project period: 2019-2023
- Roe enhancement of two species respectively in Spain and Norway.
- Develop land-based sea urchin holding systems.
- Collaborate with similar efforts in Canada.
- Remove sea urchins from barrens in the northern Atlantic.
- Utilise the limited sea urchin resource in Spain and Portugal.
- Produce commercial quantities of sea urchin roe.
- Introduce enhanced roe into European seafood markets.



Main activities take place in Norway, Spain and Canada.



CHALLENGES

- To increase sea urchin production in areas where:
 - There is currently low production.
 - Existing sea urchin populations have a negative environmental impact (removal of sea urchins can regenerate macroalgae forests).
- To introduce a new product (enhanced sea urchin roe) from two species into markets around the world.

EXPECTED RESULTS

- Development and exploitation of a new land-based holding system for sea urchin roe enhancement
- Introduction of enhanced sea urchin roe into the European market
- Reforestation of areas where sea urchins have been removed in the northern Atlantic
- Better utilisation of the sea urchin resource where sea urchins are scarce, such as Spain and Portugal
- Develop close links and collaboration between the sea urchin industries in Europe and Canada

EXPECTED USERS

- Small and medium-sized enterprises (SMEs) that harvest and sell sea urchin roe
- SMEs that enhance sea urchins
- Non-governmental organisations (NGOs) investigating the benefits of macroalgae reforestation
- Government organisations that regulate sea urchin activities
- Institutes researching sea urchin related topics

LINKS



Video:

<http://bit.ly/av-sea-urchins-video>

WORKPLAN

A series of trials will be run through the lifetime of AquaVitae. In Norway, these will focus on the harvest and transport of sea urchins for enhancement. We will then focus on commercial development of holding system and producing commercial quantities of enhanced 'Green sea urchin'. An additional outcome will be contributing to monitoring the environmental benefits of removing sea urchins from areas where they are abundant.

In Spain, the trials will focus on utilising the limited sea urchin stocks that are available. This will include optimal harvest and handling protocols as well as enhancing the sea urchins to create out of season product.

TEAM

1. Nofima (Norway)
2. GMIT (Ireland)
3. Urchinomics AS (Norway)
4. Algafres SL (Spain)
5. Statsnail AS (Norway)
6. EcoFang AS (Norway)
7. Norwegian Food Safety Authority (Norway)
8. Tarevoktere (Volunteer group) (Norway)



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