

Developing a Formed Bait for the Commercial Whelk Fishery

Project Outline:

The aim of the project is to develop a cost effective sustainable formed bait solution that matches performance of existing commercial baits. GMIT will seek to develop this formed bait by reviewing the most effective, sustainable raw materials as inputs and identify effective binding solutions that allow formed bait to both attract whelk whilst also retaining integrity when submerged for extended periods within a pot fishing environment. GMIT suggest that it is unlikely that they will be able to develop a fully synthetic bait based on chemical cues within the proposed time period and budget, but this aspect will be researched within the project to assess initial feasibility. Most of the bait testing will be carried out in an appropriately constructed captive holding system for whelk. Some trials under full commercial conditions onboard pot fishing vessels will be trialled through the FIP stakeholders.

Project Objectives:

BIM, GMIT and the crab FIP will collaborate to deliver on the following objectives:

- Review the current state of the art R&D regarding formed bait and reach out to relevant researchers internationally to ensure best-fit solutions are identified and progressed.
- Agree a sampling and testing protocol to ensure maximum efficiency of trial processes are achieved.
- Set up behavioural studies on captive whelk and carry out specific laboratory analyses to profile the chemical cues that elicit their 'forage response' so that potentially relevant molecules can be synthesized as a bait solution or at least a bait enhancer to formed bait.
- Identify candidate bait raw materials and review performance based on availability, sustainability, and usability.
- Develop and review cost-effective binding and casing bait solutions.
- Review and rank bait solutions based on clear criteria based on industry needs.
- Ensure baits are trialled rigorously under captive conditions and where possible use industry stakeholders to trial baits at sea either during sea trials or on commercial fishing vessels.
- Ensure regular communication of progress is provided to industry, particularly through the crab FIP.

Expected Benefits:

- The development of a sustainable alternative bait solution for the whelk fishery.
- Discontinuation of poor practices such as using brown crab rather than returning them live.
- Reduction in cost base for fishers and access to a continual supply of consistent quality bait.
- Enhanced engagement between researchers and industry.
- Improved profile of fishers and processors in the market due to the championing of innovative sustainable solutions.

Projected Cost: €36,876