SALTO

A RAPID, EFFECTIVE METHOD FOR IDENTIFYING TOXIC ALGAE

Toxic phytoplankton is known for its impact on the ecology of coastal zones and, consequently, on fishing, aquaculture and tourism. Toxic microalgal blooms are an increasingly frequent and extreme event, extending over a wider geographical area in recent years. Despite this, the means for combating these toxic episodes are virtually non-existent and, in France, current methods for identifying and counting the phytoplankton are based entirely on microscopic observations involving staff specially trained in taxonomy and recognition of phytoplankton species. These lengthy and complex observations also rely on the number of measuring stations and the frequency of sampling.

In response to the growing demand and need for quality control and health and safety monitoring of coastal waters, and to anticipate and minimise the risks to humans and the marine environment, the SALTO project will develop a reliable, automated system of monitoring toxic episodes based on new methods of scientifically describing microorganisms, i.e. phytoplankton diagnostics.

Using biosensors (innovative tools that combine DNA and immunology biotechnologies), rapid and reliable methods for detecting and identifying these microorganisms will be developed. The biosensors will be integrated into alert systems and will carry out water sampling and virtual real-time sample analysis and will transmit data to ensure improved response times, more efficient management of toxic algal bloom events and better safeguards for the end consumer.

The alert system and decision-making tool will also enable advance risk assessment for all those working in the shellfish farming industry.

The SALTO project follows on from the HAB-SEACHIP project funded by the French Research Agency (ANR) in 2005. Entitled SURVALG, upstream research was submitted to the ANR in February 2010 as part of the ECOTECH programme.

Partners

Companies

Arova-Plus, Evry
Hocer, Brest et Nantes

Research center

Ifremer, Brest

Other partner

Hocer, Nantes

Funder

Financé sans aides publiques

Labelisation

19/03/2010

Overall budget

1 510 K€