Shellfish Monitoring & Food Safety

Project Outline:

Food safety is an area where there is constantly evolving legislative and policy requirements and the completion of this project supports the provision of professional advice to industry members so that they can adopt business strategies that support the reputation of Irish seafood and thus the profitability of the sector. Bivalve molluscs can accumulate pollutants and viruses from the marine environment and thus, in line with public health requirements, bivalve mollusc farmers must better understand the risks in their production areas.

It is a principle of Irish and European law that all food business operators (producers, manufacturers, distributors, retailers and caterers) bear the primary responsibility for the safety and suitability for human consumption of any food placed on the market by them. Furthermore, food business operators are required to take all reasonable steps to ensure the safety and hygienic standard of their products. These principles require the implementation of appropriate food safety management systems throughout the food chain.

Norovirus (NoV) is a serious threat, particularly in the winter months. While present in the general population this virus is deemed responsible for outbreaks of the winter vomiting bug. In Ireland oysters can cause an accumulation of this virus by filtering water that can at times contain this virus. This is of particular concern over the winter months when, with limited sunlight, the virus can remain active and accumulate in the gut and flesh of the oyster. During this period, individuals consuming this product may then suffer the effects of this virus. This can lead to a negative impact on consumer confidence and at times create a health risk. A key element of quality assurance is demonstrating the absence of NoV in oysters at levels that may cause illness.

In 2017, the European Food Safety Authority's (EFSA) Panel on Biological Hazards (BIOHAZ Panel) concluded in its Risk Assessment that the most effective public health measures to protect consumers from exposure to norovirus in oysters was to produce oysters in areas which are not contaminated or to prevent contamination of mollusc production areas. According to the Panel, methods currently used to remove NoV in shellfish should be improved. Due to these initial findings, a two year (2017-2019) EU-wide Baseline Survey on Norovirus in oysters was commissioned by the EU to provide information on overall consumer exposure and the impact this would have on an oyster producer.

Upon completion of this two year EU Base-line survey, the Panel recommended establishing acceptable limits for the presence of NoV in oysters that are harvested and placed on the market in the European Union. The analyses of the substitution approach showed that selection of a potential limit within a microbiological criterion close to or lower than the LOQ (for example, less than 300 copies, given the current test used in this survey) would be difficult to apply.

The project includes:

- Examine up to 40 industry provided samples per week (max. 1,000 per year) with a higher frequency of samples over the winter months and establish levels of norovirus in those samples.
- Create weekly reports on the profile of samples submitted.
- Produce a project report that can be used by industry to establish national norovirus trends, make recommendations on best practice, and thus ensure the maintenance of premium position in the marketplace.
- Establish the ratio of infectious & non-infectious virus at key points in the oyster production chain (harvest area, pre-depuration & post-depuration) using FRNA bacteriophage.
- Knowledge exchange for all stakeholders

- Provide materials which support food business operators in implementing food safety management systems incorporating HACCP that meets the highest regulatory and voluntary standards of food safety management.
- Ongoing development & delivery of minimum of two Industry Food Safety & Basic Food Hygiene Online Training Modules.

Project Objectives:

- In conjunction with the Marine Institute, this project will assist in the development of best practice for Norovirus monitoring of Irish Oysters for export to protect public health risk and commercial markets.
- Investigate the ratio of infectious and non-infectious virus in oysters at different stages of production.
- Norovirus results and analyses will be presented by the Marine Institute at quarterly meetings in 2022 to the Irish Oysters Packers Group and shared with wider stakeholders via webinar and/or reports on BIM website.

Expected Benefits:

- Strengthen National position in terms of a robust Data Set/Trend Analysis & implications of a NoV limit.
- Compliance with Food Safety Regulatory requirements and voluntary third party seafood certification thus protecting public health risk and providing customer reassurance.
- Compliance with quality control procedures, providing quality assurance thus protecting public health risk and commercial markets.
- Provide a potential indicator between infectious & non-infectious virus. Evidence based data that could potentially contribute, inform & assist towards Ireland's water quality/water framework issues.
- Development of best practice in food safety management systems.
- Aid food business operators in managing their risk of Norovirus.

Projected Cost: €165,262