



THE 'SKITTLING EFFECT' OF VIRUSES IN SEAFOOD

Discover our 20 highlights of world class science research at www.cefas.co.uk



Centre for Environment
Fisheries & Aquaculture
Science

THE 'SKITTLING EFFECT' OF VIRUSES IN SEAFOOD: UNDERSTANDING TRANSMISSION PATHWAYS TO MINIMISE CONTAGION

18 | 20

Human noroviruses (NoV) are very contagious and persistent in the environment. In the UK, these viruses cause approximately 17 million cases of illness and more than 1 million general practice consultations every year. The most effective way of preventing new cases of human infection is to reduce the risk that people will drink contaminated water or eat contaminated seafood. Bivalves (such as oysters and mussels) grown in waters contaminated with sewage pollution accumulate viruses and, if consumed raw, can cause gastroenteritis in consumers. Commercial production of these shellfish therefore needs to ensure that this potential risk is satisfactorily addressed, either through appropriate choice of harvesting area or adequate processing, so that the consumer can enjoy eating a safe final product.

Cefas has studied the prevalence of viruses in bivalve shellfish for many years. A critical component of this work is to increase understanding of the role of environmental transmission of norovirus.

Virus particles are found frequently in raw sewage, treated wastewater and also in stormwater (water that overflows from drains during heavy rainfall), all of which contribute to contamination of shellfish production areas. These results highlight the need to develop methods to remove norovirus from wastewater and, where possible, to eliminate storm sewage overflows in areas of the coast used for shellfish farming. To help develop strategies to do so, Cefas have developed mathematical models to predict levels of norovirus in shellfish based on the dilution of sewage in the sea. These models can then be used to map 'safety distances' between sewage discharges and shellfish production areas and to develop more targeted approaches to monitoring to limit negative impacts on human health. With this knowledge, policy makers, water managers and shellfish farmers will be able to implement more targeted measures to control norovirus contamination.

For more information please visit:
<https://bit.ly/2KwboA7>



Cefas20
1902 ————— 1997–2017