

Community Reference Laboratory for Monitoring Bacteriological and Viral Contamination of Bivalve Molluscs, CEFAS, Weymouth

Technical Report for Calendar Year 1999

Introduction

1999 was the first year of operation for the CRL following designation by Council Decision 1993/313/EEC of 29 to April 1999. During 1999 the CRL was funded for 5 months of operation. This technical report covers this initial CRL establishment phase.

Definition of work plan

During June 1999 a detailed work plan was drafted, and submitted to the commission, covering the elements of work necessary to progress the requirements of Council Decision 1999/313/EC. This detailed work plan contained proposals for the first 2 to 3 years of operation of the CRL. In addition to proposals for the work programme the work plan contained briefing notes on aspects such as analytical methods, quality assurance and virus testing approaches. Whilst some aspects have been progressed others are dependant upon designation by Member States of their National Reference Laboratories (NRLs) and there has been some delay in such designations. The CRL has addressed the following issues which were not dependent upon the designation of NRL's by Member States.

Appointment and training of CRL staff and administrative arrangements

To assist in the delivery of CRL activities a scientific officer (Julie Younger) has been appointed and subsequently trained in relevant aspects of the work. Julie Younger will act as CRL co-ordinator, under the direction of Dr David Lees (CRL Director). Julie Younger will be responsible for ensuring that an appropriate administrative and scientific structure is in place for the CRL. In addition a clerical officer (Phyl Ward) has been assigned responsibility for administrative arrangements of the CRL as part of her duties. Headed stationery has been produced, and a dedicated fax (+44(0)1305 206718) and e-mail address (FSQ@CEFAS.CO.UK) established.

Scientific staff at CEFAS Weymouth have been identified to cover the following aspects of the CRL portfolio of duties : bacteriological contaminants - Dr Ron Lee and Dr Rachel Rangdale; viral contaminants - Dr David Lees, Kathy Henshilwood and Richard Pepprell, Directive 91/492 - Dr Ron Lee, Andrew Younger and William Dore.

Training provided to NRLs (and prospective NRLs)

During the relevant period a number of visitors from NRLs and Member State Competent Authorities were received at the CEFAS Weymouth laboratory for discussions on various aspects of viral and bacterial contaminants of shellfish. Advice has been given to a number of prospective NRL's on the requirements of Council Decision 1999/313/EC and the type of laboratory expertise, laboratory facilities, and scientific staff that would be required to meet the Council Decision requirements.

Specific laboratory training over a three week period was provided to a colleague from the Republic of Ireland following a request from the Irish competent authority. Training covered detection of viral pathogens, particularly Norwalk-like virus (NLV) by molecular techniques, detection of E.coli and detection of alternative candidate faecal pollution indicators, FRNA bacteriophage in particular. Training was also provided in the same areas to two colleagues from the Institute of Technology in Cork and to a further colleague from BIM, Republic of Ireland.

Scientific literature database

In order to deal with requests for relevant scientific publications from NRL's, and in order to provide up-to-date briefing material for the European Commission, the CRL has established a database of the relevant scientific literature in the subject area covered by Council Decision 1999/313/EC - bacteriological and viral contaminants of bivalve shellfish. Currently the database contains circa 7000 publications and will be updated and maintained monthly.

Bacteriological contaminants

In preparation for further work (outlined in the work plan) on the bacterial contaminants currently covered by Directive 91/492 (i.e. E.coli and Salmonella) the CRL has scrutinised documents arising from the Commission inspection missions to Member States regarding implementation of Directive 91/492. CRL has also acquired relevant scientific literature on tests used by Member States. Further work will require discussion with NRL's as outlined in the work plan.

Virological contaminants

Following an outbreak of hepatitis A virus in Spain, possibly associated with imported bivalve molluscs from Peru, the CRL provided a nine page brief to the European Commission on hepatitis A virus and methods for its detection in bivalve shellfish. The briefing article was used as a basis for discussion within the Standing Veterinary Committee.

Following requests from Member State competent authorities, bivalve molluscs associated with outbreaks of infectious disease have been tested for the presence of viral pathogens (Norwalk-like virus in particular). Following identification of NLV presence PCR products have been sequenced to determine the strain of virus present. During the period of this technical report such outbreak related investigations were conducted following requests from two different Member States.

EN 45000 criteria

A responsibility of the CRL is to 'help the reference laboratories to implement an appropriate system of quality assurance based on the principle of good laboratory practice (GLP) and the EN 45000 criteria' (Council Decision 1999/313/EC). The CRL has looked in depth at the requirements of EN 45000 and has set in motion the accreditation of the laboratory at Weymouth for the following analytical methods:

'Enumeration of male-specific RNA bacteriophages in molluscan bivalve shellfish',
'Enumeration of *Escherichia coli* in molluscan bivalve shellfish'
and 'Examination of shellfish for *Salmonella* spp. other than *Salmonella typhi*'.

Standing Operating Procedures for these methods have been produced and have been provided to a number of NRL's, and prospective NRL's, on request. It is envisaged that accreditation for the CRL, for the above determinands, will be achieved by January 2001. To ensure the requirements of accreditation are fully met the CRL has assigned a qualified member of staff (Julie Younger) to take responsibility for accreditation issues.

Comparative testing and ring trials

In preparation for possible ring trials on statutory determinands currently covered by Directive 91/492 (E.coli and Salmonella) the CRL has initiated discussion with the UK Public Health Laboratory Service (PHLS) who currently run external quality control programmes for these determinands in food stuffs. We would aim to draw on the expertise of the PHLS in order to make proposals for a programme of comparative testing for these determinands for NRL's. The intention would be to discuss CRL proposals for comparative testing for E.coli and Salmonella at the initial NRL meeting.