

For the attention of Interested Parties in Scotland

08 May 2014

**Changes to the analysis and reporting of Paralytic Shellfish Poisoning toxins and reporting of *E. coli* results**

To all interested parties:

This letter is to inform you of the forthcoming changes to analysis and reporting of results for the Paralytic Shellfish Poisoning (PSP) toxins testing and the recent changes to the reporting of *E. coli* results in Scotland.

**Attached:** Annex A - an example of the table that will be used to report daily and weekly results from the biotoxin monitoring programme, including results of semi-quantification step of the PSP toxin analysis

**Implementation of a semi-quantification step in HPLC for the testing of live bivalve molluscs for Paralytic Shellfish Poisoning (PSP) toxins in Scotland**

Following last year's very busy toxin season, the Food Standards Agency and Official Control laboratory (Centre for Environment, Fisheries and Aquaculture Science, Cefas) for biotoxins were looking for ways to allow quicker reporting of results from PSP toxins testing.

The current method is a two-step method and it takes 48hrs from receipt of a sample to report completed result for full PSP toxins quantification. The analysis includes an initial screen test, which provides indication of whether the sample contains PSP toxin or whether it is toxin free. The results of this test are reported after 24hr of sample receipt. This screen is only a qualitative test and if the sample tests positive (toxin detected) a further step (full quantification) is required to obtain information about actual levels of toxin present in the sample. Samples requiring full quantification undergo further analysis and results are available 48hrs from receipt of sample.

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Cefas have recently developed a semi-quantification test for PSP toxins which would allow for quicker reporting of non-actionable results. Samples will still undergo a screen test, but those samples in which PSP toxins are detected will then be immediately subject to semi-quantification. This will allow an early assessment of whether levels of toxin present in the sample are below or above the alert level of 400 µg/kg, giving an early indication of potential risk. Results for samples containing toxins below alert level will be reported immediately and within 24hrs from receipt of sample. Samples containing toxins above alert level will still be subject to full quantification to provide accurate and exact values for PSP toxins which, if required, can be used to support formal FSAS and LAs official actions. Application of the semi-quantification step will mean however that for the majority of Scottish samples tested for PSP, completed results will be available 24hrs quicker than at present.

### **PSP results reporting**

The implementation of the new step in the PSP toxin analysis method will mean a change in the format of the table used to report monitoring programme results, in particular the number of columns needed to report PSP toxin results.

An additional column will be included for reporting of the PSP semi-quantification results immediately to the right of the column reporting results of the PSP screen test. As mentioned above, samples which provide a result 'Detected' in the screen test will be subject to a semi-quantification step. The results of this test will be reported on the same date as the screen test results as either <400 or ≥400 (µg STXeq/kg). For samples resulting in '<400' no further analysis will be required and this result will be considered as completed. For samples resulting in '≥400', a further full quantification test will be carried out and this will be reported the following day in the usual manner. Please note that full quantitation results may return a total toxicity value below 400 µg/kg.

**Annex A** to this letter is an example of the table that will be used from 21 May 2014 to report daily and weekly results from the monitoring programme, including results of semi-quantification step of the PSP toxin analysis.

### **Recent changes to the *E. coli* reporting**

The EU Food Hygiene Regulations specify the use of a five-tube three-dilution most probable number (MPN) test for *E. coli* when classifying shellfish harvesting areas.

Colleagues may have noticed that the reporting ranges for the *E. coli* results have changed from 8 April 2014. This is due to recent amendments to the statistical calculations used in the official control MPN method, ISO TS 16649-3, and more specifically, to the MPN tables in ISO 7218 for interpretation of different tube combination for different dilutions. Values for several tube combinations were amended, e.g. some *E. coli* results are now reported as <18 *E. coli*/100g rather than as previously <20 *E. coli*/100g. The amendment does not affect any tube combinations which can impact on an overall classification result for a production area, i.e. there will be no deterioration in results solely due to use of a different statistical calculation.

For details of all tube combinations, please follow a link to the National Reference Laboratory website and see protocol for 'Enumeration of *Escherichia coli* in molluscan bivalve shellfish'

<http://www.cefas.defra.gov.uk/nrl/information-centre/nrl-laboratory-protocols.aspx>

If you have any queries on this letter or any related issues please contact Kasia Kazimierczak (email: [kasia.kazimierczak@foodstandards.gsi.gov.uk](mailto:kasia.kazimierczak@foodstandards.gsi.gov.uk)).

Yours faithfully

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