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Report

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Preparation of two biological reference materials for QUASIMEME inter-laboratory testing

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Summary

Two biological materials have been prepared for the Institute for Environmental Studies (IVM), Free University, Amsterdam to be used in QUASIMEME interlaboratory studies. The materials prepared are: 300 tins of homogenized blue mussels from the Waddenzee (Q007-1) and 300 tins of homogenized shrimps from German Bight (Q007-2).

1. Introduction

The Institute for Environmental Studies has requested Wageningen IMARES to prepare two materials for the use in QUASIMEME interlaboratory studies (ILS) under contract 06.052. The materials include a blue mussel sample (Q007-1), and a shrimp sample (Q007-2).

2. Objectives

- 300 tins of homogenized blue mussels from the Waddenzee (Q007-1)
- 300 tins of homogenized shrimp from the mouth of the Westerschelde (Q007-2)

3. Materials and methods

3.1 Production of materials

The materials produced are listed in Table 1.

Table 1. Materials produced for QUASIMEME ILS.

No.	Code	Origin and purpose	No. of lots
1	Q007-1	Blue mussels from the Waddenzee in tins for organic contaminant analysis	300
2	Q007-2	Shrimps from the mouth of the Westerschelde in tins for organic contaminant analysis	300

3.1.1 Q007-1(*blue mussels from the Waddenzee*)

About 94 kg of fresh mussels from the Waddenzee (west Meep) was purchased (ship Bru26) on January 17, 2007. Another 94 kg of fresh mussels was purchased (ship Ye56) on January 18, 2007. After cooking the mussels for 5 minutes the shells were removed. The material was minced and stored at 0°C. The material was homogenised and sterilized in tins on January 24, 2007 according to the procedure described in section 3.1.3. Ten tins were coded for homogeneity tests, which should be performed by IVM.

3.1.2 Q007-2 (*shrimps from the mouth of the Westerschelde*)

About 30 kg of cooked shrimps originating from the mouth of the Westerschelde (ship Z13) was purchased on 17 January 2007. The whole shrimps were minced and stored at 0 °C. The material was homogenised and sterilised in tins on January 25, 2007 according to the procedure described in section 3.1.3. Ten tins were coded for homogeneity tests, which should be performed by IVM.

3.1.3 *Details on the procedure for production of materials*

The complete volume of meat was minced using a mincer (Finis Machinefabriek, Ulft) in combination with a Fryma mill equipped with toothed rotary knives (Fryma Maschinen AG, Rheinfelden, Switzerland) to a final size of 3.5 mm². Subsequently, ca. 25 kg sample homogenised for 5 minutes, after adding 0.02% butylhydroxytoluene (BHT), in a Stephan cutter (Stephan Machines, Almelo, The Netherlands), type UMM/SK25 (made in 1979). The coated tins (Eurocan Food, Mechelen, Belgium, volume ca. 75 ml) were filled to the brim with homogenised material using a manual dosing machine (maschinenfabrik Engler, Vienna, Switzerland). The tins were sealed by a Lanico TVM 335 sealing machine (Thomassen and Drijver, Deventer, The Netherlands).

The tins were sterilised in a Muvero-Mat sterilizer (type 90E) for 45 minutes at 122 °C (pressure 1.4 bar, heating-time: 90 minutes, cooling time: 20 minutes).

4. Results and discussion

300 tins of homogenized blue mussels from the Waddenzee has been produced. The material was coded as Q007-1.

Another batch of 300 tins of homogenized shrimps from the mouth of the Westerschelde has been produced. The material was coded as Q007-2.

5. Conclusions

Two biological reference materials, 300 tins of homogenized blue mussels from the Waddenzee (Q007-1) and 300 tins of homogenized shrimps from the mouth of the Westerschelde (Q007-2) were successfully prepared.

The homogeneity of the materials was not tested and it should be done before the material can be used in the Quasimeme interlaboratory study.

Justification

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has been produced with great care. The scientific quality has been peer-reviewed and assessed by or on behalf of the Scientific Board of Wageningen IMARES.

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