

WORK PROGRAMME of EURL for  
**MARINE BIOTOXINS**

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## INTRODUCTION

The legal functions and duties of the European Union reference laboratory for feed and food are described in Article 92 of Regulation (EU) 2017/625 of the European Parliament and of the Council of 15 March 2017 on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health and plant protection products,

European Union reference laboratories designated in accordance with Article 93 shall be responsible for the following tasks insofar as they are included in the reference laboratories' annual or multiannual work programmes that have been established in conformity with the objectives and priorities of the relevant work programmes adopted by the Commission in accordance with Article 36 of Regulation (EU) No 652/2014.

According to the functions and duties above mentioned the EURLMB presents this Work Programme compiling all the activities required with the aim of accomplishing the responsibility as European Reference Laboratory.

In 2019-2020 work programme 28 Member States and 2 EFTA Member States (Iceland and Norway) are considered eligible for EURL assistance and invited to participate in EURL organised training programmes, comparative testing, etc. Third country laboratories are also invited to participate as appropriate in comparative testing and training activities on a cost recovery basis.

The EURLMB Network has been expanded to include at least 7 Member States with Production areas as well as the 2 EFTA member States (Iceland and Norway). The three EURLs involved in the activities related to microbiological contamination of BM (E. coli, Salmonella, Virus) will be also included at least on meetings and workshops related with their activities for a better coordination. Additional Member States with minor production areas could be also included among this Network upon request.

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### TO ENSURE AVAILABILITY AND USE OF HIGH QUALITY METHODS AND TO ENSURE HIGH QUALITY PERFORMANCE BY NRLs.

Please, provided activities related to Regulation (EU) 2017/625:

(Number of Sub-activity boxes can be adjusted by EURL)

- **Art. 94.2.a** *Providing national reference laboratories with details and guidance on the methods of laboratory analysis, testing or diagnosis, including reference methods.*
- **Art. 94.2.b** *Providing reference materials to national reference laboratories*
- **Art. 94.2.c** *Coordinating the application by the national reference laboratories and, if necessary, by other official laboratories of the methods referred to in point (a), in particular, by organising regular inter-laboratory comparative testing or proficiency tests and by ensuring appropriate follow-up of such comparative testing or proficiency tests in accordance, where available, with internationally accepted protocols, and informing the Commission and the Member States of the results and follow-up to the inter-laboratory comparative testing or proficiency tests.*
- **Art. 94.2.l** *Where relevant for their area of competence, cooperate among themselves and with the Commission, as appropriate, to develop methods of analysis, testing or diagnosis of high standards.*

**Sub-activity 1.1:** Supply information to EU NRLs on analytical methods for marine biotoxins

**Objectives:** *To contribute to the improvements in the performance of the EU harmonised methods*

**Description:** Issues related with marine toxins legislation, methodologies, standard operating procedures, validation reports, seminars, meetings, minutes, conclusions and recommendations, as well as the activities of the EURLMB will continue to be published and updated at the EURLMB Website. All the private information of the Network will be published in a restricted area of the EURLMB Website to which, only NRLs can access using a specific code. Additional information might be also supplied by email or any other possible source when requested.

**Expected Output:** improved performance and standardisation across laboratories

**Duration:** January- December 2020-2021 (ongoing)

EURLMB website is available at: <http://www.eurlmb.org>

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## **Sub-activity 1.2:** Provide reference materials to EU NRLs

**Objectives:** *To help laboratories to implement methodologies and to validate them to reach or maintain accreditation*

**Description:** The EURLMB provides reference materials to NRLs when requested and depending on availability, with the aim of helping NRLs with the implementation of their own methodologies in their laboratories.

The reference materials that the EURLMB might provide at this particular moment consist on a certified reference material for Lipophilic and Amnesic shellfish poisoning toxins. These materials were provided to the EURLMB by the former IRMM. The materials were made through the joint efforts of the (JRC, EU Commission) and the NRC, CNRC (Canada) in the development of reference materials for marine biotoxins, and in particular for Lipophilic toxins, the mentioned reference material consists on a fried dried material (FDMT) with certified value, for Lipophilic toxins together with Amnesic shellfish toxins. The IRMM provided vials containing these materials to the EURLMB, some of which have been already distributed among the EU NRLs to help them with method development for accreditation purposes and also for method implementations. Further distribution of the materials is being considered to NRLs upon request. Some third countries have been also supported on method development and implementation; these materials have been also provided with this aim. The FDMT is currently commercially available

**Other reference** materials, in particular contaminated samples of different bivalves with different biotoxins profiles and with an assigned value are being also distributed among NRLs when requested and depending on the availability. The homogeneity and stability of these materials are guaranteed.

NRLs are also informed about all the different sources of certified reference materials commercially available. The list of commercially available reference materials is published and frequently updated at the EURLMB Website.

Laboratory Reference materials containing Caribbean Ciguatoxins, in particular C-CTX1 have been provided by the University of Vigo to the EURLMB as key objective of EUROCIGUA (research project co-financed by EFSA). These materials might be also available for distribution among EU NRLs with interest on CTX control. These materials are scarce and very valuable therefore the distribution will be conditioned to the ability of laboratories to perform LC-MS/MS methods for CTXs and this ability has to be demonstrated by showing initial studies on method development using standards for Pacific CTXs.

**Expected Output:** Improved analytical performance and increased harmonization across laboratories

**Duration:** January-December 2020-2021 (ongoing)

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## **Sub-activity 1.3:** Proficiency Testing studies on PSP, ASP and LPTs

**Objectives:** Proficiency Testing (PTs) are organised annually by the EURLMB for the three groups of marine biotoxins included in the EU legislation. PTs are aimed at evaluating the ability of the NRLs to apply the recognised testing methods for marine biotoxins, for the purpose of Regulations (EC) Nos. 853/2004 and 2019/627. The equivalence of the methods applied for the different toxin groups included in the EU Regulation is also evaluated through these tests.

**Description:** The EURLMB organise trials for each of the regulated marine biotoxins group (PSP, ASP and LPTs) and the methodologies included in these PTs will be the ones officially included in the EU Legislation.

All the EU NRLs are requested to participate in these PTs. Two additional NRLs from Europe (Norway and Iceland) are also included in these tests and Official Laboratories from Third Countries of interests for the EU Commission might be also included upon request although these laboratories should cover the shipping costs.

In order to advance on the evaluation of the performance of the most recent methodological implementations, the PTs that are planned for 2020-2021 will be focused on the evaluation of specific issues methodological issues affecting the performance criteria of the methods used for the control of the marine biotoxins included in the Legislation and in particular PSP and LP toxins.

Additional intercomparison exercises in particular to test the proficiency on alternative methods might be considered depending on the availability of participants. Priorities will be established according to the budget, in order to ensure the efficiency and applicability of the exercises.

The schedule for the Proficiency Testing (registration form, samples dispatch, results submission and PT report) will be agreed by the EU-NRLs network and published at the “EU EURLMB/NRLs timetable of activities for 2021. This schedule could be modified and accommodated to the NRLs’s needs due to the uncertain situation with COVID 19. The EURLMB will plan the activities accordingly.

NRLs and additional participants will receive all the documentation required to participate on the PT trials. Laboratories will follow the EURLMB Instructions and recommendations for the Tests and will confirm the reception of all the documentation. Results of the Proficiency Tests will be submitted to the EURLMB on the Reporting Files taking into account the established deadline.

The results on 2021 EURLMB—Proficiency Testing will be presented by the EURLMB during the Annual Workshop of the European NRL network of marine biotoxins, which will be scheduled the October-November 2021 and discussed by the group of participants.

A final and detailed report including all the information about participants, aim of the study, schedule and instructions, materials preparation, methods used, evaluation of the results, etc. will be elaborated and edited by the EURLMB for each PT, and after circulation to the participants in the study, for comments and revision, this report will be published at the EURLMB website on the restricted area for NRLs. Follow-up actions will be taken with the aim of analysing the reasons for Laboratories underperformance when required.

A follow-up report on the management, in cases of underperformance in the Proficiency Testing by NRLs, will be submitted to DG SANCO together with the EURLMB Annual Technical report

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Individual follow up actions for specific issues of interest will be carried out, although a Working group is planned for 2021 to discuss analytical criteria and provide indications with the overall objective of Harmonization.

### Intercomparison study for the analysis of hydrophilic toxins by HILIC-LC-MS/MS

As mentioned above the inclusion of new alternative methods for existing and emerging toxins might be considered and in this particular case, an intercomparison on the LC-MS/MS methodology to be applied to hydrophilic toxins might be planned and will be carried out depending on the availability of participants and also depending on the availability of contaminated materials. The use of materials “artificially” contaminated with reference materials commercially available might be considered.

### Intercomparison study for the analysis of CTXs by LC-MS/MS

As a result of the efforts and achievements on the EUROCIGUA project and after having transferred the LC-MS/MS method from the UVIGO research team to the EURLMB with the UVIGO funding, the methodological transference to the NRLs could be also included in this WP by providing NRLs with reference materials from the University of Vigo to be tested by LC-MS/MS. NRLs will be encouraged to implement LC-MS/MS methods in their labs and the evaluation of their performance might be considered by organizing this intercomparison. The scarcity and high value of the reference materials developed by UVIGO justify the need to ensure that these materials are going to be provided only to laboratories with ability and proved experience to perform LC-MS/MS for the analysis of such complex analytcs.

**Expected Output:** Comparative testing reports published on the EURLMB website. Intercomparison study report published on the EURLMB website

**Duration:** March -November 2021

### **Sub-activity 1.4:** Development of analytical methods for marine biotoxins control

**Objectives:** *To develop new or implemented methods for the control of existing and emergent toxins in the EU*

**Description:** The research activities focused on method development and considered of relevance in the control of marine biotoxins are summarised below. These activities are supported by the research team of the Analytical Chemistry and Food Department of the University of Vigo and founded by research projects from the UVIGO team lead by the EURLMB Director.

As mentioned above, the financial support for the research carried out at the EURLMB is mainly provided by the research grants in which the UVIGO research team is involved.

NO financial resources for research are taken from the EURLMB budget, nevertheless if there is a particular request from the Commission, regarding the inclusion of an activity, related to a new method development, additional testing, etc for new or emerging toxins, the resources for this particular research will come from the Commission budget

The research activities are prioritised in accord with the current challenges and needs in the control of marine biotoxins, which are also discussed and identified among the NRLs.

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The EURLMB also collaborates with NRLs on method development and implementation and this collaboration is also extended to experts worldwide through collaborative research projects in which the University of Vigo research team is involved as it was above mentioned.

**According to this the R&D activities of the EURLMB during 2021 will be focus on:**

- Continuation with ongoing activities related with the implementation of methodologies based on LC tandem mass spectrometry (LC-MS/MS) for the determination of emerging toxins (CTXs, Cyclic Imines, Tetrodotoxins, Brevetoxins, etc. This research is becoming of particular relevance among FAO/WHO, CODEX, EFSA and the research team of the University of Vigo is directly involved in projects related with the development of methods for the characterization of these emerging toxins by LC-MS/MS.

Ongoing activities on the setting up, implementation and application of alternative assays, mostly focused on screening methods, in particular for the evaluation of the cytotoxicity by N2a. These assays are being applied to neurotoxins (CTXs, TTXs, PSPs, etc ) and as mentioned above are supported by the research team of UVIGO directly involved in this research through the development of PhD projects funded by the UVIGO research sources.

**Expected Output:** Alternative methods for marine biotoxins control

**Duration:** January-December 2021 (ongoing)

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### TO PROVIDE SCIENTIFIC AND TECHNICAL ASSISTANCE TO NRLs

Please, provided activities related to Regulation (EU) 2017/625:

(Number of Sub-activity boxes can be adjusted by EURL)

- *Art. 94.2.d Coordinating practical arrangements necessary to apply new methods of laboratory analysis, testing or diagnosis, and informing national reference laboratories of advances in this field.*
- *Art. 94.2.e Conducting training courses for staff from national reference laboratories and, if needed, from other official laboratories, as well as of experts from third countries.*
- *Art. 94.2.g Providing information on relevant national, Union and international research activities to national reference laboratories.*



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**Sub-activity 2.1** Assist NRLs on the implementation, validation, accreditation of EU Reference methods for the analysis of marine biotoxins

**Objectives:** *To contribute to the laboratories performance on EU Reference methods for marine biotoxins control*

**Description:** Support on issues related with analytical methods (Standard Operation Procedures, etc.) for marine biotoxins and their application will be facilitated. This support could be provided electronically, although visits of staff from NRLs to the EURLMB and viceversa when necessary could be also contemplated. EURLMB will also assist NRLs on the implementation and validation of alternative analytical methods of interest, by providing them with technical information, standards and contaminated materials if available, etc., at their request.

Moreover, protocols for the analysis of the different groups of marine biotoxins regulated in the EU will be published in the EURLMB website, although any specific information or support related with the application of these protocols will be also directly provided to the NRLs when necessary.

**Expected Output:** Improvements in performance and evidence to support robust method performance criteria

**Duration:** January-December 2021 (ongoing)

**Sub-activity 2.2:** Coordination of working groups of experts among EU NRLs

**Objective:** *To coordinate efforts to resolve specific issues related with the implementation of analytical methods for marine biotoxins (including emerging toxins) as well as to collaborate in the elaboration and revision of Community Guides for phytoplankton control, marine biotoxins and for microbiological monitoring of BM harvesting areas.*

**Description:** Four WG of experts have been identified to conduct the main current activities of the EURLMB: Instrumental methods for marine biotoxins (**Technical WG**) and Guides for the control of: **Phytoplankton, Marine Biotoxins** and **Microbiological** contamination.

Experts from the different areas (marine biotoxins, phytoplankton and microbiological control of production areas) who are included in the activities of these WGs are working together, in particular in the elaboration of the Guide for marine biotoxins and microbiological contamination with the aim of creating a multidisciplinary group of experts covering common areas of interest in the existing and new EURLMB tasks

The WGs will work under the **EURLMB coordination** through the EURLMB experts on the different fields

**External experts** have been also included in these groups with the aim of having independent and impartial external expert scientific advice.

## **Working Group for the Marine biotoxins Guide**

The WG is focused on the elaboration of a Guide for marine biotoxins. Experts for this WG have been identified and are currently working electronically. A restricted WG of experts including the EURLMB experts as well as external experts are leading the WG and are working on the preparation of the draft in order to speed up the outcome of the activity. The draft document will be distributed among

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the electronic WG for comments and discussion. Physical meetings of the restricted WG of experts are considered as a preference, but are subjected to the restrictions imposed with the COVID-19 situation. Virtual resources will be considered as a contingency plan. A draft document of the final Guide is expected for December 2021.

### - **Technical Working group** (Instrumental methods for marine biotoxins)

As a result of the transition from animal assays for the control of marine biotoxins to chemical methods, in particular chromatographic methods. Only one technical working group of experts in instrumental analysis among the NRLs will be operating to deal with technical issues related to the application of these instrumental HPLC based methods with different detection modes, for the control of existing and emerging marine biotoxins. The WG will be coordinated by the EURLMB and will be call when necessary.

At least two meetings of the Technical WG are being considered during 2021 mostly related to discussion of performance criteria, harmonization on the methods currently used for the control of marine biotoxins as a follow up of the PTs, as discussed above. An additional meeting of the Technical WG will be considered to discuss priorities for method development and implementations for new and emerging toxins. Physical meetings are considered as preference but virtual meetings could be also considered depending on the restrictions imposed by the COVID situation

### **Working Group on Phytoplankton control:**

The Working Group (WG) on Phytoplankton will remain active but no activities are planned unless a revision of the Guide is requested by the Commission.

### **Working Group on the Microbiological Monitoring of bivalve molluscs harvesting areas**

The WG is currently working on this activity and the revision of the Guide. The EURLMB coordinates this activity with the immediate support of microbiology experts from UVIGO and CSIC (Vigo). An external independent expert in microbiology of bivalve production areas directly supports this activity. An electronic WG of experts with activity on the microbiological control of production areas which has been already working on the activity with the former EURL (CEFAS).

The revision of the Community Guide by the experts is ongoing and it is expected to be finalized by October 2021 as the latest.

Physical meeting of the WG of experts, in particular of the restricted Group are considered but virtual meetings are also considered, this last involving all the member of the WG.

As mentioned in previous WP two priority issues are being considered:

1. Changes required subsequent to the entry into force of the implementing regs for 2017/625, replacing 854/2004. These get voted on in December and will come into force in 2019/2020; there are some modifications to approach, and some additional precision sanitary survey review etc. which would benefit from some additional clarification in the guides.

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2. On the assumption that there will be a recommendation on norovirus standards following the EFSA report, it will be necessary to include a separate section on viruses and additions to sections to cover viruses. In this case the inclusion of the EURL for virus is considered.

**Expected Output:** Implementation of analytical methods and implementation of the EU Regulation for the control of bivalve molluscs including phytoplankton, marine biotoxins and microbiological control in the production areas

**Duration:** January- December 2021

### **Sub-activity 2.3:** Training activities

**Objectives:** *To support the setting up of EU reference methods for the control of marine biotoxins in the EU NRLs.*

**Description:** Trainings on methodological advances on Marine Toxins will be organised according to the NRLs needs. Special emphasis will be given to trainings related with implementations on analytical methods for regulated toxins, but training on methods for emerging toxins of particular interest in the EU could be also provided. Participation of Third countries in these training can be also accepted depending on the circumstances and upon the EU Commission approval.

A further training on methodological advances for TTX and PSP by LC-MS/MS could be also provided and scheduled 2021

The format of these trainings is also subjected to the COVID restrictions, physical meetings are preferable but virtual trainings, tutorials are also considered.

**Expected Output:** Improvements in performance o and method harmonization

**Duration:** March- December 2021

### **Sub-activity 2.4** Organization of the XXI Annual WORKSHOP of the EURLMB/NRL Network

**Objectives:** *To coordinate the activities of the EURLMB/NRL Network*

**Description:** The EURLMB will organise, host and coordinate the Annual EURL Workshops of NRLs for marine biotoxins (2021). The participation and involvement of NRLs will be emphasised by requesting the contribution of NRLs, presenting a summary of the activities carried out during 2021. All the activities carried out at the EURLMB will be presented and discussed among the Group.

An Annual Workshop for discussing the activities on the microbiological monitoring of BM harvesting areas will be also organised among the EU NRLS involved in this control. The list of NRLs has not been completed yet since some MS did not make yet the formal designation. The updated list of NRLs will be posted at the EURLMB Website as soon as the information is completed. The workshop will be organised also considering the invitation of the 3 EURLs involved in related activities regarding the microbiological contamination in bivalve molluscs (*E. Coli*, *Salmonella* and *Virus*). These EURLs will be invited to participate in the meeting at their own cost. The duration of the meeting will be one full day.

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The EURLMB will edit the minutes and conclusions of the meetings which will be distributed to the participants and published at the EURLMB Website.

All the presentations and information of interest provided in the meeting will be also posted at the EURLMB Website in the area restricted to EU NRLs.

The participation of external invited experts in this workshop will be also emphasized in order to have independent views and advice also contributing to a global distribution of the advances and progress in the control of marine biotoxins

**Expected Output:** *Harmonization of official control of marine biotoxins, phytoplankton and microbiological monitoring across network of NRLs*

**Duration:** 2 days (MB) 1 day (Microbiology)

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### TO PROVIDE SCIENTIFIC AND TECHNICAL ASSISTANCE TO THE EUROPEAN COMMISSION AND OTHER ORGANISATIONS

Please, provided activities related to Regulation (EU) 2017/625:

(Number of Sub-activity boxes can be adjusted by EURL)

- **Art. 94.2.f** *Providing scientific and technical assistance to the Commission within the scope of their mission.*
- **Art. 94.2.h** *Collaborating within the scope of their mission with laboratories in third countries and with the European Food Safety Authority (EFSA), the European Medicines Agency (EMA) and the European Centre for Disease Prevention and Control (ECDC).*
- **Art. 94.2.i** *Assisting actively in the diagnosis of outbreaks in Member States of foodborne, zoonotic or animal diseases, or of pests of plants, by carrying out confirmatory diagnosis, characterisation and taxonomic or epizootic studies on pathogen isolates or pest specimens.*

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## **Sub-activity 3.1:** Provide scientific assistance to DG-SANTE

**Objectives:** *To provide the expert scientific support and technical advice to the EU Commission when necessary*

**Description:** The EURLMB will assist DG-SANTE and Directorate on Health and Food Audits and Analysis when requested on issues related with the control of marine biotoxins in molluscs, phytoplankton control, during 2021. The EURLMB will also carry out activities of the WG on microbiological monitoring of BM to take over the responsibility of providing future scientific assistance to DG SANTE on this particular issue.

Any other scientific assistance of interest for DGSANTE will be also provided when requested.

- Provide technical assistance in cases where the results of analysis are contested between Member States and/or Member States and Third Countries (when requested)
- Technical assistance for CODEX Alimentarius, (participation in Working Groups, meetings, etc. as a part of the EU Delegation) will be provided. Any other technical support requested by DGSANTE will be also facilitated.
- Assistance to DGSANTE with issues related with the control of marine biotoxins and phytoplankton also with the microbiological monitoring in bivalves production areas
- Provide scientific advice to EFSA representing the EURLMB (when requested) in any issue related with analytical methods for control of marine biotoxins, in particular with toxins emerging in the EU
- The EURLMB will participate on an ongoing activity of DG-SANTE through a Working Group on bivalve molluscs in which specific issues of interest related to their control (marine biotoxins control, phytoplankton, microbiological monitoring) are discussed.
- The issues affecting marine biotoxins might require the debate through a specific Working group of experts among the EU NRLs. These Working Group meetings will be therefore scheduled during 2021 according to the needs.

**Expected Output:** Supporting EU regulation

**Duration:** January-December 2021

## **Sub-activity 3.2:** *Scientific and technical support and cooperation to other Organizations*

**Objective:** *To provide scientific support and to cooperate with organizations involved in seafood safety In particular bivalve molluscs safety*

**Description:**

- Participation in relevant EU and International scientific committees (AOAC, EFSA, ICMSS, FAO/WHO)
- Participation in forums of discussions and scientific events (conferences, seminars, meetings, etc.) related with the advances on the field of Phytoplankton, Marine Biotoxins and their Analysis.
- The EURLMB will participate in meetings of special interest for the marine toxin field

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- Participation in the CODEX committees related to the control of existing and emerging marine biotoxins (contaminants for Ciguatera Poisoning, analytical methods, etc) 2021

**Expected Output:** Improved analytical performance and harmonization across laboratories involved in EU trades

**Duration:** January- December 2021(ongoing)

**Sub-activity 3.3:** Collaboration with third countries within the scope of their mission

**Objectives:** *To provide support on analytical methods and other issues related with official control of marine biotoxins in bivalve molluscs under the scope of the EU Legislation*

**Description:**

- Supply information on analytical methods for marine biotoxins (SOP, performance criteria, validation reports, etc) issues related with marine toxins legislation, information about seminars, missions, etc. Updated information will be posted at the EURLMB Website. Information could be also directly provided by email.
- Technical assistance to third countries on the development, implementation and validation of EU Reference methods for the control of marine biotoxins. Reference materials consisting on contaminated samples from different matrices with different toxic profiles and assigned values for the toxins involved could also be facilitated upon request for own testing on methods performance and internal validation and accreditation.
- Participation in Proficiency Testing could be also contemplated upon request and according to availability. Priority should be given to third Countries with limited resources and involved in commercial trades with the EU. Laboratories from third countries will be responsible for shipping expenses or any other additional fees.

**Expected Output:** Improved analytical performance and harmonization across laboratories involved in EU trades

**Duration:** January- December 2021

**Sub-activity 3.4** Training activities for third countries

**Objectives:** *To contribute to the setting up and implementation of EU reference methods for control of marine biotoxins in laboratories from third countries*

**Description:**

Participants from Third Countries or from other non EU-NRLs laboratories interested in these trainings could be admitted, upon request and according to availability. These participants will be responsible for their own expenses. The EURLMB will provide the technical expertise, as well as the materials and instruments required for the training activities

Participants could join trainings organized for EU NRLs (depending on availability) but additional trainings could be also provided during 2021 provided that these participants will be responsible for

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their own expenses. The training needs will be requested with enough anticipation and the EURLMB would approve the training once the request is evaluated also with the EU Commission approval.

The particular situation of COVID 19 might affect to this activity, therefore considering virtual trainings as contingency plan

**Expected Output:** improvements in performance and harmonisation across laboratories

**Duration:** January - December 2021

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### REAGENTS AND REFERENCE COLLECTIONS

Please, provided activities related to Regulation (EU) 2017/625:

(Number of Sub-activity boxes can be adjusted by EURL)

- *Art. 94.2.j* **Coordinating or performing tests for the verification of the quality of reagents and lots of reagents used for the diagnosis of foodborne, zoonotic or animal diseases and pests of plants.**
- *Art. 94.2.k* **Where relevant for their area of competence, establishing and maintaining:**
  - i. **reference collections of pests of plants and/or reference strains of pathogenic agents;**
  - ii. **reference collections of materials intended to come into contact with food used to calibrate analytical equipment and provide samples thereof to national reference laboratories;**
  - iii. **Up-to-date lists of available reference substances and reagents and of manufacturers and suppliers of such substances and reagents.**

**Sub-activity 4.1: Verification of toxin content in contaminated samples to be used as Laboratory reference materials**

**Objectives:** *To obtain laboratory reference materials to be used for setting up analytical methods, method implementation and validation*

**Description:** The limited availability of reference materials for all the marine biotoxins and also for all the matrices involved in the contamination, in particular for new or emerging toxins, makes difficult the progress on the implementation of analytical methods for these particular toxins in these particular matrices. This activity will be focused in the coordination of specific tests among EU NRLs to verify the toxin content, and to provide an assigned value as a result of the intercomparison of the results obtained. These samples could be further used as laboratory reference materials with the mentioned assigned value and would be available to distribute among the EURLMB Network.

**Expected Output:** Increased availability of reference materials for existing and emerging marine biotoxins

**Duration:** January-December 2021