anses
French agency for food, environmental and occupational health safety

Maisons-Alfort laboratory for food safety

EURL Lm
European Union Reference Laboratory for *Listeria monocytogenes*

2014 Work Programme of the European Union Reference Laboratory for *Listeria monocytogenes*

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INTRODUCTION

In May 2006, the Maisons-Alfort laboratory for food safety of Anses (French agency for food, environmental and occupational health safety) has been nominated European Union Reference Laboratory for *Listeria monocytogenes* (EURL *Lm*) (see EC Regulation 776/2006).

The EURL *Lm* foresees to undertake the following actions in 2014, according to the actions planned at the 7th Workshop of the National Reference Laboratories (NRLs) (16-18 April 2013).

Most of these activities aim at implementing, from an analytical point of view, the EC Regulation 2073/2005 modified on microbiological criteria for foodstuffs, which includes in particular 4 food safety criteria on *L. monocytogenes* (Annex I, Chapter 1):

- either qualitative criteria: absence of *L. monocytogenes* in 25 g, for
  - ready-to-eat foods intended for infants and for special medical purposes,
  - other ready-to-eat foods able to support the growth of *L. monocytogenes*, when leaving the producer;
- either quantitative criteria: a limit of 100 cfu/g, for
  - ready-to-eat foods able to support the growth of *L. monocytogenes*, placed on the market during their shelf-life,
  - ready-to-eat foods unable to support the growth of *L. monocytogenes*, placed on the market during their shelf-life.

In addition, Article 5 (paragraph 2) of EC Regulation 2073/2005 requests that:

- Samples shall be taken from processing areas and equipment used in food production, when such sampling is necessary for ensuring that the criteria are met. In that sampling the ISO standard 18593 shall be used as a reference method;
- Food business operators manufacturing ready-to-eat foods, which may pose a *L. monocytogenes* risk for public health, shall sample the processing areas and equipment for *L. monocytogenes* as part of their sampling scheme.

NB 1: In brackets under each item, the scheduled duration of the action is indicated: either annual (limited to 2014), either multi-annual (on-going programme on several years).

NB2: The activities are gathered according to the tasks allocated to EURLs, as defined by EC Regulation 882/2004 on official controls (Article 32, paragraph 1 on EURLs for feed and food):

- *Section 1: Dispatch of methods and proficiency testing trials for the NRLs,*
- *Section 2: Analytical development,*
- *Section 3: NRL training and support to the NRLs,*
- *Section 4: Technical and scientific assistance to the European Commission.*

0 GENERAL ASPECTS

0.1 GENERAL COORDINATION (MUTI-ANNUAL)

General coordination by the EURL (management team, administrative department - SAG) of the NRL network (dispatch of circular letters and documents, coordination of the scientific and technical support to NRLs, …).

Relations with DG SANCO, coordination of the scientific and technical advice to DG SANCO, management of annual contract with DG SANCO (annual budgets and work programmes, annual technical and financial reports).

In-house follow-up of EURL activities, expenses, support to laboratory units involved in EURL activities.

Missions:
2 missions at DG SANCO (Brussels, 1 day each)

0.2 WORKSHOP OF THE NRLS (ANNUAL)

The EURL will organize the 8th Workshop of the NRLs in 2013, of general scope:

- to make a progress report on works undertaken by the EURL since the 2013 Workshop;
- to envisage the work programme for 2015 and later.

This workshop will be hosted by the IT-NRL (IZT, Teramo).

Three experts would be invited, as well as NRLs from accessing countries.

1 DISPATCH OF METHODS AND PROFICIENCY TESTING TRIALS

1.1 DETECTION AND ENUMERATION OF *L. MONOCYTOGENES* IN FOOD

1.1.1 DETECTION OF *L. MONOCYTOGENES* IN RTE ICEBERG SALAD OR IN SAMPLES FROM FOOD PRODUCTION ENVIRONMENT (ANNUAL)

Duration: 2014

Objective

PT trials organised by the EURL *Lm* (Unit EDB) for the NRLs *Lm* aim at evaluating the ability of the NRLs to apply satisfactorily the reference method EN ISO 11290-1 for the detection of *L. monocytogenes*, in the frame of controls prescribed by EC Regulation 2073/2005.

Expected output and time of delivery

The EURL *Lm* will organize in 2014 a PT trial for the NRLs on *Lm* detection, using as matrix ready-to-eat iceberg salad or sample type from food production environment.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): b.

1.1.2 CRITERIA FOR OUTSOURCING PART OF PT TRIALS AND FOR THE SELECTION OF SUB-CONTRACTORS

Duration: started: 2013 – expected end: 2016

Objective

Part of PT trials organized by NRLs for the national networks of official food control (OFC) labs may be outsourced, except follow-up of individual lab performance and corrective actions.

At the 2013 workshop, EURL *Lm* presented the outcome of an enquiry on this topic to the NRLs. It showed that certain NRLs outsource some steps of PT trials for the national network of OFC labs, typically the preparation of samples.

Expected output and time of delivery

If DG SANCO confirms its agreement to launch this project, EURL *Lm* will draft, in collaboration with volunteering NRLs, a document listing criteria (i) to outsource parts of PT trials for national networks and (ii) to select PT providers, including steps of PT trials that can be outsourced or not, frequency, details on method used by participants, together with minimum values if possible. A collaborative work with EURLs in the area of biological risks is envisaged to develop an harmonized approach.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): b.

1.1.3 COMPARISON OF *L. MONOCYTOGENES* INOCULATION TECHNIQUES OF SOLID FOOD MATRICES (MULTI-ANNUAL)

Duration: started: 2011 – expected end: 2015

Objective

Solid food matrices are part of RTE food included in the microbiological criteria for *Lm*, in EC Regulation 2073/2005, thus it is necessary to organize PT trials on solid food matrices. The EURL *Lm* (Unit EDB) has already organized PT trials on such sample types, but the artificial contamination technique should be optimized. In particular the inoculum should be more standardised in order to obtain more precise levels, which is essential at very low levels. The most appropriate competitive strains of *Listeria* species, in mixture with *Lm*, should be also investigated for use to contaminate samples for PT trials. In fact a risk of overgrowth phenomena may occur during the enrichment phase of the detection method.

In addition, EURL has organized PT trials up to now without including sub-sampling of test portion: the possibility to include this initial step of the analysis (which is essential to assess realistically analysis of solid matrices) will be tested.

Expected output and time of delivery

After having conducted in 2012 a bibliographic review, and launched an enquiry to the NRLs to collect their experience as PT trial organisers at national level, the EURL *Lm* (Unit EDB) is testing and comparing in 2013-2015 different inoculation techniques of solid food matrices, in-depth or in surface, so as to optimize the combination between the solid food matrix and the inoculation technique. In particular, the EURL is studying the homogeneity and stability of these newly developed sample types.

If satisfactory results would be obtained, this study would be used by the EURL *Lm* for future PT trials and could help NRLs for the organization of their inter-laboratory PT trials at national level.

It is needed to extend the expected end of this project until 2015, since several new technical issues, which were not identified when the project started in 2011, have arisen recently during the conduction of the project:

- the inoculum should be more standardised in order to obtain more precise levels, which is essential at very low levels;
- the possibility to reach the limit of detection of the method needs to be investigated, which requires many assays;
- the most appropriate competitive strains of *Listeria* species, in mixture with *Lm*, needs to be also investigated;
- the possibility to include sub-sampling of test portion (which is essential to assess in routine conditions analysis of solid matrices) will be tested.

1 mission

Visit of a European technical center performing different contamination techniques, in order to have a direct and visual description of the techniques it performs, as to enable a possible transfer of these techniques to our laboratory.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): b.

1.2 *L. MONOCYTOGENES* STRAIN CHARACTERIZATION AND TYPING

1.2.1 PT TRIAL ON PFGE *L. MONOCYTOGENES* SUB-TYPING FOR THE NRLS

Duration: 2013-2014

Objective

This inter-laboratory proficiency testing (PT) trial, organised by the EURL *Lm* (Unit CEB), aim at evaluating the ability of volunteering NRLs to perform satisfactorily sub-typing of *L. monocytogenes* strains by PFGE (Pulsed Field Gel Electrophoresis), the current reference method for sub-typing of this bacteria.

Expected output and time of delivery

The EURL *Lm* will dispatch the strain set for this PT trial in December 2013. This PT trial will include *Lm* serotyping (conventional serotyping and/or molecular serotyping), PFGE analysis, interpretation and identification of PFGE profiles.

The strain panel will be chosen in collaboration with the SSI (upon contract for ECDC) and the EURL PT trial will be synchronised with the SSI PT trial.

In 2014, EURL will collect results from participants, analyse them and ensure appropriate follow-up of non satisfactory results. It will also draft the report of the PT trial.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): b

1.2.2 CENTRAL EUROPEAN MOLECULAR DATABASE ON FOOD *L. MONOCYTOGENES* ISOLATES (MULTI-ANNUAL)

Frame: A European database on *L. monocytogenes* strains isolated from food will represent an efficient tool for detecting *Lm* clusters at European level and investigating the food origin of human listeriosis clusters/epidemics. This tool has first been developed by the EURL *Lm*, in close collaboration with ECDC and EFSA.
DG SANCO has planned that a central database on molecular typing and associated epidemiological data, related to several pathogenic bacteria, including *Lm*, should be settled at EFSA, with a key role of the concerned EURLs as curators of the database. Once this database would be created, the EURL *Lm* database would be transferred to EFSA. For this purpose the EURL (CEB Unit) is part of the EFSA Molecular Typing Data Collection working group.

1.2.2.1 EURL *LM* DB

Duration: 2011-not yet defined

Objectives

The EURL *Lm* (Unit CEB), together with a Steering Committee (SCOM) composed of representatives from 8 NRLs, EFSA and ECDC, has developed since 2011 a European database on *L. monocytogenes* strains isolated from food (PFGE molecular sub-typing profiles and associated epidemiological data), named EURL Lm DB.

Expected output and time of delivery

Pilot submission of Lm profiles from NRLs member of SCOM has been achieved in 2013, mainly in the frame of the European baseline survey (see 1.3.2.2).

The EURL *Lm* will organize the 3rd SCOM meeting, together with the 2014 annual workshop.

In 2014 the EURL Lm will further strengthen its collaboration with PulseNet (PN) international network through its participation to the PulseNet international strategic plan. The collaboration with PulseNet partners, as well as ECDC, is crucial for the development and the harmonization of the database.

Mission
One mission to the PN USA headquarters (CDC, Atlanta) or PN Canada headquarters (Public Health Agency of Canada, National Microbiology Laboratory, Winnipeg), will be required to strengthen the EURL cooperation with these networks, to ensure an in-depth training to PN tools to the EURL *Lm* DB curator and the transfer to EURL of the curation experience from these two peer networks, which have a longer functioning than EURL.

Subcontracting:
Subcontracting will be required to update the Bionumerics software or BN server. Need of an audio system to record the meeting.

Meeting:
Meeting of EURL Lm DB SCOM, together with the annual workshop (Teramo, IT).

1.2.2.2 EUROPEAN LM BASELINE SURVEY (BLS) IN RTE FOOD PRODUCTS: SUB-TYPING OF FOOD *L. MONOCYTOGENES* ISOLATES

Duration: 2012-2014

Objective

Further to the European monitoring programme on the prevalence of *Listeria monocytogenes* in certain ready-to-eat foods ("baseline survey" –BLS-, see EC Decision 2010/678 of 5 November 2010), the EURL *Lm* is involved, in collaboration with EFSA and ECDC, in a joint typing study of the strains isolated from the BLS and from patients during the same period.

Expected output and time of delivery

- The EURL for *Lm* (Unit CEB) has coordinated the NRL network as a consortium of laboratories for the typing, conducted during in 2012/ 2013.
- The NRLs having successfully participated to the EURL PT trials on PFGE & molecular serotyping have performed and submitted PFGE profiles of strains isolated in their country. After interpretation of the profiles submitted, the EURL is currently classifying the profiles into three categories: unsatisfactory, average quality (to be discussed with ECDC and EFSA) and satisfactory. Based on typing study design, for unsatisfactory (and average quality) profiles, the NRL will be asked in 2014 to perform again the profile analysis. If the concerned NRLs are not able to improve profile quality, EURL may conduct itself profile analysis.
- For the NRLs which had not the capacity/proven competence to type the strains isolated at national level, the EURL has typed in 2013 their strains. Extra typing work would be required at EURL in 2014, in case of additional strains sent by the NRLs.

Since the EFSA central database is expected to be functional not before 2015, the typing data from BLS are been entered in 2013 and 2014 in the EURL *Lm* database and will be transferred to the EFSA database, once created.

The EURL also plays an active role in the technical management of the EDC/EFSA/EURL *Lm* joint typing study. This task has been started in 2013 and will continue in 2014.

Mission:
1 meeting at ECDC (Stockholm) or SSI (subcontractor as curator for ECDC, Copenhagen)

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): e

2 ANALYTICAL DEVELOPMENT

2.1 DETECTION AND ENUMERATION OF *L. MONOCYTOGENES* IN FOOD

2.1.1 MEASUREMENT UNCERTAINTY

Duration: started: 2011 – expected end: 2015

Objective

To conduct analyses for own checks and official controls related to the quantitative criteria on *L. monocytogenes* in ready-to-eat food defined in EC Regulation 2073/2005 modified (criteria 1.2 & 1.3 in Annex I, Chapter 1), it is important to know and to control the measurement uncertainty (MU) associated to the analytical results. For example, the result found may comply with the limit settled in the microbiological criterion (here 100 cfu/g) whereas the true result (lying in the uncertainty range) may not comply: in that case, a wrong interpretation of the result may be taken if ignoring MU. A correct interpretation of analytical results, in terms of conformity with regulatory limits, thus requires the knowledge of MU associated to these results as well as the limitation of this uncertainty as far possible.

In the series of Standards EN ISO 6887-2 to 5 on the preparation of test samples for microbiological analyses, it is not specified how to sub-sample the test portion in the laboratory sample (sample that is sent to the laboratory), depending on the different types of food matrices to be submitted to microbiological analyses. This stage is however recognized as a major MU source, in particular for solid matrices characterized by heterogeneous bacterial contaminations, such as matured cheeses, smoked fishes or meat products.

The EURL *Lm* is conducting a study to assess the impact of test portion sub-sampling on MU, in order to evaluate heterogeneity of contamination, to harmonize how to sub-sample test portions and to reduce MU. The purpose of this study is to harmonize the procedure of sub-sampling the test sample in solid matrices, thus (i) reducing the overall MU, and (ii) better ensuring that the contamination of a sample is correctly reflected in the test portion taken and analyzed.

The outcome of this study would be transferred to ISO:

(i) To provide data for the revision of ISO/TS 19036 (MU estimation for quantitative determinations) and to quantify the MU part liked to sub-sampling of test portions, for solid matrices;

(ii) To revise EN ISO 6887 series to better define the procedure of sub-sampling the test portion in solid matrices.

Expected output and time of delivery

After having studied contamination heterogeneity and having modeled it, the EURL *Lm* (Units EDB & MOB in collaboration with Unit LCSV) has launched in 2013 an experimental study on sub-sampling, which will be continued in 2014, in order to validate the results obtained by modelling: various test portion sizes will be studied. The types of matrices studied will depend on samples made available, characterized by large weight and levels of natural contamination as high as possible. Consequently any type of matrices with these characteristics will be used. These characteristics are expected to be encountered for smoked fish, meat and cheese matrices.

This study will allow selecting the more pertinent test portion size, as to obtain a satisfactory MU associated with the chosen sub-sampling technique.

This study requires the analysis of naturally contaminated samples from various origins, and could be conducted in collaboration with some NRLs. A call for samples has been made at the 2012 and 2013 annual workshops.

It is needed to extend the expected end of this project until 2015, since the assays required are heavier than expected at the start in 2011 (many repetitions of the analysis on the same sample, low contamination levels leading to a great number of plates to be used). In addition, many samples analysed revealed to be finally not appropriate for statistical analysis, because of too low contamination levels, thus additional samples are needed, requiring extending the period for the assays.

Sub-contracting:
The transportation of samples from NRLs to the EURL will be sub-contracted.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): a & c

2.1.2 ALTERNATIVE TECHNIQUES FOR *L. MONOCYTOGENES* CONFIRMATION STAGE

Duration: started: 2013 – expected end: 2014

Objective

Several NRLs have underlined that the confirmation stage of the Standard methods for detection and enumeration of *L. monocytogenes* (EN ISO 11290-1&2) is laborious and long to implement in routine use, for large scale own checks or official controls. This confirmation is based on biochemical tests, haemolysis reaction and CAMP test (inoculation of test and reference cultures). The NRLs wished to have an overview, for confirmation purposes, on alternative methods, in particular PCR methods.

Expected output and time of delivery

The EURL *Lm* (Unit EDB) will conduct at the end of 2013 and in 2014 a bibliographic review on alternatives to *Lm* confirmation tests included in EN ISO 11290, in particular on their validation status. This review is planned to be performed in collaboration with some NRLs, in particular the UK-NRL.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): a, c

2.1.3 APPLICABILITY OF EN ISO 11290-1&2 STANDARD METHODS FOR *L. MONOCYTOGENES* DETECTION & ENUMERATION IN SOME COMPLEX MATRICES

Duration: started: 2014 – expected end: 2016

Objective

Possible underperformance of the current Standard methods (EN ISO 11290-1&2 under revision) has been reported for some specific matrices, such as certain samples from food processing environment (mixed biofilms, brine) and some dry products. All these matrices are intended to be included in the scope of the Standard methods, under revision.

Expected output and time of delivery

The EURL Lm (Unit EDB) intends to test the applicability of the Standard methods to the matrices mentioned above to confirm they can indeed be included in the scope of the Standard methods without any adaptation.

The results of this study will be transferred to the CEN/TC 275/WG 6/TAG 17 *Listeria*, for the revision of the Standard methods EN ISO 11290-1&2.

Given the other projects currently in the work program and the heaviness of the reference detection method, low contamination levels and the stress of *Lm* cells in the matrices of interest, the project is expected to take 3 years.

Mission

1 mission to a laboratory of Agriculture and Agrifood Canada to launch collaboration on this project. As this laboratory prepares contaminated environmental samples, including mixed species mature biofilms, and analyzes them with innovating RT-QPCR technique, epi-fluorescent microscopy, and scanning electron microscopy (SEM), the visit of this laboratory would be useful to understand all these techniques, in order to correlate their results with the ones to be obtained with EN ISO 11290 method.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): a, c

2.1.4 APPLICABILITY OF EN ISO 11290-1&2 STANDARD METHODS FOR *L. MONOCYTOGENES* DETECTION & ENUMERATION IN PRESENCE OF 4 NEW LISTERIA SPECIES

Duration: started: 2014 – expected end: 2015

Objective

During the past three years, four new species of the genus *Listeria* have been isolated from foods and other environmental niches worldwide: *L. marthii, L. rocourtiae, L. fleischmannii* and *L. weihenstephanensis*. It is not known whether the current Standard methods EN ISO 11290-1&2 under revision (in particular their confirmation stage) can correctly differentiate *Lm* from these new species. There is a risk of lack of specificity of the methods (false positives).

Since the Standard methods under revision will include all other *Listeria* species in addition to *L. monocytogenes*, it is necessary to check the methods' ability to recover and detect the newly identified *Listeria* species. In particular, certain characteristics of these newly discovered species remain unknown, such as: their growth and colony characteristics on commonly used *Listeria* selective isolation agars (such as LOA agar prescribed in EN ISO 11290-1&2), their reaction to some biochemical tests used for confirmation in the Standard methods, their growth performance in the selective enrichment broth of EN ISO 11290-1 in the presence or absence of other *Listeria* spp.

Expected output and time of delivery

The EURL *Lm* (Unit EDB) will investigate the above-mentioned questions and test the ability of the current Standard methods to detect & enumerate *Lm* in the presence of these new species.

The results of this study will be transferred to the CEN/TC 275/WG 6/TAG 17 *Listeria* for the revision of the Standard methods EN ISO 11290-1&2.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): a, c

2.2 SHELF-LIFE STUDIES RELATED TO *L. MONOCYTOGENES*

2.2.1 IMPROVEMENT OF INITIAL CONTAMINATION MODE TO CONDUCT CHALLENGE TEST FOR *L. MONOCYTOGENES*

Duration: 2014

Objective

The EURL *Lm* (Unit MOB) manages a NRL working group in charge of the revision of the EURL *Lm* Technical Guidance Document for conducting shelf-life studies. This WG has identified the need for investigating and recommending new techniques for the initial contamination of food samples. One of the most important aspects would be to better simulate the real (natural) conditions of contamination. In addition, NRLs often ask questions about that point to EURL, when implementing the EURL *Lm* Technical Guidance Document.

In the next version of the EURL *Lm* Technical Guidance Document (to be finalized in 2013), some examples of initial contamination techniques will be provided and the standard deviation related to the initial contamination level is expected to be ≤ 0.5 $\log_{10}$ cfu/g. But, despite the fact that contamination with an atomizer is now more and more common, this contamination technique is not cited in the current draft, by lack of data concerning the precision of this method. Moreover, the main interest of this contamination technique would be to simulate realistic contamination of multi-layers products, such as sandwiches.

Expected output and time of delivery

The EURL *Lm* (Unit MOB) will conduct a comparative study of initial contamination with an atomizer *versus* contamination by spots, on the surface of depacked food matrices, the main goal being to collect data to assess the performance of this technique.

Mission

1 visit to a technical center (IFREMER, Nantes, FR), which uses a specific instrument for artificial contamination, that the EURL may use to conduct this project.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): a, c

2.3 *L. MONOCYTOGENES* STRAIN CHARACTERIZATION AND TYPING

2.3.1 MOLECULAR SEROTYPING OF *L. MONOCYTOGENES*

Duration: 2014-2015

Objective

The EURL *Lm* (Unit CEB) has already developed and dispatched in 2009 to the NRLs a protocol for molecular serotyping (by PCR) of *Lm*. It is needed to update this protocol.

Expected output and time of delivery

The EURL *Lm* will update its molecular serotyping protocol. The update will require molecular serotyping analysis and sequence verification.

Subcontracting
Sequence verification will require subcontracting for sequencing.

Relation to EURL specific tasks: c

2.3.2 PFGE SUB-TYPING OF *L. MONOCYTOGENES*

Duration: 2013-2014

Objective

The EURL *Lm* (Unit CEB) will update its protocol for *Lm* sub-typing by PFGE, in order to comply with the new harmonization criteria recently defined by ECDC and EFSA, within the EFSA working group on molecular data collection.

Expected output and time of delivery

In order to update its PFGE protocol, EURL will have to conduct further PFGE typing analyses, to compare its protocol with the PulseNet USA (PN USA) protocol, which is referenced by ECDC.

This study was launched in 2013 and will be completed in 2014. In 2013, EURL experienced some unexpected variation in the PN USA protocol when implementing it in its laboratory. Thus a EURL staff will visit a public health lab (not yet defined) which uses PN USA protocol in routine.

Mission
EURL technician in a European public health lab for a visit exchange on implementation of the PN USA PFGE protocol.

Relation to EURL specific tasks: c

3 TRAINING AND SUPPORT TO THE NRLS

Upon request, the EURL could receive NRLs for individual training on specific topics.

3.1 STRAIN CHARACTERISATION AND TYPING

3.1.1 TRAINING SESSION (ANNUAL)

Objective, expected output and time of delivery

The EURL *Lm* (Unit CEB) will organize in 2014 a training session dedicated to sub-typing by PFGE. This session will include technical and theoretical courses and will take place at EURL.

Capital equipment

1 laptop dedicated to training session.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): d

3.1.2 TECHNICAL & SCIENTIFIC ASSISTANCE TO NRLS, DISPATCH OF STRAINS (MULTI-ANNUAL)

Objective, expected output and time of delivery

a) The EURL *Lm* (Unit CEB) will provide in 2014, in the frame of the EURL *Lm* DB project (see 1.3.2), technical remote assistance to the NRLs for:
   i) the implementation of the database tools provided;
   ii) the processing of their data at national level;
   iii) the structuring of their epidemiological data.

   In the frame of the curation of the EURL *Lm* DB undertaken by EURL, the curator will ensure to the users a technical assistance by phone or on-site to solve the PFGE deviations observed in the NRL's profiles.

b) Upon NRL request, the EURL *Lm* (Unit CEB) will provide technical and scientific assistance to NRLs, in particular to implement PFGE and PCR methods, and would send them *Lm* field strains from its collection, as well as the control strains *Salmonella* Braenderup H9812 and *L. monocytogene*s H2446.

Relation to EURL specific tasks (article 32.1 of EC Regulation 882/2004): b

4 TECHNICAL AND SCIENTIFIC ASSISTANCE TO THE EUROPEAN COMMISSION

4.1 DG SANCO ACTIVITIES (MULTI-ANNUAL)

Upon request of the services of DG SANCO in charge of food hygiene, participation of the EURL manager (Bertrand LOMBARD), for the analytical aspects, to the update of EC Regulation 2073/2005 on microbiological criteria related to *Lm* and to the corresponding meetings of the MS WG on microbiological criteria.

Missions:
2 meetings (1 day each, EC, Brussels).

4.2 TECHNICAL SUPPORT TO EFSA

Participation of 2 EURL *Lm* experts to the EFSA working group on the collection of molecular typing data from food and animal isolates, including *Lm* (missions to WG meetings covered by EFSA).

4.3 PARTICIPATION TO CEN/ISO STANDARDISATION ACTIVITIES (MULTI-ANNUAL)

On behalf of the EURL *Lm* and as EC representative:

- Participation of the EURL *Lm* manager (Bertrand LOMBARD) to the activities of ISO/TC 34/SC 9[1] & CEN/TC 275/WG 6[2] in particular for aspects related to the standardization of reference methods for *L. monocytogenes;*

  Mission: 1 joint plenary meeting, Washington (USA), June 2014.

- Leadership by a EURL *Lm* senior scientist (Nathalie GNANOU-BESSE) for the revision and validation by inter-laboratory studies of the EN ISO 11290-parts 1 & 2 Standard methods, in the frame of the CEN Mandate M/381. Convenorship of the corresponding CEN/TC 275/WG 6/TAG 17 group on *Listeria*.
  (costs covered by the CEN Mandate, no cost for the EURL budget)
- Convenorship by two EURL *Lm* scientists (Brigitte CARPENTIER & Léna BARRE) of the new WG 17 of ISO/TC 34/SC 9, in charge of the revision of ISO 18593 on sampling techniques from food processing surfaces.
  Participation of a senior EURL *Lm* scientist (Annie BEAUFORT) to the new WG 19 of ISO/TC 34/SC 9, in charge of developing an EN ISO Standard on challenge tests in food and feed.

[1] Sub-Committee 9 « Microbiology » of Technical Committee 34 « Food products »

[2] Working Group 6 « Microbial Contaminants » of Technical Committee 275 « Food analysis – Horizontal methods »