

2016-2017 Work Programme of the European Union Reference Laboratory for Milk and Milk Products

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INTRODUCTION

The Laboratory for Food Safety of ANSES (French agency for food, environmental and occupational health safety), located in Maisons-Alfort, foresees to undertake, as European Union Reference Laboratory for Milk & Milk Products (EURL MMP), the following works in 2016 & 2017, according in particular to the actions planned at the 17th Workshop of the National Reference Laboratories (NRLs) of general scope (1-3 October 2014).

The scientific and technical activities of EURL MMP are mainly undertaken in the laboratory by the Milk Team of the Staphylococci, *Bacillus*, Clostridia and Milk (SBCL) Unit.

These actions are part of the current mandate of the EURL MMP, restricted to the control of raw and heat-treated liquid milk (total flora, somatic cells count, phosphatase activity), as well as cheeses for phosphatase, in the frame of:

- (i) the Regulation (EC) No 853/2004 modified *laying down specific hygiene rules for food of animal origin*
- (ii) the Regulation (EC) No 854/2004 *modified laying down specific rules for the organisation of official controls on products of animal origin intended for human consumption*, dealing in Article 8 and Annex IV with raw milk and dairy products. Annex IV requires that the (national) competent authority monitors the checks carried out in accordance with Annex III, Section IX, Chapter I, Part III to Regulation (EC) No 853/2004.

The Annex III, Section IX of EC Regulation 853/2004 is dedicated to raw milk and dairy products:

- Microbiological criteria on total flora at 30°C and on somatic cells count are fixed:
 - o At the level of raw milk production & collection: for raw cow's milk and raw milk from other species milk (Chapter I, clauses I & III);
 - o At the level of preparing dairy products (Chapter II, clause III-criteria for the use of raw cow's milk for further processing).
- Phosphatase activity:
 - o At the level of raw milk production (Chapter I, clause I.3): a reference is made to a negative phosphatase test to characterize the heat-treatment to be applied to raw cow's or buffalo's milk coming from animals not meeting certain requirements on brucellosis or tuberculosis.
 - o At the level of heat treatment of raw milk or dairy products (Chapter II, clause II): the food business operators shall ensure that the heat-treatment satisfies the requirements of Regulation (EC) No 852/2004, Annex II, Chapter XI.

The EURL foresees in particular to provide a support to the NRLs for the implementation of the EC Regulation No 2074/2005 (modified by EC Regulation No 1664/2006) defining in Article 6a and Annex VIa the testing methods for raw milk and heat-treated milk to be used by competent authorities and food business operators:

- o to check compliance with the limits for total flora and somatic cells count laid down in Regulation No 853/2004, Annex III/Section IX/Chapter I/Part III,
- o to ensure appropriate application of a pasteurisation process to dairy products, as referred to in Regulation No 853/2004, Annex III/Section IX/Chapter II/Part II.

This work program is scheduled on the basis of a normal 2-year activity, assuming that the renovation of the laboratory premises, planned in 2016, will enable to implement all the experimental activities planned in 2016-2017. In the case where the work programme would need to be modified, EURL MMP would contact DG SANTE to discuss and agree on such modification.

NB 1: In brackets under each item, the scheduled duration of the action is indicated: either annual (limited to 2016 or 2017), either multi-annual (on-going programme on several years).

NB 2: The activities are gathered according to the tasks allocated to EURLs, defined by EC Regulation No 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: Training of the NRLs,*
- *Section 4: Technical and scientific assistance to the European Commission.*

0 GENERAL ASPECTS

0.1 GENERAL COORDINATION (MULTI-ANNUAL)

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

Relations with DG SANTE, coordination of the scientific and technical advice to DG SANTE, management of annual contract with DG SANTE (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.

Equipment

1 lap-top computer

Mission:

1 mission at DG SANTE (Brussels, 1 day).

0.2 WORKSHOP OF THE NRLS (ANNUAL)

EURL MMP will organise the 19th Workshops of the NRLs in 2016, of general scope, and the 20th Workshop in 2017 tentatively dedicated to a specific topic (to be determined in 2016 with NRLs).

At each workshop, three experts would be invited, as well as NRLs from third countries.

1 DISPATCH OF METHODS AND PROFICIENCY TESTING TRIALS

1.1 HYGIENE OF RAW MILK

1.1.1 2016 PT TRIAL: ENUMERATION OF TOTAL FLORA IN RAW COW'S MILK

EURL MMP will organize in 2016 an inter-laboratory proficiency testing (PT) trial on enumeration of total flora in raw cow's milk, with the Standard reference method EN ISO 4833-1. In particular, EURL will perform the homogeneity and stability study of the samples prepared for this PT trial using this Standard.

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

1.1.2 2017 PT TRIAL: COUNTING OF SOMATIC CELLS IN RAW COW'S MILK

EURL MMP will organize in 2017 an inter-laboratory PT trial on counting of somatic cells in raw cow's milk, with the Standard reference method EN ISO 13366-1. In particular, EURL will perform the homogeneity and stability study of the samples prepared for this PT trial, using an instrumental method for SCC determination.

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

1.1.3 HARMONIZATION AT EUROPEAN LEVEL OF CONVERSION EQUATIONS FOR TOTAL FLORA (MULTI-ANNUAL)

Duration: start: 2012- expected end: 2016

Objective

EC Regulation 2074/2005 (modified by EC Regulation 1664/2006) defines the testing methods for raw milk to be used to check compliance with the limits for total flora and somatic cells count laid down in Regulation 853/2004: either the reference methods (EN ISO 4833-1 for TF or EN ISO 13366-1 for SCC), or alternative methods, under certain conditions detailed in EC Regulation 2074/2005.

Given the workload to implement the reference methods for TF and SCC, routine controls (own checks) are currently performed in Europe in overwhelming majority -if not uniquely- by alternative methods, mostly by instrumental methods, based on flow cytometry. The results of the instrumental methods have to be converted into the unit of the reference methods, to check compliance with legal limits of EC Regulation 853/2004, expressed in the units of the reference methods. This requires the establishment of a conversion equation between the instrumental and the reference methods, which has been identified as a critical point for the implementation of the instrumental methods.

EURL MMP is conducting the harmonization of conversion equations between the alternative methods and EN ISO 4833-1 reference method, for TF in raw milk.

Expected output and time of delivery

The current step is to investigate the possibility of conversion equation harmonization at European level. This work is conducted by EURL in collaboration with volunteering NRLs, gathered in a working group convened by EURL. The data transmitted by the NRLs of 16 Member States have enabled EURL to derive a harmonized European conversion equation.

The expected output for 2016 is the following:

- EURL will draft and dispatch the technical report of the study, presenting how the harmonised European conversion equation could be derived from the data provided by the NRLs.
- EURL will ask NRLs to investigate the implementation at national level of this European conversion equation, taking into account its impact and practical applicability.
- At the 2016 WG meeting, then during the annual 2016 workshop, the outcome of this investigation will be discussed, as well as a final recommendation on the European conversion equation.

Meetings

Two half-day meetings of the NRL WG, combined with the annual 2016 & 2017 workshops (at participants' own costs).

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

1.2 PASTEURIZATION TRACERS OF MILK AND MILK PRODUCTS

1.2.1 2016 PT TRIAL: DETERMINATION OF ALKALINE PHOSPHATASE ACTIVITY IN CHEESE

In 2016, EURL will organize an inter-laboratory PT trial to assess the NRL performance for the fluorimetric determination of alkaline phosphatase (AP) activity in cheese. The protocol to apply will be the EURL in-house method, also progressed through CEN and IDF/ISO standardization procedures to become an EN IDF/ISO Standard (EN ISO 11816-2), that the EURL will dispatch to NRLs.

EURL will prepare and distribute for the PT different types of cheese, at different levels of AP and EURL will conduct homogeneity and stability study. EURL will draft a preliminary report then a final report and circulate them.

Equipment

One lap-top computer.

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

1.2.2 2017 PT TRIAL: DETERMINATION OF ALKALINE PHOSPHATASE ACTIVITY IN COW'S MILK

In 2017, EURL will organize an inter-laboratory PT trial to assess NRL performance for fluorimetric determination of AP activity in cow's milk. The protocol to apply will be the method, prescribed for official controls, i.e. the European/International Standard EN ISO 11816-1: 2013.

EURL will prepare and distribute for the PT trial cow's milk samples at different AP levels and EURL will conduct homogeneity and stability study. EURL will draft a preliminary report then a final report, and will circulate them.

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

2 ANALYTICAL DEVELOPMENT

2.1 HYGIENE OF RAW MILK

2.1.1 DETERMINATION OF TOTAL FLORA IN RAW MILK BY AN INSTRUMENTAL METHOD (MULTI-ANNUAL)

Duration: 2007- 2016

Objective

EURL MMP has been conducting an experimental study on raw cow's and goat's milks, using a flow cytometer (Bactocount) purchased in 2007, as an alternative method to the reference methods (bacterial count for TF and microscopic method for SCC).

This study aims at investigating the questions linked to the correlation of the Bactocount to the reference methods for TF, especially the different factors influencing, for a same apparatus, the value of the conversion equation (variation in breeds, period of lactation, type of feeding ...). This study could in particular help NRLs to correctly identify the different factors which can have an impact on the conversion factor. This study is also needed to harmonize conversion equation at national or European level (see 1.1.3).

Expected output and time of delivery

EURL has carried out experiments in 2014 & 2015. In 2016, EURL will draft the final technical report of this study, in liaison with the NRL working group convened by EURL regarding the possibility of conversion equation harmonization at European level (see 1.1.3).

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

2.1.2 DEVELOPMENT OF CERTIFIED REFERENCE MATERIALS FOR SOMATIC CELL COUNT IN RAW MILK (MULTI-ANNUAL)

Duration: 2012- 2017

Objective

Given the deficiencies of the reference microscopic method for SCC in raw milk (lack of reproducibility of EN ISO 13366-1 Standard method) and the limited number of laboratories using it, it is of utmost importance to develop Certified Reference Materials (CRMs) to ensure the reliability of SCC analyses of raw milk in Europe, either using the microscopic reference method or instrumental alternative methods. Such CRMs are not currently available. The need to develop CRMs for SCC was highlighted several times by the network of NRLs MMP. CRMs are needed to calibrate instrumental methods, mostly used for routine analyses of SCC in raw milk, as to have comparable SCC analyses conducted within each European country and between different European countries.

In a letter dated 16 July 2014, the Institute for Reference Materials and Measurements (IRMM) indicated its decision to launch the development of CRMs for somatic cell counting in milk, as announced during the IDF/ISO Analytical Week in June 2014, and in collaboration with EURL MMP.

Expected output and time of delivery

In 2015, EURL has conducted the feasibility study which may need to be continued in 2016. This study will enable to define how to process a suitable reference material (RM).

In 2016, EURL will conduct analyses for testing homogeneity, stability and commutability of the selected process used to prepare larger scale pilot batches of RM, at 2 SC levels (low and high).

In 2017, considering the outcome of the study conducted in 2016, EURL will conduct analyses for long-term stability and collaborate with IRMM to prepare the certification exercise.

Financing

For the study to be conducted in 2016 and 2017:

- development and preparation of RM (sampling, freeze drying, bottling and dispatching) will be supported by IRMM,
- staff and consumable costs for the analyses to be performed by EURL (see before) will be supported on EURL MMP budget (activity 2b).

Equipment

New flow cytometer (Fossomatic), an instrument dedicated to SC determination, required to conduct all analyses by an alternative method to the reference method, and purchased in 2015.

Missions

2 missions at JRC/IRMM, (Geel, BE) 2 days each.

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

2.1.3 IMPACT OF STABILIZER ON DETERMINATION OF TOTAL FLORA IN RAW MILK BY AN INSTRUMENTAL METHOD (ANNUAL)

Duration: 2016-2017

Objective

This study aims at investigating the possible impact of the use of a stabilizer on the value of the conversion equation between an instrumental method (Bactocount) and the reference method for TF. A chemical stabilizer is used to maintain TF level of milk samples during transportation until their analyses, but it may impact the conversion equation.

The need of this study, for the revision of ISO 21187/IDF 196, has been acknowledged at 2015 ISO/IDF meeting. The outcome of this study will be transferred to IDF/ISO.

Expected output and time of delivery

EURL MMP will coordinate in 2017 an experimental study, to be performed in collaboration with volunteering NRLs. EURL will also contribute to this experimental study.

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

2.1.4 COMPARISON OF MAGNIFICATION 400X TO MAGNIFICATION 500X FOR SOMATIC CELL COUNTING

Duration: 2016

Objective

Even though EN ISO 13366-1 Standard for SCC in milk specifies a minimum microscopic magnification of 500x for SC reading (50x objective lens without oil immersion and 10x for the eyepiece), a significant part of NRL network is still equipped with a magnification 400x objective. Given good results previously obtained with both magnifications in PT trials organized by EURL, and experiences with this magnification, it is likely that the use of 400x magnification would not alter performances of the method, and could be proposed to be included in a revision of the Standard.

Expected output and time of delivery

In 2016, EURL will undertake a comparison of results obtained with 500x magnification and with 400x magnification on the basis of the results of PT trials organised until 2015, and of other available data. EURL will draft a report in 2017.

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

2.2 PASTEURIZATION TRACERS OF MILK AND MILK PRODUCTS

2.2.1 ALTERNATIVE TO CURRENT REFERENCE METHOD FOR ALKALINE PHOSPHATASE ACTIVITY IN COW'S MILK: 1ST STAGE

Duration: 2015 - 2017

Objective

EU Regulation (EC) n° 2074/2005 modified by Regulation (EC) n° 1664/2006 prescribes the International Standard EN ISO 11816-1, fluorimetric method for the determination of alkaline phosphatase (AP) activity in milk, as the reference method for own checks and official controls of this criterion in pasteurized milk. To date, this method is the most pertinent and reliable method available although it has the disadvantage of being tied to a single supplier in terms of material and reagents.

In 2013, an article has been published on "Fluorometric detection of active AP and GGT in fluid dairy products from multiple species" [G. Ziobro (FDA, USA) and al. - *Journal of Food Protection* - Vol. 76, No. 5, 2013, Pages 892–898]. The methodology cited for the determination of AP activity in milk is a fluorimetric detection using a microplate, a dedicated reader and reagents readily available from most chemical suppliers, which is a key advantage over the method of EN ISO 11816-1.

Currently, when implementing the reference method of EN ISO 11816-1 which depends upon a unique manufacturer of material and reagents, laboratories are exclusively linked to their single local distributor. In certain countries, this limited market of material and reagents induces high costs and equipment maintenance not always efficient. This situation can quickly become problematic for the correct use of the reference method.

Therefore, the EURL intends to explore the possibility to use for official controls a microplate method based on Ziobro's method cited before, which is totally open in terms of material and reagents.

Expected output and time of delivery

In 2016, EURL MMP, in collaboration with CH-NRL (ISO/IDF co-project leader), will pursue the optimization works on the microplate fluorimetric protocol.

After the method has proved to be rugged, EURL, in collaboration with CH-NRL, will draft a detailed version of the method. EURL will then undertake preliminary essays to compare AP activities obtained using reference method of EN ISO 11816-1 and AP obtained by the microplate fluorimetric method. Samples to analyse will be cow milk at different AP levels and laboratory-pasteurised cow's milk.

In 2017, EURL will organize a pilot trial including three or four laboratories to obtain rough estimates of the repeatability and reproducibility values of the method. This trial will also allow finding potential weak points in the protocol of the method, which may be optimized before the extended collaborative study.

Mission

1 mission to CH-NRL or another laboratory involved in the pilot trial.

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

2.2.2	REFERENCE METHOD FOR ALKALINE PHOSPHATASE ACTIVITY IN CREAM:1 ST STAGE (MULTI-ANNUAL)
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Duration: 2015 - 2017

Objective

In June 2014, the need of a legal limit for alkaline phosphatase (AP) in cream expressed by some NRLs has been addressed during the meeting of the Competent Authorities' 'WG Hygiene' and CAs welcomed the proposal to set a legal limit for AP in cream.

Consequently, EURL MMP conducts works on the determination of alkaline phosphatase (AP) activity in cream, in the perspective of expanding pasteurization criteria to dairy products other than milk, so as to support DG SANTE in setting a legal limit at European level for AP activity in cream correctly pasteurized.

More specifically, this project aims, in a first time, at developing and validating the reference method that would be associated to the legal limit on AP in pasteurized cream.

Subsequently, EURL would initiate the validation of the method on determination of AP activity in cream; and the subsequent standardization of the method.

EURL would also coordinate a European study aiming at generating data on the content of residual AP in pasteurized cream produced under different processes and heat treatments in the different EU Member States.

Expected output and time of delivery

In 2016, EURL will continue the optimisation of the sample preparation step, particularly for the semi-liquid cream.

Experiments performed in 2015 showed that the obtained AP activities were highly variable in the different pasteurized and UHT treated liquid creams. One of the possible causes of this variability is the AP reactivation. Therefore, experiments need to be performed using an AOAC protocol to discriminate residual AP from reactivated AP in samples.

EURL will circulate a questionnaire among the NRLs so as to compile the different cream types that are available in their countries.

In 2017, depending on the outcome of this enquiry, EURL would define in agreement with NRLs the cream types to be studied.

Once the protocol has been consolidated for the different types of creams defined by EURL and NRLs, and after the method has proved to be rugged, EURL will draft a detailed version of the method.

EURL will then organize a pilot trial including three or four laboratories to obtain rough estimates of the repeatability and reproducibility values of the method. This trial will also allow finding potential weak points in the protocol of the method, which may be optimized before the extended collaborative study.

Mission

Meeting with an expert laboratory (Europe, 2 days).

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

2.2.3 NEED OF A REFERENCE MATERIAL FOR AP

Duration: 2015-2016

Objective

During the 2014 IDF/ISO Analytical Week, the perspective of the production of a reference material (RM) for the 'ALP method in cheese' has been addressed. A preliminary work will be conducted by Dr Braun (MUVA, DE); it will focus on preparation of a freeze-dried raw milk cheese and follow up of its ALP activity evolution over time.

Expected output and time of delivery

In 2015, EURL has conducted a survey on the NRLs' needs for reference materials for AP determination, and presented its preliminary outcome at the annual workshop (7-9 October). NRLs agreed on the need to have reference materials available.

EURL, together with volunteering NRLs, will assess the suitability of reference materials available in Europe and make recommendation at the 2016 workshop on their use.

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

3 TRAINING OF THE NRLS

3.1 HYGIENE OF RAW MILK (ANNUAL)

3.1.1 TRAINING COURSES

EURL MMP will organize in 2016 and 2017 the 5th and 6th training sessions for the NRLs on SCC in raw cow's milk, with the reference method EN ISO 13366-1.

Training costs

In case of need, the travel and stay costs of 2 trainees at maximum would be covered (2 days). Training needs will be identified at the annual NRL workshops, as well as taking into account the outcome of recent PT trials on SCC.

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

3.1.2 CRITICAL POINTS FOR IMPLEMENTATION OF THE REFERENCE METHODS FOR SOMATIC CELL COUNTING AND PHOTOS' LIBRARY

Duration: 2015- 2016

Objective

At the 2014 workshop, NRLs highlighted the need to draft a check-list of critical points for the implementation of the reference method, EN ISO 13366-1. It was agreed that such a practical document would be useful, in addition to the Standard, since this is a microscopic method. It was expected to improve the implementation by NRLs, and other laboratories at national level, of this method.

Expected output and time of delivery

In 2015, EURL has prepared a first proposal for this document, which has been circulated to NRLs to have their input and to prepare a second draft in 2016, together with a working group of volunteering NRLs.

In parallel, EURL will settle a photos' library of SC slides observed under microscope, to guide NRLs in the recognition of SC.

Equipment

To settle the photos' library:

- A microscope magnification 80-100x objective lenses;
- A camera;
- A computer for processing microscopic data recording, direct observation and enumeration on the screen.

These equipments will also be used for other EURL projects on SCC (in particular 2.1.2: development of Certified Reference Materials for SCC analyses in raw milk).

Mission

Mission of 2 EURL staff members (2 days) to one NRL with specific expertise on SC microscopic examination, in order to develop and complete photos' library and to discuss critical points of the method. The NRL to be visited will be specified at a later stage.

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

3.2 PASTEURIZATION TRACERS OF MILK AND MILK PRODUCTS (ANNUAL)

3.2.1 TRAINING COURSE

EURL MMP intends to organize 2 training sessions, one in 2016 and one in 2017, dedicated to AP determination in milk or in cheese, depending on the NRL needs. These needs will be identified at the annual NRL workshops.

Training costs

In case of need, the travel and stay costs of 2 trainees at maximum would be covered (3 days).

Mission

Two missions (2 days each) to one selected NRL if necessary, e.g. as an outcome of task 1.2.1 (shortcomings in the performance of the NRL highlighted during a PT trial). During each visit, the possible reasons for poor PT-performance would be discussed, and EURL would provide advices to improve performance. The NRLs to be visited would be specified at a later stage.

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

4 TECHNICAL AND SCIENTIFIC ASSISTANCE TO THE EUROPEAN COMMISSION (MULTI-ANNUAL)

4.1 DG SANCO ACTIVITIES (MULTI-ANNUAL)

Upon request of the services of DG SANTE in charge of food hygiene, scientific and technical assistance on any question which may arise during the year.

Missions

2 meetings at EC, Brussels (1 day each).

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

4.2 PARTICIPATION TO ISO/IDF STANDARDIZATION AND CERTIFICATION WORKS (MULTI-ANNUAL)

On behalf of EURL MMP, participation to:

1. The IDF/ISO standardization works, and related certification works, on the analytical methods specific to the analysis of milk and milk products in the mandate of the EURL MMP:
 - Somatic cells count: reference and alternative methods, in particular:
 - o Launching of validation studies by the certification body MicroVal on instrumental methods for SCC in raw cow's milk.
 - o The validation studies will be conducted in accordance with the EURL MMP document defining criteria for the validation of instrumental (epifluorescent) methods for the enumeration of somatic cells in raw cow's milk (V2, 21/01/2013)
 - Total flora: alternative methods, conversion relationship, in particular:
 - o Revision of EN ISO 21187/IDF 196, which provides guidance for establishing and verifying a conversion relationship between routine method and reference method;
 - o Conduction and outcome of validation studies by MicroVal of the instrumental methods for TF in raw milk.
 - Determination of alkaline phosphatase and other pasteurisation tracers in milk and milk products: reference and alternative methods,
 - Statistical & sampling aspects.
2. The 2016 IDF/ISO Analytical Week (Copenhagen, June 2016) and the meetings of the groups dealing with the topics mentioned above
 - Mission of 3 EURL representatives:
 - o Rabeb MILED for groups on somatic cells count and total flora (conversion relationship),
 - o Hanène GHEZZAL for groups on AP and other pasteurization tracers,

- Bertrand LOMBARD for statistical and sampling aspects, liaison with ISO/TC 34/SC 9 (standardization in food microbiology, including milk and milk products).
3. The 2017 IDF/ISO Analytical Week (dates and place to be determined) and the meetings of the groups dealing with the topics mentioned above
- Mission of 3 EURL representatives (Rabeb MILED, Hanène GHEZZAL, and Nathalie GNANOU BESSE)

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