

# **WORK PROGRAMME FOR THE EU REFERENCE LABORATORY FOR PESTICIDES IN CEREALS AND FEEDINGSTUFF**

(Version 30 August 2013)

## **January-December 2014**

### **LEGAL FUNCTIONS AND DUTIES**

The functions and duties of the Reference Laboratory are described in Article 32 of the EC Regulation No 882/2004.

#### **1. OBJECTIVES FOR THE PERIOD JANUARY - DECEMBER 2013**

##### **A. General tasks**

##### **B. Development and validation of analytical methods**

##### **C. Quality assurance and quality control including the organisation and implementation of proficiency tests.**

##### **D. Technical and scientific support to NRLs/ EU Official labs, Commission and third countries**

#### **2. WORKING PLAN FOR THE PERIOD JANUARY - DECEMBER 2013**

##### **A. General Tasks**

1. Maintenance of the common web portal <http://www.crl-pesticides.eu> for the pesticide EURLs (horizontal task – see description in AWP for EURL-SRM).

The communication platform supports the coordination activities of the EURLs and serves as contact, reference and service points for the National Reference laboratories and official pesticide residue laboratories in Europe. The website for Cereal and Feeding stuff will be maintained in coordination with the other EURLs and the following items will be updated: Presentation of the EURL,

information on proficiency test, training course, workshop, annual work programme, AWP. Furthermore, validation data and analytical methods will be uploaded when data are generated.

Maintenance of the common CIRCA database (horizontal task – see AWP for EURL-FV). Information on proficiency test, training courses, workshop, AWP as well as validation data and analytical methods will be uploaded.

Maintenance of the EURL/NRL/OfL network for laboratories performing analysis of cereals and feed. A record with information on the NRLs and OfL in the field of pesticide residues in cereals and feeding stuff will be updated, with contact name, addresses, email addresses and number of official samples analysed by the lab. The task is performed in cooperation with EURL-SRM.

#### **FF.R&D.1**

2. Migration, maintenance and further development of the online EURL proficiency tests database and web tool. (Horizontal task)

#### *Migration*

The database for three annual PTs organized by EURL-CF, EURL-AO and EURL-SRM has for some years been running from location at the premises of DTU in Copenhagen. However, the web-server is from 2004 and will be replaced. Data from the old system will be moved to the new web-server, but web pages, forms and reports will be re-designed using Oracle Application Express. Migration of database and web systems to the new site will be completed before the first PT will be executed.

The new site will be redeveloped for each of the PTs, which is a time-consuming task. Although many hours of work has already been spend to develop the systems, particular sites still need adjustments. This includes edition of text on main pages, subpages and forms, and also changes in programs and database tables, views, procedures, sequences and triggers. Backup of the data is produced regularly, and all changes are stored in archive-files.

#### *Maintenance before the PT:*

Online registration database: The sign-up form is changed to fit the individual PT. This will be e.g. specific information needed to ship test items from different countries. A list of laboratories for which participation is mandatory is maintained. Furthermore, the text on confirmation emails may be changed, usernames and passwords must be assigned and organizer must have access to forms and online reports so they can supervise the registration.

The result submission database: Before the database is opened for submission of test results the web pages and data forms must be edited. A list of the pesticides in the actual PT is loaded into the database. In the main database table a row for each participant and each pesticide in the test is inserted (150 participants and 150 pesticides makes 22,500 rows in the database table). The forms for result submission are changed to fit the actual PT. There will be e.g.

more or fewer fields needed for results and method information. Forms and reports must be prepared for the organizing EURL, so they can supervise the data submission. Before the link to the webpage is activated, the system is tested and a guide to enter results and information is prepared.

*Maintenance during the PT:*

During the registration period the process is supervised to take care of double registration and missing emails etc. When the PT is running the result submission is likewise supervised to be able to correct any errors. After deadline for result submission, links to the web-pages must be de-activated and data must be extracted from the database for statistical processing.

*Development:*

For each PT round new wishes for the web tool and database are implemented if possible. Before the new rounds of PTs the four EURLs agree on the changes to be made, both pure maintenance and new features.

**FF.PT.1**

3. Administrative duties e.g. budget management, preparation of work programme, budgets will be accomplished as well as compilation of annual technical and financial reports.

## **B. Development and Validation of Analytical Methods**

To provide validated method for use by EFSA, the NRLs and OfLs, analytical scientific work will include the improvement and enhancement of existing approved multi-methods and the development or implementation of new multi-methods and detection techniques.

The development and validation with mainly focus on the following areas.

4. Extension of the pesticide profile for cereals multi methods using LC/MS/MS or GC/MS/MS

Validation experiment with the QuEChERS or Sweet method with additional 20 pesticides will be performed. The pesticides will mainly be included from the EFSA list on progress on MRL reviews. However, also other pesticides used worldwide in cereal production and/or pesticides included in the coordinated control program will be considered. The validation will include minimum three cereal matrices. The validation data will be generated, converted in the specific format and uploaded to the common database administered by EURL-SRM.

**FF.ANA.1, FF.PT.5, FF.PT.6**

Validation experiments with the accredited feeding stuff multi methods with additional 20 pesticides. The pesticides included will be selected among pesticides relevant for feed and possible residues in animals especially those pesticides included in the coordinated control program. The validation will include one feed stuff matrix.

The validation data will be generated, converted in the specific format and uploaded to the common database administered by EURL-SRM.

**FF.ANA.1, FF.PT.5, FF.PT.6**

5. Construction of database with exact masses of pesticide fragments for use in screening methods on GC-Q-TOF-MS (cooperation with EURL-FV)

GC-Q-TOF-MS is a high resolution technique based on accurate masses. Those techniques can provide high improvements in identification of pesticides included or not in the current validated methods of the laboratory and additionally a very important analytical tool complementary to confirm positive detections by other common MS techniques. However, unlike LC-MS, compounds analysed with GC-MS are commonly fragmented in the ion source and the molecular ion is rarely seen or only seen in low abundance.

Consequently, it is necessary to look for the fragments and to assign the correct exact mass for each one. These data are currently not available. EURL-FV and EURL-CF will calculate exact masses for 2-5 fragments per pesticide, with focus on pesticides that are not amendable for LC and construct a database. The data will subsequently be uploaded to the EURL database.

6. Screening methods

Further validation of screening method for cereals by LC-Q-TOF. The method is currently validated for 35 pesticides and additional 50 pesticide will be validated before end of 2013. Validation experiment with additional 50 pesticides will be performed in 2014 as well.

Further validation of a screening method for cereals by GC-Q-TOF. Validation experiment with additional 50 pesticides will be performed.

**FF.ANA.1, FF.ANA.QI**

7. *Postponed to 2015 – Screening survey of wheat samples for pesticides not included in the MCPP.*

*In order to detect possible residues of pesticides currently not included in MCPP in wheat samples on the EU market, the EURL-CF will perform a survey. The purpose is to identify pesticides in wheat that is not commonly analysed by the Member States. The findings can serve as tool to include new pesticide in the MCPP. The EU NRLs in the field of cereals will be asked to collect 2 wheat samples from the growing season 2013. One sample should be locally produced and the other imported from Third Countries. The samples should be shipped to the EURL-CF for screening.*

**FF.ANA.1**

### C. Quality Assurance and Quality Control

8. Proficiency test PT-CF8 on wheat.

A proficiency test will be organized in 2014. The proficiency test will cover pesticides analysed by multi methods. The target pesticides will include approximately 120 pesticides, as agreed on by the Advisory Group. The test item wheat will be produced by a consultant. After production the test item will be homogenized and portions will be weighed out into screw-capped polyethylene plastic bottles, sealed, numbered, and stored in a freezer at about -20 °C prior to homogeneity and stability testing. Before shipment of the test items, 20 homogeneity experiments will be performed (double determinations of 10 randomly selected test items). Stability test will be performed on several occasions during the PT periods, in total 25 experiments.

It is foreseen that around 120 EU NRL and EU OfL will participate in the PT and additionally 20-30 official laboratories from Third Country.

**FF.PT.1, FF.PT.2, FF.PT.3, FF.PT.4, FF.ORG.1, FF.ORG.2, FF.ORG.3**

9. Preparation of test items for proficiency test 2015, EUPT-CF9

If necessary, field spraying of cereals performed by a consultant will take place to prepare for EUPT-CF9. The proficiency test will focus on crops agreed upon by the Advisory Group.

**FF.PT.1**

10. Maintenance of in-house QA/QC activities in accordance to ISO 17025 accreditation of all analytical work done within the EURL and ISO 17043 in relation to the proficiency test organized by the EURL.

**FF.PT.QI**

### D. Technical and Scientific Support to NRLs/EU official labs, the Commission and Third Countries

11. Workshop on Pesticide Residue Analysis in cereals

A workshop will be organised for the NRLs for cereals and feeding stuff. The workshop will be held in Copenhagen in the period September-December 2014. The agenda for the workshop will include results from proficiency test, discussion on coordinated monitoring programme, analytical challenges and other relevant issues. One expert from each country per CRL will be reimbursed.

**FF.NRL.1, FF.NRL.2, FF.NRL.3**

12. Training

A 1-day training course will be organised at the premises of the EURL in connection with the workshop. The hands-on laboratory training will be on 'Introduction to screening method' and will include production and evaluation

of data. Six-ten NRLs with limited experience with the technique will be invited at no cost. The NRLs will be selected based on their access to LC/GC-Q-TOF instrument in their institutions now or in near future.

**FF.NRL.5, FF.NRL.6, FF.NRL.QI, FF.ORG.QI**

13. Webinars (horizontal task – see AWP for EURL-FV)

One webinars intended to disseminate information to the NRLs and official laboratories in a cost effective but still interactive way will be organised. The system from EURL-FV will be used.

**FF.R&D.1**

14. Technical and scientific support to the Commission and its offices, as requested by the Commission.

Support to the COM for the drafting of the EU coordinated control programme. Support for establishing LOQs on e.g. article 12 up to 20 compounds.

Support in Analysis of official samples, counter analysis will be performed on request by the Commission.

**FF.COM.1, FF.COM.2, FF.COM.QI**

15. Involvement in the EFSA residue evaluation to give its opinion about residue definitions and routine validated methods for cereals and feeds, especially on article 12 for up to 50 compounds.

**FF.COM.2**

16. Missions

Participation in up to 2 coordinating meetings between EURLs for pesticide residues in order to coordinate AWP, PTs, web portals and online result submission.

Participation in up to 4 Standing Commission meeting and/or EFSA pesticide network group meetings.

Participation in advisory groups organized by the EURL for fruit and vegetables (horizontal task organised by EURL-FV, see AWP for EURL-FV).

Participation in EPRW2014 in Dublin, Ireland

Participation in 8<sup>th</sup> Eurochem Workshop on Proficiency Testing in Berlin, Germany

Pre-approval from the Commission will be obtained for all non-planed missions.

**FF.COM.2**

17. One NRL visit will be conducted to a laboratory selected in agreement with the COM, where the EUPTs results have been problematic over the last three years. The task could be performed in collaboration with EURL-FV and EURL-SRM.

**FF.NRL.4**