

WORK PROGRAMME of EURL for
PESTICIDES REQUIRING
SINGLE RESIDUE METHODS

PERIOD: 2021-2022

Version 1

(date 15/09/2021)

CONTACT DETAILS

Dr. Michelangelo Anastassiades
Schaflandstr. 3/2
70736 Fellbach
Germany

Email: michelangelo.anastassiades@cvuas.bwl.de
Phone: #49-711-1124

SUMMARY

INTRODUCTION	page 3
ACTIVITIES	
1. TO ENSURE AVAILABILITY AND USE OF HIGH QUALITY METHODS AND TO ENSURE HIGH QUALITY PERFORMANCE BY NRLs	page 4
2. TO PROVIDE SCIENTIFIC AND TECHNICAL ASSISTANCE TO NRLS	page 14
3. TO PROVIDE SCIENTIFIC AND TECHNICAL ASSISTANCE TO THE EUROPEAN COMMISSION AND OTHER ORGANISATIONS	page 19
4. REAGENTS AND REFERENCE COLLECTIONS.....	page 23
5. REQUIREMENTS RELATED TO OTHER LEGISLATION.....	page 25
REMARKS.....	page 25

INTRODUCTION

(Regarding relevant regulations and functions)

The concept of the EU Reference Laboratories (EURLs, former CRLs) and National Reference Laboratories (NRLs) is laid down in the Regulation (EC) No 882/2004 of the European Parliament and of the Council. From 29 April 2018 onwards Regulation (EU) 625/2017 shall apply.

The overall objective of the EURLs is the improvement and harmonisation of methods of analysis to be used by official laboratories and of the analytical data generated by them. The European Union reference laboratories should in particular ensure that NRLs and official laboratories (OfLs) are provided with up-to-date information on available methods, organise or participate actively in inter-laboratory comparative tests and offer training courses for national reference laboratories or official laboratories.

The responsibilities of the EURLs are laid down in Article 32 of Reg. 882/2004. From 29 April 2018 onwards Article 94 of Reg. 625/2017 will apply, which foresees the following responsibilities (insofar included in the work programmes):

- providing NRLs with details of analytical methods, including reference methods;
- providing reference materials to national reference laboratories;
- coordinating the application of methods by NRLs by the organisation of regular inter-laboratory comparative testing or proficiency tests;
- coordinating practical arrangements necessary to apply new methods;
- conducting training courses for staff from national reference laboratories and, if needed, from other official laboratories, as well as of experts from third countries
- providing scientific and technical assistance to the Commission;
- providing information on relevant national, Union and international research activities to national reference laboratories;
- collaborating with laboratories in third countries and with EFSA;
- establishing and maintaining up-to-date lists of available reference substances and reagents and of manufacturers and suppliers of such substances and reagents
- cooperate among themselves and with the Commission, as appropriate, to develop methods of analysis
- publish the list of the national reference laboratories designated by the Member States

Regulation (EU) 625/2017 Art 94(2):

European Union reference laboratories designated in accordance with Article 93(1) 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:

(taking into account Art 147 of (EU) 625/2017)

1

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 1.01 Provide NRLs with details and guidance on the methods of laboratory analysis, testing or diagnosis, including reference methods

1.01-1: Keep Joint EURL-Portal-Website and individual EURL-SRM Website up-to-date (www.eurl-pesticides.eu)

Objectives: Provide visitors of the joint portal website and the specific EURL-SRM website with up-to-date information of interest and in particular access to analytical methods. Update website to reduce the risk of hacker attacks and to improve responsiveness to various modern devices such as smartphones and tablets.

Background: *With the increasing number of security vulnerabilities, a website must be kept up to date and to prevent hacker attacks countermeasures are needed. Nowadays, users browse the Internet on a wide variety of devices, including smartphones, tablets, and desktop computers. With the increasing use of mobile devices, responsive design becomes increasingly important. This means that a modern website not only has to be technically up-to-date, but also in terms of design. For a contemporary website, it is essential to address the needs of the users and the devices they use. With this in mind, a substantial upgrade of the joint EURL portal website and the individual EURL SRM website is important. This process includes the implementation of a completely new and modern content management system (CMS) as well as a contemporary responsive design to meet the needs of the users and make both websites fit and secure for the digital future.*

Description: In 2021 and 2022 the joint portal-website and the individual web-sites of the EURLs will be gradually filled with new information (e.g. method protocols, workshop reports, EUPT-reports etc.). Existing links, overview-sites as well as documents will be updated. Where necessary, new pages or features will be gradually added considering the needs and suggestions by DG-SANTE, the EURLs and the lab-Network.

For reducing the risk of hacker attacks joint EURL portal website and the associated individual EURL-SRM website will be scanned for major security gaps and the necessary fixes and software updates will be introduced. On the backend side of both websites the password protection of the content management system (CMS) will be strengthened and the content editor will be updated to the latest version. A “fix” tool will be introduced to prevent so-called “clickjacking”. All front-end content templates and back-end CMS pages will receive stronger protection against XSS / code injection attacks. A security software (provided by our host IONOS) will be added to keep both websites free of malware. This software performs a daily scan and displays a “malware-free seal” that will be placed on the start page of the joint EURL portal website. Starting of a mid-term process to substantially upgrade and modernize the CMS and the responsive design of the website to improve accessibility and navigation using mobile devices among others.

Expected Output: New or updated websites under www.eurl-pesticides.eu.

Exemplary sites to be created or updated by the EURL-SRM in 2021: Joint Annual EUPT-Calendar; Joint Annual Workshop Calendar; Joint site on Control Programs; Individual EUPT-SRM Website for 2021; List of Analytical Observations (provided by EURL-SRM); List of Residue Observations (provided by EURL-SRM); List of Methods (provided by EURL-SRM).

Duration: Throughout 2021 and 2022

Sub-activity 1.02 Follow up on requests from NRLs for providing analytical standards

1.02-1: Standard Distribution Service

Objectives: Facilitate the expansion of the analytical scope of NRLs by providing them with analytical standards.

Description: Where NRLs have difficulties expanding their scope due the non-availability in the market of analytical standards of pesticides and metabolites or of isotopically labelled internal standards (ILISs), the EURL-SRM will be offering, upon request, stock or working solutions, so far these are

EURL SRM

available in sufficient amounts. The synthesis of ILISs for chlorate and phosphonic acid and their distribution to labs will be continued with NRLs and OfLs being served.

Expected Output: Distribution of analytical standards to NRLs where this is requested and feasible.

Duration: Throughout 2021 and 2022

Sub-activity 1.03 Analysis of official samples

1.03-1: Analysis of official samples - counter analysis (if required)

Objectives: Analyse samples in case of disputes

Description: The EURL will ask DG-SANTE for approval of any activity this regarding, and request for additional eligible budget, if required.

Expected Output: Results of sample analyses if required and only after consultation with DG-SANTE

Duration: unpredictable

Sub-activity 1.04 Organisation of proficiency tests and follow-up on the results

1.04-1: EU Proficiency Test EUPT-SRM16 (2021)

Objectives: Give labs the possibility to check and demonstrate their proficiency when applying routine or newly established methods for the analysis of pesticide residues in sesame seeds. Help labs localize sources of errors and provide assistance for eliminating these errors.

Description: The commodity for EUPT-SRM16 (2021) will be sesame seeds. The analytes to be included in the target list will be carefully selected in cooperation with the EUPT-Scientific Committee, considering various aspects, such as the relevance to sesame (and commodity group oily seeds), the capabilities of the labs and analytical aspects. A special focus will be put on the analysis of 2-chloroethanol. Preliminary experiments will be conducted to find out the most suitable way of preparing the PT-material. The EUPT-material will be prepared and tested for pesticide stability and homogeneity, and then portioned and distributed to the participating labs. PT-registration will be conducted using the EURL-DataPool. Data-collection tool will be adjusted to the EUPT to ensure that the target pesticides are tracked and the required methodology information can be collected. The results received will be evaluated and the preliminary as well as the final report will be prepared in consultation with the EUPT-Scientific Committee and distributed to the participants.

Expected Output: Preparation and testing EUPT material. Distribution of material to participating labs. Evaluation of results and distribution of preliminary report within 3 weeks and of the final EUPT-report and the participation certificates.

Duration: Preparation of documents, sample and shipment, drafting and distribution of preliminary report within H1 2021, drafting and shipment of final report and certificates throughout H1 2022

1.04-2: EU Proficiency Test EUPT-SRM17 (2022)

Objectives: Give labs the possibility to check and demonstrate their proficiency when applying routine or newly established methods for the analysis of pesticide residues in a matrix that is still to be defined. Help labs localize sources of errors and provide assistance for eliminating these errors.

Description: The commodity for EUPT-SRM17 (2022) will be a wet matrix of plant origin (fruit or vegetable, possibly tomato) taking into consideration any requests by the COM and the EUPT-Scientific Committee. The analytes to be included in the target list will be carefully selected in cooperation with the EUPT-Scientific Committee, considering various aspects, such as the relevance to the commodity (and commodity group), the capabilities of the labs, the compounds listed in the coordinated monitoring program as well as the SANTE working document for national monitoring programs. The pesticides to be used for the treatment of the material will be selected considering the input by the EUPT quality control group. If field-treatment will be involved the susceptibility of the plants towards certain pesticides (i.e. herbicides) will be also taken into account. Experiments will be conducted to

examine the levels of the pesticides (especially in the case of field treatment) as well as the behaviour of the pesticides in the matrix. The EUPT-material will be prepared and tested for pesticide stability and homogeneity, and then portioned and distributed to the participating labs. PT-registration will be conducted using the EURL-DataPool. Data-collection tool will be adjusted to the EUPT to ensure that the target pesticides are tracked and the required methodology information can be collected. The results received will be evaluated and the preliminary as well as the final report will be prepared in consultation with the EUPT-Scientific Committee and distributed to the participants

Expected Output: Preparation and testing EUPT material. Distribution of material to participating labs. Evaluation of results and distribution of preliminary report within 3 weeks and of the final EUPT-report and the participation certificates.

Duration: Preparation of documents, sample and shipment, drafting and distribution of preliminary report within H1 2022, drafting and shipment of final report and certificates throughout H1 2023

1.04-3: Administrative procedures for the registration of labs in EUPTs and the identification of labs that are obliged to participate in EUPTs (horizontal task for the benefit of all 4 EURLs)

Objectives: Update information on status and commodity scope of OfLs/NRLs and herewith define which laboratories are obliged to participate in EUPT organized by all EURLs in 2021 and 2022. Ensure smooth and uniform registration of laboratories in those EUPTs. Enable export of EUPT-participant's information in the format required by the EUPT data submission tool run by the EURL-CF. Make sure all labs familiarize with the procedures of the EUPT-administration system. Provide assistance to labs requiring help in updating lab-specific data or registering for EUPT participation as well as to all NRLs requiring assistance in administering the data of their OfL network.

Description: The EURL-SRM will ask OfLs / NRLs to access their lab area within the EURL DataPool and update the information concerning the commodity types covered within the framework of official controls. In parallel, NRLs will be asked to confirm the information entered by the labs within their network. Based on the (confirmed) commodity-scope of each OfL and additional comments provided by the labs, the EURL-SRM will define, for all EUPTs organized by the EURLs in 2021 and 2022, the participation status (obliged/not obliged). This information will be entered into the EURL-DataPool and will be accessible to OfLs/NRLs when entering the EUPT Registration Tool (www.eupt-registration.eu). Labs will be asked to register for the EUPTs they wish to participate. Labs deciding not to participate in a specific EUPT for which they are obliged to participate, will be asked to provide explanations. NRLs will be asked to cross-check the registrations of their network's labs and to contact OfLs having failed to register. After the EUPT-registration deadline, the four EURLs can download the list of labs having registered from the EURL DataPool and submit it to the programmer of the EUPT data submission tool run by the EURL-CF.

Expected Output: Update of lab status and commodity scope of NRLs and OfLs within the EURL DataPool (e.g. Q1 2021 for EUPT-SRM16 and Q1 2022 EUPT-SRM17) and on the participation status of all OfLs / NRLs (obliged/not obliged). Registration of labs for participation in EUPTs and through EUPT Registration Tool and submission of participants' list to the programmer of the EUPT data submission tool run by the EURL-CF.

Duration: For the EUPTs in 2021, this activity will start in November 2020 and continue until January 2021. For the EUPTs in 2022, this activity will start in November 2021 and continue until January 2022. EUPT-Registration and the submission of this information to the EURL-CF for uploading into the EUPT data submission tool, will take place in H1 2021 and H1 2022, respectively.

1.04-4: Coordination between the EURL-DataPool and the EUPT-Database (run by EURL-CF)

Objectives: Harmonization of EURL-DataPool and EUPT-Database to facilitate mutual data-transfer and to minimize work-intensive and error-prone manual editing.

Background: The EURL-DataPool and the EUPT-Database are independent databases run by the EURL-SRM and the EURL-CF, respectively. Both include among others a list of laboratories, a list of pesticides as well as EUPT-related data. For synchronization data is periodically transferred from the EURL-

EURL SRM

Datapool to the EUPT-Database and vice versa. In absence of common unique identifiers (coding system) between the databases, data transfer between the databases currently involves extensive manual editing and is prone to errors. For example pesticide names (English) can be spelled and misspelled in many ways, e.g.: endosulfan alpha; endosulfan alfa; endosulfan, alpha-; endosulfan-alpha; alpha endosulfan; α -endosulfan and α endosulfan.

Description: This task will involve coordination between the affected EURLs and the necessary changes within the two databases (e.g. installation of a joint coding system) in order to obtain the desired/achievable degree of harmonization and a simpler data-transfer. The possibilities of installing tools for semi-automatic data synchronization/transfer between the databases in the future will be examined at a technical level. Incorporation of information concerning the EUPT Target Pesticides within the databases and development of a tool for exporting the target pesticide list as well as EUPT-participation certificates.

Output: Harmonization of databases. Implementation of a tool for generating the EUPT-participation certificates and EUPT-target pesticide lists by the end of 2022

1.04-5: Import of EUPT-results and -certificates from 2020 and 2021 into the EUPT-Archive

Objectives: Import of results from EUPTs conducted in 2020 (FV22, CF14, AO15, SRM15) and in 2021 (FV23, CF15, AO16, SRM16) into the EUPT-Archive. Upload of EUPT-certificates of each participant into the EUPT-Archive.

Description: The results of the EUPTs organized in 2020 and 2021 will be compiled from the individual EURLs and transformed into the proper format for the purpose of importing the data into the EUPT-Archive DB, which is implemented within the EURL DataPool. In order to be able to import the EUPT-certificates in an efficient way, support is needed from the other EURLs (e.g. re-naming of the EUPT-certificate pdf-files).

Expected Output: updated EUPT-Archive within the EURL DataPool.

Duration: Q4 2021 and Q4 2022

1.04-6: EUPT-Evaluation Views

Objectives: Elaboration of different EUPT-evaluation views

Description: The EUPT-Archive is a valuable data source that can be used to assess the analytical performance of OfLs. This information is of interest for the OfLs themselves, the NRLs as well as to the COM as it reflects the quality, accuracy and comparability of analytical data generated within official controls. The EURL-SRM will elaborate different evaluation possibilities allowing quick overview of overall participation, performance and scope of OfLs in EUPTs over the years. These evaluation-tables will be implemented in EURL DataPool. In a first stage the data should be accessible to EURL-members and in a second stage also to NRLs (views on entire network and to individual OfLs within network) and OfLs (views of own data).

Expected Output: new views within the EURL DataPool accessible to EURL-members (first stage).

Duration: Throughout 2022

Sub-activity 1.05 Cooperation and meetings with other EURLs

1.05-1: EURL Coordination

Objectives: Cooperation and meetings with other EURLs for coordination purposes

Description: Inter-EURL-meetings, in some cases in presence of DG-SANTE representatives, will be carried out with the aim to discuss, plan, coordinate or evaluate EURL-activities such as the preparation of work programs, workshops, EUPTs or web-applications. This activity may involve one or several missions of EURL-SRM staff. Depending on pandemic-related travel restrictions online-meetings or tele-conferences will be carried out. Date and place of these events will be decided later.

Expected Output: Decisions for future work

Duration: To be decided later following consultations with the other EURLs and/or DG-SANTE.

1.05-2: Conduction of a small-scale monitoring on Honey (in collaboration with EURL-AO)

Objectives: Apply existing methods developed by the EURL-SRM to analyse honey samples from various countries.

Description: ca. 80 honey samples from various countries will be analysed for the presence of SRM-pesticides.

Expected Output: Analytical observations report by Q1 2023.

Duration: Q4 2021 and throughout 2022

Sub-activity 1.06 Development and validation of analytical methods

1.06-1: Further development of the QuPPE Method - (Short: QuPPE-Development)

Objectives: To further develop the QuPPE method for improving analysis of several problematic polar compounds.

Description: The main focus will be on testing the suitability of new separation possibilities for the MS/MS analysis of highly polar pesticides and metabolites ("QuPPE-compounds"). The tests will focus on new liquid chromatography columns (e.g. HILIC and mixed mode), on ion chromatography (IC) as well as on capillary electrophoresis (CESI) separations. The tests will, among others, focus on chromatographic separation from matrix and interfering analytes, on robustness, on matrix effects as well as on sensitivity and may result in the establishment of new QuPPE applications.

Expected Output: Update of the QuPPE method protocol at least once in 2021 and once in 2022.

Duration: Throughout 2021 and 2022

1.06-2: Analysis of dithiocarbamate pesticides in groups (Short: "Methods for DTC groups"):

Objectives: To develop a method allowing the analysis of dithiocarbamate fungicides in groups (i.e. dimethyl-dithiocarbamates, propylenbe-bis-dithiocarbamates; ethylene-bis-dithiocarbamates).

Background: For pesticide residue laboratories, analysis of dithiocarbamates (DTCs) is very challenging since the physicochemical properties of various representatives belonging to this compound class lead to analytical difficulties. Currently the vast majority of labs analyse dithiocarbamates using laborious methods, entailing conversion of dithiocarbamates to CS₂. This common moiety approach has a limited-specificity as it does not differentiate between various DTC-groups. Furthermore, these methods do not allow distinguishing between CS₂ levels arising from the use of dithiocarbamate pesticides and CS₂ levels generated during analysis from natural precursor compounds contained in certain crop types (e.g. brassica and allium). This lack of specificity also results in limitations as regards the risk assessment. Furthermore, it should be noted that the various active substances of the ethylene-bis-dithiocarbamate group (e.g. maneb, metiram, mancozeb, zineb and nabam) cannot be distinguished analytically. The substances merely differ in the metal counter ions (i.e. maneb: manganese, metiram and zineb: zinc, mancozeb: manganese and zinc, nabam: sodium) but all these metals are ubiquitous and thus unsuitable for analytical differentiation between compounds in crops. The goal would be to develop a new, routinely applicable, method that involves protective cryogenic milling, protective derivatization of the specific moieties (i.e. dimethyl-dithiocarbamate, propylenbe-bis-dithiocarbamate; ethylene-bis-dithiocarbamate) prior or during the extraction step, and QuEChERS extraction.

The analysis of ethylene-bis-dithiocarbamates (as a group) could be achieved either by various approaches including the following:

- a) Analysis of the ethylene-bis-dithiocarbamate monomers (not practical for routine labs due to the instability of the monomers);
- b) Analysis of stable derivatives of the ethylene-bis-dithiocarbamate monomers, or
- c) Analysis via the amine-moieties (dimethylamine, propylene diamine and ethylene-diamine) using reductive cleavage with HCl/SnCl₂ followed by the analysis of the amines and correction for recovery

via isotopically labelled internal standard (see project for propineb via propylene diamine below). Such a method would need to be accompanied by a thorough study of any natural and/or anthropogenic background levels which are to be expected especially in the case of dimethylamine in samples, that would compromise the specificity of the method.

Another aspect influencing the efficiency as well as the robustness of methods is the solubility. It is important to stress, that mancozeb-, maneb-, zineb- and propineb-standards are practically insoluble in aqueous and organic solvents. Therefore, most routine pesticide labs validate the CS₂-method (chemical cleavage of DTCs by a mixture of tin(II)-chloride/hydrochloric acid and the partitioning of the released carbon disulfide (CS₂)) by spiking the samples with thiram-solutions as thiram is soluble in toluene. Thiram (belonging to the N,N-dimethyl DTC-group) behaves differently than alkylene-bis-dithiocarbamates during analysis and does not necessarily represent the latter. As shown by the DTC-screening project (see WP 2019-2020), most DTC-residue findings are attributed to alkylene-bis-dithiocarbamates (e.g. mancozeb, propineb).

1.06-2a: Analysis of “intact” dithiocarbamate monomers following derivatization allowing differentiation of various DTC-groups (propylene-bis-DTCs, ethylene-bis-DTCs; dimethyl-DTCs) (Short: “Mth for DTC-monomers”):

Description: Investigate one or more approaches allowing the analysis of dithiocarbamate fungicides as specific groups. The procedure(s) should involve protective homogenization, protective extraction (probably involving derivatization) and measurement. As the chemistry of the compounds is quite complex and not necessarily equal different approaches may be needed for different DTC-groups or matrices. Methylation would be a possible derivatization approach and was also used by the applicant of ziram (although not specific for ziram due to thiram interference). Unlike the applicant we would avoid “classical” methylating agents, such as methyl iodide, dimethyl sulfate etc., that are classified as carcinogens. We would rather focus on mild (“green”) methylating agents such as dimethyl dicarbonate. A methylation would transform both thiram and DMDC to S-Methyl-DMDC. The use of potent carcinogens in routine work is nowadays perceived as critical by lab safety personnel (especially if these reagents are volatile) and methods involving the use of such reagents are unlikely to be widely adapted by routine labs.

Expected Output: Analytical Observations Report or Analytical Method Report in Q1 2023

Duration: Throughout 2021 and 2022

1.06-2b: Analysis of amine-moieties of dithiocarbamates using the hydrolysate of the CS₂-common moiety method (Short: “Mth for DTC-amines”)

Objectives: Develop a method for the analysis of propineb as propylene diamine (PDA); of ethylene-bis-dithiocarbamates as ethylene diamine (EDA) and of Thiram/Ziram as dimethyl amine (DMA).

The method previously developed by the EURL-SRM was found to have limitations in robustness, due to an impact of the extracts on the injector system (probably due to the high load of metals in the extracts). First experiments employing QuEChERS extraction followed by ion pair LC chromatography on a common C-18 column were promising. A method based on this approach will be elaborated for various commodities. In case of limitation in chromatographic separation or sensitivity of detection, a derivatization approach will be tested.

Description: Develop a method for the analysis of dithiocarbamate fungicides after conversion to PDA, EDA and DMA either as such or following derivatization.

Expected Output: Analytical Observations Report or Analytical Method Report in Q3 2022

Duration: Throughout 2021 and H1 2022

1.06-2c: Preparation of solutions / dispersions of alkylene-bis-dithiocarbamate standards in various solvents and testing of stability as such and after spiking to sample homogenates (Short: “DTC-solubility/stability”)

Objectives: This sub-activity includes the following aspects: (A) Testing the solubility of mancozeb, maneb, zineb (= ethylene-bis-dithiocarbamates (DTC)) and of propineb (= propylene DTC) in different solvents (e.g. dimethylformamid, dimethylsulfoxid, furan, water or mixtures thereof); (B) Developing ways for producing stable dispersions of DTC polymers; (C) Testing DTC-stability in solutions/dispersions; (D) Testing DTC-stability in spiked homogenates of samples.

Description: The purpose of this activity is to find a suitable solvent for these DTCs and compare the quality the analytical DTC-standards provided by different manufactures (e.g. by microscopic analysis of neat standards, recovery experiments with spiked samples). The outcome of this study would help laboratories to conduct validation studies with these types of DTCs in a more easy way.

Expected Output: Report in H2 2022

Duration: throughout 2021 and 2022

1.06-3: Survey among OfLs on aspects concerning DTC-analysis - (Short: "DTC-survey")

Objectives: Find out which DTC analysis methods are currently applied by OfLs and which experiences have been made with them so far.

Description: In collaboration with the French NRL, a survey will be carried out among all network labs to find out which DTC analysis methods are currently applied by the laboratories and which experiences have been made with them so far. The outcome of this survey will be of help for this project.

Expected Output: Short report of survey results H1 2022

Duration: Q4 2021 or Q1 2022

1.06-4: Search for suitable marker compounds that would indicate dithiocarbamate pesticides treatment - (Short: "DTC-markers")

Objectives: Identify metabolites and/or reaction products of dithiocarbamate pesticides (alkylene-bis DTCs and dimethyl-DTCs) that would be suitable for indicating if a sample had a dithiocarbamate treatment history.

Description: So far available as analytical standards, various known metabolites of dithiocarbamates will be tested for their suitability to serve as potential screening markers for dithiocarbamate related residues. These screening indicators should be amenable to methodologies routinely used by many labs (e.g. QuEChERS, QuPPE and QuOil combined with GC- and/or LC-MS/MS) and of course also present in the samples at detectable amounts. In the case of positive findings a re-analysis of the homogenates by specialized single residue methods could be initiated. Such markers, would allow an efficient use of specialized analytical approach for DTCs.

Expected Output: Analytical Observations Report in Q2 2022

Duration: Throughout 2021 and H1 2022

1.06-5: Optimization of the LC-MS/MS analysis of PI and THPI to further lower LOQs for folpet (sum) and captan (sum) - (Short: Mth for THPI and PI)

Objectives: Further optimize the analysis of phthalimide (PI) and tetrahydrophthalimide (THPI) via LC-MS/MS.

Description: While captan and folpet can be analysed accurately by GC-MS/MS when applying corrective measures, the analysis of their degradants THPI and PI via GC is error-prone due to the thermal decomposition of the two parent compounds within the GC-injector, which leads to the formation of THPI and PI on top of the amounts already present in the injected extract. It has been furthermore reported, that phthalimide is formed within the GC-injector from phthalates and phthalic anhydride, which compromises the selectivity of the GC-approach. LC-MS/MS circumvents such error sources and allows accurate quantification of THPI and PI. Some work in this direction was done by the EURL-SRM but still sensitivity needs to be improved to enable routine control of the lowest MRLs.

Expected Output: Update of existing analytical observations document for captan and folpet H2 2021

Duration: Q1-Q3 2021

1.06-6: Further optimize and expand the scope of the EURL-SRM method(s) for ethylene oxide to include additional fumigants, such as propylene oxide as well as reaction products. Conduct mid-scale pilot monitoring on food products (Short: EO/PO analysis + pilot monitoring)

Objectives: Further optimize the method for the analysis of ethylene oxide (EO), expand the scope of the method by other fumigants including propylene oxide (PO), 1,2-dibromoethane 1,2-dichloroethane, as well as by relevant reaction products of EO and PO, such as 2-bromoethanol, dioxane, 2-chloropropan-1-ol, 1-chloropropan-2-ol. Conduct a medium-scale pilot monitoring of food products from the local market to discover possible “fumigation hotspots”

Description: Experiments will be conducted to further optimize the method for ethylene oxide (EO) developed towards the end of 2020. A great focus will be put on increasing the sensitivity of detection in order to lower the LOQs as well as in expanding the scope to include further fumigants (such as PO) and relevant reactions products thereof. The role of bound 2-chloroethanol (2-CE) residues (e.g. fatty acid conjugates) will be studied to find out whether they are present at relevant levels and whether they may break up during analysis releasing 2-CE. Furthermore, a small scale pilot monitoring program (ca. 300 samples), will be conducted to check whether there is further products in the market that are fumigated with EO or PO.

Expected Output: Update of the existing analytical observations document for ethylene oxide by Q1 2022. Residue observation report for the results of the pilot monitoring program by Q1 2022.

Duration: Throughout 2021 and H1 2022

1.06-7: Analysis of fluoride ion (Short: Mth for fluoride analysis)

Objectives: Develop a method for the analysis of fluoride ion in food with emphasis on dry food

Description: Various approaches for the screening and the quantitative analysis of fluoride ion will be tested. For screening the suitability of ion-sensitive electrodes will be tested. For quantitative analysis ion chromatography combined with MS/MS detection as well ion-sensitive electrodes will be tested. For isolation the micro-diffusion approach will be tested. Should a suitable method be developed, screening of fluoride in various food products could follow in 2023, and accompanied by a linkage to the use of sulfuryl fluoride, if possible.

Expected Output: Analytical observations report by Q1 2023.

Duration: Q4 2021 and throughout 2022

1.06-8: Reduce or Eliminate background-signals of Quarternary Ammonium Compounds (QACs) during LC-MS/MS analysis

Objectives: Develop an approach to eliminate background signals of QACs during analysis.

Background: Many laboratories complain about the occurrence of background signals of QACs (DDAC and BAC) during analysis. These signals vary in intensity and may lead to false positive results, inaccurate results or the inability to analyse these compounds at low levels (high LOQs). The variable nature of the signals complicate quality control in laboratories.

Description: Possible sources of QAC-contaminations will be examined and solutions to get rid of these problems will be elaborated.

Expected Output: Analytical observations report by Q1 2022.

Duration: Q4 2021 and Q1 2022

1.06-9: Optimize analysis of phosphine

Objectives: Elaborate further the developed method for phosphine in dry products to improve robustness and repeatability

Background: It was observed that the analytical method for the analysis of phosphine via headspace (developed by the EURL-SRM) suffers from signal drift which also affects repeatability. The signal drop increases the longer the headspace-vials, into which sulphuric acid was added, await in the autosampler for processing. This problem could be solved by adding the sulphuric acid shortly before the automated process but this requires permanent manual attention, making the method inefficient.

Description: The goal would be to find ways to improve the robustness of the method in a way that does not involve too much analyst attention.

Expected Output: Analytical observations report by H2 2022.

Duration: Throughout 2022

1.06-10: Analysis of acidic pesticides entailing conjugates and/or esters in their residue definition

Objectives: Further develop the analysis of acidic pesticides entailing conjugates and esters in their residue definitions in order to end up with a harmonized approach

Background: Lots of work has been done by the EURL-SRM to study the behaviour of esters and conjugates when applying alkaline hydrolysis during the first extraction step of the QuEChERS method. Both the nature of the esters as well as the nature of the matrix play a role. The goal is to develop conditions that would provide sufficient yields and if necessary differentiate between various matrix groups. For some groups of commodities (fruit and vegetables as well as cereals) hydrolysis conditions were elaborated but for many other commodities conditions still need to be optimized.

Description: Optimize hydrolysis conditions.

Expected Output: Update of analytical observations report in the analysis of acidic pesticides involving hydrolysis (SRM-43) and eventually implementation in EN-15662

Duration: H2 2021 and throughout 2022

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.*

Sub-activity 2.01 Providing technical and scientific support to NRLs

EURL DataPool-Services

Objectives: Maintain and develop further a database platform allowing systematic collection of information of practical use for analysts in the area of pesticide residues. Enable easy and targeted retrieval of this information by the analysts. Create added value through linkage of information.

Description: In 2021 and 2022 the existing databases will be maintained and filled-up with further data, see individual tasks in the table below.

code	Databases/Website/eTools	Tasks	Examples where DB is used/interlinked
2.01.1	EURL-DataPool-website (https://www.eurl-datapool.eu)	The current framework of the website is based on a technology from 2012 (.NET 4.0 framework) whose support will be phased out by IT companies in the coming years. It is therefore necessary and reasonable to bring the website up to date with the latest technology, especially since new functionalities and tools are constantly being implemented into the DataPool-website. This activity involves a major redesign and programming of the entire web application. In the course of this activity, existing databases will be adapted to current developments and requirements by COM and/or EURLs.	
2.01.2	Analytical Methods DB	see 2.1.11	a) Method Validation DB, b) Method Finder List
2.01.3	Method Validation DB	Data on recovery rates achieved by various labs using various methods (e.g. QuEChERS, QuPpe, QuOil, SweEt) and experimental details of the recovery experiments, will be collected in cooperation with NRLs and/or EURLs and imported into the DB. The EURL-SRM will import validation data generated within the process of re-evaluation of MRLs and residue definitions within the frame of Art. 12/Reg. 396/2005.	a) "Art. 12" activities, b) Pesticides DB, c) Pesticide Ranking List (PeRL), d) Analytical Methods DB, e) Tool for the Estimation of the Measurement Uncertainty f) Method finder List

EURL SRM

code	Databases/Website/eTools	Tasks	Examples where DB is used/interlinked
		<p>An import-tool which allows the import of validation data via a website will be made accessible to registered DataPool-users. To spot e.g. typing errors faster, functionalities will be implemented which - for example - change the colour of cells that contain errors and thus make it easier for users to find incorrect entries.</p> <p>One or two of the new export tables of validation data will be developed in the format agreed with the CEN-Working Group on pesticide residues.</p>	
2.01.4	Pesticides DB	<p>Generation or collection of further data for the characterization of pesticides (e.g. GC-, LC-amenability, analytical behaviour, GC-MS-spectra, GC-MS/MS-transitions; LC- and GC-high resolution MS-data, solubility in acetonitrile) and import into the DB. This includes the creation of new entries for pesticides and metabolites not yet in the DB.</p>	<p>a) "Art. 12" activities, b) Pesticide Ranking List (PeRL), c) Method Validation DB, d) Stability of Compounds DB, e) Method Finder List</p>
2.01.5	Stability of Compounds DB	<p>Collection of more data on the stability of pesticides/metabolites and import of this data into the DB. The EURL-SRM is in contact with several labs generating pesticide stability data, but contribution of this data into EURL DataPool depends on the willingness of these labs. Expand the database to allow tracking information on the stability of pesticides in sample homogenates under different conditions.</p>	Pesticides DB
2.01.6	Pesticide Authorizations DB	<p>Data collection and updating as well as import into the DB of information about the authorization of pesticides in the EU and some third countries. The feasibility of integrating data on emergency authorizations in the EURL-DataPool will be checked.</p>	Pesticide Ranking List (PeRL)
2.01.7	Commodities DB	No tasks in 2021/2022	Validation DB
2.01.8	MRL Residue Definitions DB	<p>Updating of EU MRL residue definitions on regular basis. Updating of Codex MRL residue definitions (once a year after the annual CCPR-meeting); Updating of compound conversion factors within the DB.</p>	<p>a) "Art. 12" activities, b) Pesticide Ranking List (PeRL), c) Pesticides DB, d) Tool for Calculation of Sum</p>
2.01.9	EUPT Registration Tool	<p>The EUPT Registration website (www.eupt-registration.eu) was introduced and will be used for the EUPTs to be conducted in 2021/2022. The 4 EURLs will discuss and jointly decide on refinements/improvements up-grades of the website. Modifications will be implemented if needed. The framework of the website will be further upgraded to Angular 11.</p>	a) EUPT Registration website (www.eupt-registration.eu)
2.01.10	NRL/OfL/User-Network-DB	See 2.7 and 2.8	<p>a) EUPT Registration website b) EUPT-Obligated Labs List c) Invitations to EUPTs Surveys</p>
2.01.11	Cooperation with Pesticides-Online (residue findings database)	<p>The EURL-SRM publishes residue findings of SRM-pesticides in food at the EURL Portal website (https://www.eurl-pesticides.eu/docs/public/tmpl article.asp?CntID=1063&LabID=200&Lang=EN) in a static format (pdf-files). These files are intended to help labs localize important SRM-pesticides as well as the most relevant pesticide-commodity combinations to help them efficiently direct their SRM-compound analyses. In close cooperation with</p>	a) Residue observations of SRM-pesticides

EURL SRM

code	Databases/Website/eTools	Tasks	Examples where DB is used/interlinked
		the website Pesticides-Online (www.pesticides-online.eu), the EURL-SRM will implement tools allowing the display of residue findings of QuPPE-compounds in filterable and sortable data-tables.	
2.01.12	Compilation of RASFF-Notifications concerning pesticide residues	Pesticide residue-related RASFF-notifications are valuable to pesticide residue analysts when it comes to e.g. develop new sampling strategies or adjust the analytical scope. A form/tool allowing the entry of RASFF-notifications into the DataPool-website will be introduced. The compilation of pesticide residue-related RASFF-notifications will be made accessible to DataPool-users via filterable tables. The main goal is not to provide access to the most recent RASFF notifications (this is covered by the RASFF portal) but rather to compile the information and interlink it with other information within the DataPool, in a way that helps the extraction of conclusions. This information could, for example be used for the preparation of the Pesticide Ranking List (PeRL).	a) Pesticide Ranking List (PeRL), b) Pesticides DB
<p>Expected Output: Constant updating of all EURL DataPool-databases (see www.eurl-datapool.eu)</p> <p>Duration: throughout 2021 and 2022</p>			

2.01.13: EURL Method Finder List

(Link: http://www.eurl-pesticides.eu/docs/public/tmpl_article.asp?CntID=629&LabID=100&Lang=EN)

Objectives: Provide network laboratories with an overview and facilitate access to methods that have been developed or validated by the EURLs as regards compounds included in Monitoring Regulations for 2020-2022 or 2021-2023, as well as analytes included in the actual SANTE working documents on monitoring.

Description: The EURL Method Finder List gives an overview of the EURL-methods, -validation reports, and -analytical observation reports released by the EURLs and concerning compounds that are included in the MACP-Regulations and the SANTE- working documents (SANCO/12745/2013). The feasibility of (partly) integrating data relevant to the method finder list into the EURL-DataPool will be checked. This may include document codes, document links, remarks from the working document and potentially also validation data (depending on the readiness of the other EURLs to contribute). In the long term, the goal would be to generate the method finder list automatically in a customized manner.

Expected Output: Updating of list considering new documents released by EURLs, the MACP-Regulation 2020-2022 and latest version of the SANTE-Working document.

Duration: throughout 2021 and 2022

Sub-activity 2.02 Organisation of workshops

2.02-1: Joint EURL-Workshop for Pesticide Residues in Food & Feed (physical or virtual)

Objectives: Strengthen collaboration within the lab network, disseminate knowledge, provide up-to-date information, and discuss results of EUPTs

Description: In the second half of 2021 a joint EURL-workshop of all four EURLs on pesticides will be held with the EURL-FV being the main organizer. NRLs from all MS will be invited to attend the workshop, with the main objective to facilitate the interaction between them and the EURLs and to discuss the EUPTs of 2021, the update of the SANTE document of quality control procedures (SANTE/12682/2019) and new analytical developments. During the workshop in 2021 the new version of the SANTE document will be technically approved by the NRLs representing their MSs. The workshop will be held during three days, and will entail technical and scientific communications regarding new activities of the EURLs and other developments in the field of pesticide residues analysis. The plan is

EURL-SRM

to hold the workshop in Almería /Spain with a reduced number of participants being physically present and a larger number following the event on-line. This will depend on the development of the pandemic and the travel restrictions applying.

In the second half of 2022 the EURL-SRM and EURL-FV will jointly organize a workshop. The plan is to hold the workshop in Almería/Spain with the EURL-FV being the main organizer. Responsible NRLs from all MS will be invited to attend the workshop, with the main objective to facilitate the interaction between them and the EURLs and new analytical developments. The workshop will be held during two days, and will entail technical and scientific communications regarding new activities of the EURLs and other developments in the field of pesticide residues analysis. Depending on the development of the pandemic and the travel restrictions applying in 2022, the workshop might need to be held on-line.

Expected Output: Report on workshop within 3 months after workshop

Duration: In H2 2022

Sub-activity 2.03 Organisation of training courses

2.03-1: NRL-Training on SRM-compounds (physical or virtual)

Objectives: Provide up-to-date information on methods, provide hands-on training, and discuss individual analytical problems of OfLs.

Description: In 2021 and 2022 a group of NRL-representatives (from 8-10 countries each) will be invited to attend a training in Fellbach. The training will cover technical aspects as regards the analysis of SRM-pesticides and the exchange of experiences among participants. Special needs and problems of the laboratories selected to participate will be considered in the design of the training program. Additional ad-hoc trainings may be conducted as requested. It is not yet clear whether the training will take place with physical presence in Fellbach, or whether it will take place remotely via the Internet. This will depend on the development of the pandemic and the travel restrictions applying.

Expected Output: Report on training within 3 months after training

Duration: At some point in 2021 and at some point in 2022 (to be decided, depending on the development of the pandemic)

Sub-activity 2.04 Visits of NRLs

2.04-1: Visit of an NRL

Objectives: Provide on-site assistance and support to NRLs facing difficulties of analytical or organizational nature.

Description: The NRL-SRM of one selected country will be visited by one or two representatives from the EURL-SRM. The countries to be visited will be selected giving emphasis on NRLs having shown poor analytical scope and/or PT-performance and/or PT-participation over the last years. Prior to the inspection a detailed study of the EUPT results during the last years as well as the current analytical scope of all OfLs will be carried out. In case of bad PT-performance, the possible reasons will be discussed and advices will be given on how to improve and expand the analytical scope.

Expected Output: One NRL-Visit Report

Duration: At some point in 2022 (to be decided, depending on the development of the pandemic)

Sub-activity 2.05 Organisation of tutorials/webinars

2.05-1: Webinars/Tutorials

Objectives: Disseminate information of interest to laboratories in a cost-effective way

Description: In 2021 and 2022 the EURL-SRM will organize/publish at least one tutorial or webinar, either individually or in collaboration with other EURLs. Tutorials and webinars provide the possibility to disseminate information of broad interest to NRLs and OfLs in a cost effective way.

Expected Output: Publication of at least one tutorial in the EURL Portal-website

Duration: Within 2021/2022, to be decided

Sub-activity 2.06 Providing relevant information on national, Union and international research activities to NRLs

2.06-1: Update the “SRM-Pinboard”

Objectives: Promote the concept of sub-contracting analyses of SRM compounds among the laboratories within the Lab-Network. Provide labs interested in subcontracting certain analyses to other labs, and labs interested in getting subcontracted by other labs, a platform and tool that will help them to conveniently find each other.

Description: In 2021/2022 the list of laboratories considered proficient for the analysis of individual SRM-compounds will be updated, as soon as new PT results become officially available or whenever a lab wishes to enter the list or change its status. The OfLs within the network will be furthermore prompted to use the EURL-Pinboard if needed.

Expected Output: Update of EURL-Pinboard throughout 2021 and 2022

Duration: within 2021/2022

Sub-activity 2.07 Updating and publication of the list of NRLs

2.07-1: Lab Network Database (hosted in the EURL DataPool)

Objectives: Permanent updating of lab-specific information of NRLs and OfLs.

Background: Various editing-forms were introduced in EURL DataPool to allow NRLs and OfLs to update specific data about their labs: e.g. lab contact data, lab-functions, email-addresses, lab-members, lab-tasks within the frame of official controls (import controls, commodity scope, pesticide scope, etc.).

Description: The EURL-SRM will ask all NRLs and OfLs to keep their data up-to-date on several occasions throughout the year. An email verification tool will be implemented in EURL DataPool in order to keep the email addresses of lab-network members as up-to-date as possible as this information is essential for the Lab Network Database. The EURL-SRM will assign newly registered members to the respective “myLab”-area of their laboratories within EURL DataPool.

The COM is interested in which pesticides are analysed by the OfLs and in the reasons why individual compounds from the MACCP and the Working Document are NOT analyzed by the labs (e.g. in the area of food of animal origin). The compound-survey-tool will be extended to record and evaluate the reasons for non-analysis.

Expected Output: Updated list of NRLs available in EURL DataPool-website

Duration: Throughout 2021 and 2022

Sub-activity 2.08 “889-lab network”

2.08-1: „889-Lab” Network

Objectives: Include 889-labs into the Lab Network Database

Description: It has been a request by DG-SANTE that laboratories, that were officially subcontracted by organic control authorities or bodies to organize organic food products for pesticide residues on behalf of Member States (“889-labs”), should be included into the EU-official pesticide lab-network and should be given the opportunity to participate in the EUPTs (as long as sufficient PT-material is available) and in other NRL-activities such as trainings and meetings. Many of these “889-labs” are unknown to the NRLs as “889-Labs” are often designated by different ministries.

In 2021, the EURL-SRM will contact – with the help of the NRLs and the COM- the appropriate competent authorities in the Member States in order to compile a list of “889-labs” and include these labs into Lab Network Database (“889-lab network”). Representatives of the competent authorities in the Member States will be given the possibility to keep the list of their “889-labs” up-to-date via the EURL DataPool-website.

Expected Output: list of 889-labs within the Lab Network Database

Duration: Throughout 2022

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.*

Sub-activity 3.01 Technical and scientific assistance to the Commission

3.01-1: Technical support to DG-SANTE for the evaluation or re-evaluation of pesticides (e.g. within the framework of Art. 12 of Reg. 396/2005) - This task includes experimental work

Objectives: Provide assistance and technical support to DG-SANTE and EFSA (on behalf of DG-SANTE) on all aspects related to the (re-)evaluation of pesticides. Where necessary, conduct experiments to assess the analytical behaviour of pesticides.

Description: Within 2021 and 2022 ca. 50 pesticides each will be expectedly reviewed according to Art. 12 of Reg. 396/2005. Re-evaluation according to Art. 43 of Reg. 396/2005, New Active Substances (NAS), and re-evaluations within the renewal of approval (*Art.12 Reg. 844/2012/EC*) will expectedly concern another ca. 10-20 compounds. The EURL-SRMs will continue coordinating the evaluation of these compounds as agreed with DG-SANTE. In most cases, the evaluation will expectedly involve the conduction of analytical experiments to check, amenability to multiresidue methods and analytical behaviour in general. In some cases, modifications of the QuEChERS method or single residue methods may need to be introduced. Where validation data do not exist or are not sufficient, validation experiments will be conducted to determine achievable LOQs. Necessary standards of pesticides or metabolites will be purchased and should these not be commercially available, they will be requested from applicants. Where analytical standards are not available this will be reported. The applicants involved will be informed of the need to ensure that any standards of compounds that are needed for the analytical coverage of full residue definitions will need to become commercially available. The expected effort for Art. 12 experiments is listed below:

Estimated man-days for experiments, study of documents and for preparing the review report within the framework of pesticide re-evaluations according to Art. 12 of Reg. 396/2005:

Type of compound	Expected No. of compounds	Days for LAB ACTIVITIES involved				Sum (Working days)
		NO	SOME	EXTENSIVE	VERY EXTENSIVE	
<i>Estimated man-days for 10 compounds (avg)</i>		0	15	30	100	
requiring NO Lab Activities	44					0
requiring SOME Lab Activities*	20		30			30
requiring EXTENSIVE Lab Activities**	20			60		60
requiring VERY EXTENSIVE Lab Activities***	16				160	160
					SUM	250
	Expected No. of compounds	Days for REVIEW / ADMINISTRATIVE ACTIVITIES				Sum (Working days)
		NO	MINOR	EXTENSIVE	VERY EXTENSIVE	
<i>Estimated man-days for 10 compounds (avg)</i>		0	10	25	40	
Requiring MINOR effort for review	10		10			10
Requiring EXTENSIVE effort for review	60			150		150
Requiring VERY EXTENSIVE effort	30				120	120
					SUM	280
					Total SUM	530

* e.g. for somehow challenging analytes requiring minor modifications of MRM-methods with few matrix groups being involved

** e.g. for somehow challenging analytes requiring modifications of MRM-methods with many matrix groups being involved OR challenging, non-MRM amenable analytes (parent or metabolites) with few matrix groups being involved

*** e.g. for challenging, non-MRM amenable analytes (parent or metabolites) with many matrix groups being involved OR for highly challenging, non-MRM-amenable analytes (parent or metabolites), requiring extensive method development (irrespective of matrix-groups involved)

Expected Output: EURL-Evaluation Reports under Article 12 of Regulation (EC) No 396/2005 during completeness check period, comments on draft reasoned opinions, comments on regulation drafts, comments on RAR for compounds under renewal, comments on DAR for NAS, comments on EFSA review reports based on Art. 43 of Reg. 396/2005, communication via e-mail. Timing as requested by the deadlines given.

Duration: throughout 2021 and 2022, as requested

3.01-2: Support DG-SANTE on aspects related to monitoring activities

Objectives: Provide technical assistance to DG-SANTE in drafting the MACP regulation and the monitoring working document and in providing an overview of the available methods.

Description: Technical assistance will be provided to DG-SANTE where this is requested. This may involve the following: a) checking amenability of compounds to multiresidue methods and the availability of analytical standards in the market, b) participation in discussion meetings (e.g. in Brussels or on-line); c) preparation of a new Pesticide Ranking List (PeRL) following collection and evaluation of the necessary data; d) revision of documents; e) communication with DG-SANTE and other stakeholders; f) update of the Method Finder List (see 2.01.15); g) a survey among all NRLs and OfLs in the network in order to find out which compounds of the working document are routinely covered by the OfLs.

Expected Output: Review of draft documents, technical comments through various channels of communication, updated version of method finder list, generation of a new pesticide ranking list (PeRL, if requested), new survey report on compounds and residue definitions routinely covered by laboratories within the network.

Duration: throughout 2021 and 2022, as requested

3.01-3: Revision of QA/QC-Document:

Objectives: Provide laboratories involved in official controls performance criteria to assess their methods and a guidance on how to properly conduct pesticide analysis.

Description: Jointly with the other EURLs and the members of the AQC-Advisory Group and the NRLs the EURL-SRM will contribute in the revision of the guidance document SANTE/12682/2019. The activity will involve participation in coordination meetings of the AQC-Advisory Group (physically or on-line) as well as discussion with the NRLs. A technical approval of the new version is planned during the joint EURL-NRL-Workshop in 2021 (in Almería or on-line). For the next revision due in 2023, at least one coordination meeting of the AQC-Advisory Group will be organized by the EURL-FV in 2022, with the EURL-SRM participating.

Expected Output: Localization of topics, where revision may be needed. Revision work within working groups to be decided. The revision work will materialize in a new, technically approved, version of the document.

Duration: specified meetings during 2021 and 2022, dates/periods not yet defined

Sub-activity 3.02 *Collaboration with European and international organisations (EFSA, CEN, ISO, ...) and Third Countries (h)*

3.02-1: Technical and scientific support to EFSA

Objectives: Provide technical assistance to EFSA in order to facilitate the (re-)evaluation of pesticides, the drafting of reasoned opinions, the monitoring coordination and any other aspect requested.

Description: The technical support to EFSA may include the following activities:

- a) Assistance for the (re-)evaluation of pesticides according to Art. 12 and Art. 43 of Reg. 396/2005 and Art. 12 Reg. 844/2012/EC (see Sub-activity **3.01-1**);
- b) Assistance as regards its activities relating to pesticide monitoring such as the revision of documents, the provision of information on analytical aspects, the classification of residue definitions and the assistance in the interpretation of results. This activity may include participation in one or more meetings of the Networking Group on Pesticide Monitoring (in Parma or on-line).
- c) Compilation of collected data concerning the background levels of CS₂ in various commodities of organic production (generated from natural precursor compounds when applying the common moiety method for DTCs), and submission of this data to EFSA (February 2021). EFSA-data from 2018 as well as some additional results will be introduced.

Expected Output: Opinions, revisions communicated via e-mail or personally, data compilation of CS₂ background data

Duration: as requested

3.02-2: Collaboration with Standardization bodies

Objectives: Pursue the standardization of methods

Description: This activity will include active involvement in the activities of the pesticide residue group of the CEN (European Standardization Body) and DIN (German Standardization Body) as well as of the German group for the establishment of official methods. Among others this activities involve the standardization of the QuEChERS, QuPPE and QuOil method at CEN level.

Expected Output: Revisions, evaluation of validation data, participation in meetings

Duration: as scheduled/requested within 2021 and 2022

Sub-activity 3.03 Participation in symposiums, workshops and seminars for the dissemination of scientific information.

3.03-1: Participation in International Workshops

Objectives: Present results of EURL-activities, interact with the community and collect information, in order to stay updated about the developments in the field

Description: This activity may involve participation in various international conferences and workshops upon invitation

Expected Output: Oral presentations and posters, depending on the development of the pandemic

Duration: within 2021 and 2022

Sub-activity 3.x (*name of Sub-activity*)

Objectives:

Description:

Expected Output:

Duration:

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 4.01 Up-to-date lists of available reference substances and reagents and of manufacturers and suppliers of such substances and reagents

4.01-1: List of Suppliers of Isotopically Labeled Internal Standards

Objectives: Facilitate the retrieval of isotope labelled standards by the laboratories and thus promote the use of isotope labelled internal standards

Description: A list with manufacturers of isotopically labeled internal standards for selected compounds will be updated at the EURL Website. The list will cover the compounds analyzed by the QuPPE methodology, compounds within the MACP regulation and working document as well as compounds for which methods have been published by the EURL.

Expected Output: List of isotopically labelled internal standards updated in the website within 2021 and 2022

Duration: Within 2021 and 2022

4.02-1: List of suppliers of Analytical Standards

Objectives: Facilitate the retrieval of analytical standards of compounds that were identified in recent past as not being available in the market

Description: The EURL-SRM will seek the collaboration with the other 3 EURLs on pesticides for the construction of a common list stating the commercial sources of analytical standards for compounds identified at some point in the recent past (e.g. if this is stated in the MRL-Website) that they are not available in the market. The websites of various manufacturers/suppliers for these analytical standards will be periodically checked for updating the list of analytical standards.

Expected Output: List of analytical standards will be periodically updated within 2021 and 2022 and will be made available in the website

Duration: throughout 2021 and 2022

Sub-activity 4.2 (*name of Sub-activity*)

Objectives:
Description:
Expected Output:
Duration:

Sub-activity 4.3 (*name of Sub-activity*)

Objectives:
Description:
Expected Output:
Duration:

Sub-activity 4.x (*name of Sub-activity*)

Objectives:
Description:
Expected Output:
Duration:

5

REQUIREMENTS RELATED TO OTHER LEGISLATION

Please specify applicable legislation:
(Number of Sub-activity boxes can be adjusted)

Sub-activity 5.1 (*name of Sub-activity*)

Objectives:
Description:
Expected Output:
Duration:

Sub-activity 5.x (*name of Sub-activity*)

Objectives:
Description:
Expected Output:
Duration:

REMARKS

(if necessary)