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Working document on pesticides to be considered for inclusion in the national control programmes and the coordinated multiannual control programme of the Union to ensure compliance with maximum residue levels of pesticides residues in and on food of plant and animal origin

Contents

1. Scope

This working document (WD) serves the dual purpose of:

- ✓ Proposing pesticides to be included in the EU Multi-Annual Control Programme (EU MACP).
- ✓ Recommending pesticides to be included in the National Control Programmes (NCPs) of the Member States on a voluntary basis.

The assessment of active substances is based on:

- ✓ occurrence data originating from the European Union report on pesticide residues in food published by EFSA annually,
- ✓ toxicological reference data published in the EU Pesticides Database[1] and
- ✓ analytical coverage of the EU laboratories which are assessed via an annual survey conducted by the EU Reference Laboratory for Single Residue Methods (EURL-SRM).

This document is revised each year following the Working Group (WG) Meeting of Experts on monitoring of pesticide residues in/on food. The document is endorsed by the Standing Committee on Plants, Animals, Food and Feed, section pesticides residues (SCoPAFF phytopharmaceuticals – section residues) and serves as a preliminary evaluation of the pesticides included in the Commission Implementing Regulation issued annually.

2. Introduction

On 4 October 2013 an Expert Group Meeting on Pesticides Residues Monitoring was held in Brussels. In this meeting it was agreed not to include voluntary analyses in the Regulation concerning the EU MACP for 2015, 2016 and 2017. However, it was deemed necessary to already highlight in advance certain pesticides, which following the assessment detailed in **Chapter 3**, could be considered for inclusion in the Regulation for the EU MACP. These pesticides are listed in **Chapter 4** of this document and can be, on a voluntary basis, taken up in the National Control Programmes of the Member States during the assessment period. After an evaluation of the analytical coverage by the EU laboratories and the monitoring data gathered under the National Control Programmes, their inclusion or non-inclusion in the EU MACP is considered.

The document is completed by a series of Annexes :

- ✓ **Annex I** - Pesticides for which monitoring data are required for addressing specific risk management questions.
- ✓ **Annex II** -- Pesticides for which support is needed from the EURLs.
- ✓ **Annex III** - Pesticides that are of interest to EFSA for cumulative risk assessment and which are not taken up in the chapter 4 of this document or the EU MACP.
- ✓ **Annex IV** - Substances for which occurrence data indicated very few findings and, thus, can include substances coming from the Chapter 4 assessment or from the list included in the EU MACP.
- ✓ **Annex V** - Assessment methodology of the active substances.
- ✓ **Annex VI** - Proposals of pesticides to be assessed by Member States or EURLs.
- ✓ **Annex VII** - Substances of interest to be analysed in honey under NCPs
- ✓ **Annex VIII -** Commodities and pesticide/commodity combinations of interest to be analysed under the NCPs
- ✓ **Annex IX -** Substances that have been moved from Chapter 4 of this document into the EU MACP.

[1] EU Pesticides Database - European Commission (euEUropa.eu)

✓ **Annex X -** List of Metabolites not included in Residue Definitions (RDs) for enforcement but for monitoring which could be useful for risk assessment purposes or for future re-evaluations of MRLs and RDs.

Residue Definitions:
All pesticides mentioned in this document are recommended to be analysed for their **full and legal residue definition** according to Reg. (EC) No 396/2005. In order to avoid that this document would be outdated due to future changes in residue definitions, only the general name of the residue definition is mentioned. For the full details of each residue definition, as well as specific residue definitions for certain commodities, reference is made to the most recent version of Reg. (EC) No 396/2005.

3. Categorisation, prioritisation and assessment

During the Standing Committee (SCoPAFF) of 12-13 June 2014 the Member States were requested to take a position on the approach for categorisation and prioritisation of the substances that are taken up in this document. A majority of the Member States was in favour of an approach in which the pesticides are divided into specific categories. Based on a limited set of criteria each pesticide is attributed a priority and a timeline for evaluation of inclusion or non-inclusion in the MACP.

3.1. Categorisation

The pesticides in Chapter 4 are split up into the following *categories*:

1. Frequent detections, maximum residue level (MRL) exceedances or Rapid Alert System for Food and Feed (RASFF) notifications.
   - Based on the occurrence data of the 3 previous years (starting from the year with the latest data available), candidates for inclusion in this WD are substances with findings >=0.01% of samples and/or MRL exceedances for 3 consecutive years in the case of products of plant and animal origin.
   - Based on the RASFF notifications of 3 years, the 15 substances with the highest frequency of occurrence in the alerts are examined for findings for 3 years. The procedure of the previous bullet point is followed.
2. Recent approvals. Substances approved during the time interval **between two consecutive working group meetings**.
3. Article 12[2] priority list.
4. High toxicity.

3.2. Prioritisation

The substances included in Chapter 4 of this document are prioritised based on the **type of analytical method**.

a) multi residues method (MRM) : priority 1
b) MRM/ single residue method (SRM) or SRM : priority 2
c) In case **no standards and/or analytical method** are available for substances that qualify to the categories mentioned under chapter 3.1, the substances are **not included in chapter 4**. They are however taken up in Annex II to this document that lists substances for which support from the EURLs is requested.

A further refinement of the priority is based on toxicity.

a) if Acceptable Daily Intake (ADI) ≤ 0.1 mg/kg bw/day **or** Acute Reference Dose (ARfD) ≤ 0.1 mg/kg bw, then priority A is assigned.

[2] of Regulation (EC) No 396/2005, ELI: http://data.europa.eu/eli/reg/2005/396/oj

b) if ADI > 0.1 mg/kg bw/day **and** ARfD > 0.1 mg/kg bw, then priority B is assigned.

Based on the above, *prioritisation* is illustrated in the following table:

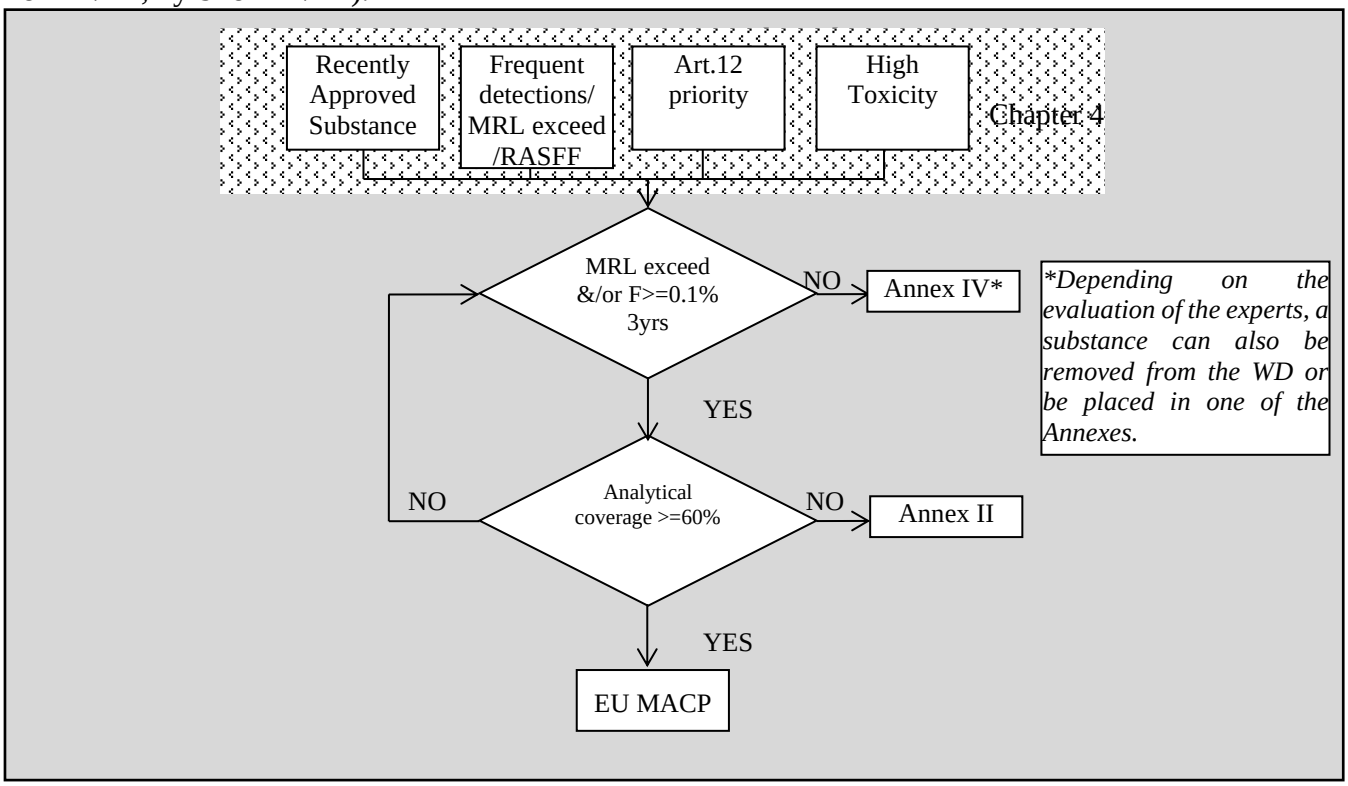
Table 1. Prioritisation Matrix of Active Substances

Toxicity \ Analytical Coverage		Priority 1	Priority 2
		MRM	MRM/SRM or SRM
Priority A	ADI ≤ 0.1 mg/kg bw/day **or** ARfD ≤ 0.1 mg/kg bw	1A	2A
Priority B	ADI > 0.1 mg/kg bw/day **and** ARfD > 0.1 mg/kg bw **or** No Toxicological Reference Values Available	1B	2B

a) For pesticides with priorities 1A and 1B, the evaluation will be done after 1 year, for categories 2A and 2B after 2 years.
b) The sub-priorities A and B, which are linked to the toxicity, don't affect the evaluation timeline and are only for information to the MS, in case they want guidance on which substances should be prioritised.
c) In case of RASFF notifications it is possible to accord a higher priority to certain specific substances after discussions in the expert group.

3.3. Assessment

As illustrated in **Figure 1**, frequently detected substances as defined in 3.1, recently approved substances, substances identified as top-15 in annual RASFF findings, high toxicity substances and Art.12 priority substances can be included in Chapter 4 of this document based on the discussion of the experts during the working group. Based on the datasets of 3 years preceding EFSA's latest published annual report, in the case a Chapter 4 active substance indicates MRL exceedances and/or findings of more than 0.1% of the analysed samples for 3 years consecutively, and if there is good (>=60%) analytical coverage across EU laboratories, then that active substance is eligible for addition on the EU MACP depending on the experts' evaluation. In case analytical coverage is <60% then the substance is placed in Annex II for support from the EURLs and is re-evaluated in 1 or 2 years depending on the prioritisation factor of that substance (1yr for 1A/1B, 2yrs for 2A/2B).



4. Pesticides to be considered for inclusion in National Control Programmes (NCP)

The substances are listed in alphabetical order, separately for commodities of plant origin and of animal origin and per category. Substances newly added to this version of the WD are indicated in white background, while older substances that were evaluated during the 2023 WG meeting are in grey.
The analytical capacity of laboratories is ranked as poor (<40% of laboratories), medium (>=40% laboratories <60%) or good (>=60% labs).

4.1. Pesticides to be considered for analysis in products of plant origin (PO)

4.1.1. Frequent detections[3], MRL exceedances or RASFF notifications

1,4-Dimethylnaphthalene – PO *Added: 10/2022* Toxicity: ADI = 0.1 mg/kg bw/day, ARfD N/A Method: MRM, Priority: 1A Evaluation: after 1 year (10/2023)→(10/2024)→(10/2025) ✓ 1.26% findings (0.00% MRL exceedances) EFSA 2018 ✓ 0.11% findings (0.02% MRL exceedances) EFSA 2019 ✓ 0.68% findings (0.05% MRL exceedances) EFSA 2020 ✓ 0.78% findings (0.08% MRL exceedances) EFSA 2021 ✓ 0.74% findings (0.05%) MRL exceedances) EFSA 2022 19% labs and 31% MS analysed full RD in 2022. 19% labs and 33% MS analysed full RD in 2023. **⇒ Analytical coverage poor** **⇒ Keep in Chapter 4 and Annex II** Mainly found in onions and potatoes but findings have also been reported in various (especially leafy) vegetables. The compound has been reported to occur naturally in some plants. It is also contained, together with other isomers, in mineral oils that are used as adjuvants in pesticide formulations. As mineral oils contain various dimethylnaphthalene isomers, a characteristic peak pattern appears in chromatograms. Where analytical data indicate mineral oils as the likely source of 1,4- dimethylnaphthalene, this information should be provided to enforcement authorities in the case of MRL-exceedances.	Bifenazate – PO *Added: 10/2019* Toxicity: ADI = 0.01 mg/kg bw/day, ARfD NA Method: MRM/SRM, Priority: 2A Evaluation: after 2 year (10/2021)→(10/2022)→(10/2023)→(10/2024))→(10/2025) ✓ 0.24% findings (0.00% MRL exceedances) EFSA 2015 ✓ 0.30% findings (0.00% MRL exceedances) EFSA 2016 ✓ 0.56% findings (0.00% MRL exceedances) EFSA 2017 ✓ 0.56% findings (0.00% MRL exceedances) EFSA 2018 ✓ 0.54% findings (0.00% MRL exceedances) EFSA 2019 ✓ 0.48% findings (0.00% MRL exceedances) EFSA 2020 ✓ 0.49% findings (0.00% MRL exceedances) EFSA 2021 ✓ 0.65% findings (0.00% MRL exceedances) EFSA 2022 7% labs and 23% MS analysed full RD in 2016 54% labs and 71% MS analysed full RD in 2017 10% labs and 25% MS analysed full RD in 2018 20% labs and 62% MS analysed full RD in 2019 23% labs and 50% MS analysed full RD in 2020 31% labs and 54% MS analysed full RD in 2021 32% labs and 50% MS analysed full RD in 2022 33% labs and 59% MS analysed full RD in 2023. **⇒ Analytical coverage poor** **⇒ Candidate for EU MACP** **⇒ Keep in Chapter 4 and Annex II** Occurs in oxidised or reduced form, depending on the commodity. An analytical method by the EURL-SRM is published on EURL website (http://www.eurl-pesticides.eu/userfiles/file/ EurlSRM/ meth_Bifenazate_EurlSRM.pdf). Relevant for aubergines, green beans, sweet pepper, various berries, tomatoes, grapes

[3] SRM-compounds are typically analysed on specific commodities so their detection frequencies are typically higher than if they would have been analysed randomly.

Chloridazon (Not Approved) – PO

Added: 10/2019

Toxicity: ADI = 0.1 mg/kg bw/day, ARfD NA
Method: SRM, Priority: 2A
Evaluation: after 2 years (10/2021)→(10/2022)
→(10/2023)→(10/2024))→(10/2025)
✓ 1.02 % findings EURL-SRM 2017-2019
✓ 0.01% findings (0.00% MRL exceedances) EFSA 2016
✓ 0.32% findings (0.00% MRL exceedances) EFSA 2017
✓ 0.20% findings (0.00% MRL exceedances) EFSA 2018
✓ 0.16% findings (0.00% MRL exceedances) EFSA 2019
✓ 0.16% findings (0.01% MRL exceedances) EFSA 2020
✓ 0.17% findings (0.00% MRL exceedances) EFSA 2021
✓ 0.19% findings (0.00% MRL exceedances) EFSA 2022
8% labs and 23% MS analysed full RD in 2019
13% labs and 25% MS analysed full RD in 2020
19% labs and 32% MS analysed full RD in 2021
22% labs and 35% MS analysed full RD in 2022
29% labs and 37% MS analysed full RD in 2023

⇒ **Analytical coverage poor**
⇒ **Keep in Chapter 4 and Annex II**
Chloridazon desphenyl (and therefore also the full residue definition of chloridazon) requires an SRM method (QuPPe). Findings mainly concern chloridazon desphenyl. Residue findings mainly concern table grapes and various leafy vegetables and fresh herbs such as basil, chives, dill, celery, ruccola, chards, kale, leeks, parsley, spinach and lettuce. Also found in honey. In 75% of the positive findings residue levels exceeded 0.01 mg/kg. The isotopically labelled standard is available.

Difluoroacetic acid DFA (Not Approved) – PO

Added: 10/2023

Toxicity: ADI = 0.064 mg/kg bw/day, ARfD=0.15mg/kg bw
Method: SRM, Priority: 2A
Evaluation: after 2 years (10/2025)

No monitoring data 2021, 2022.
No data on analytical capability 2022, 2023.
The EURL-SRM has developed and validated a method for DFA (SRM-09, QuPPe-PO). Analytical standards of difluoroacetic acid and its IL-IS are available.
Difluoroacetic acid (DFA) is a known metabolite of the pesticide flupyradifurone and can occur in plant matrices (food and feed items). Due to the lack of detailed toxicological data for DFA, EFSA has indicated that the toxicological reference values for flupyradifurone are also applicable to its metabolite DFA.

Matrine (Not Approved) – PO

Added: 10/2020

Toxicity: ADI, ARfD NA
Method: SRM/MRM, Priority: 2B
Evaluation: after 2 years (10/2022)
→(10/2023)→(10/2024)→(10/2025)
✓ 0.10% findings (0.00% MRL exceedances) EFSA 2020
✓ 0.00% findings (0.02% MRL exceedances) EFSA 2021
✓ 0.00% findings (0.02% MRL exceedances) EFSA 2022
25% labs and 43% MS analysed full RD in 2020
29% labs and 43% MS analysed full RD in 2021
34% labs and 50% MS analysed full RD in 2022
36% labs and 56% MS analysed full RD in 2023 ⇒
Analytical coverage poor
⇒ **Keep in Chapter 4 and Annex II**
Found in honey, chilli peppers, mandarins, tomatoes and lettuces, teas, liquorice and aromatic herbs. According to information from the industry it might be found in pears, cucumbers and cabbages as well.

Metaldehyde (Approved) – PO

Added: 10/2021

Toxicity: ADI = 0.02 mg/kg bw/day, ARfD=0.3mg/kg bw
Method: MRM, Priority: 1A
Evaluation: after 1 year (10/2022)
→(10/2023)→(10/2024)→(10/2025)
✓ 0.21% findings (0.00% MRL exceedances) EFSA 2017
✓ 0.11% findings (0.00% MRL exceedances) EFSA 2018
✓ 0.48% findings (0.06% MRL exceedances) EFSA 2019
✓ 0.28% findings (0.00% MRL exceedances) EFSA 2020
✓ 0.15% findings (0.00% MRL exceedances) EFSA 2021
✓ 0.70% findings (0.00% MRL exceedances) EFSA 2022
14% labs and 21% MS analysed full RD in 2021
16% labs and 31% MS analysed full RD in 2022
21% labs and 41% MS analysed full RD in 2023
⇒ **Analytical coverage poor**
⇒ **Keep in Chapter 4 and Annex II**
Found in leafy vegetables and strawberries. The compound is mainly used against snails.

Metazachlor – PO

Added: 10/2022

Toxicity: ADI=0.08 mg/kg bw/day, ARfD=0.5 mg/kg bw
Method: MRM, Priority: 1A
Evaluation: after 1 year (10/2023)→(10/2024)→(10/2025)
✓0.01% findings (0.00% MRL exceedances) EFSA2018
✓0.02% findings (0.02% MRL exceedances) EFSA2019
✓0.08% findings (0.00% MRL exceedances) EFSA2020
✓0.00% findings (3 samples) EFSA 2021
✓No EFSA data in 2022.
13% labs and 27% MS analysed full RD in 2022
16% labs and 33% MS analysed full RD in 2023

⇒ **Analytical coverage poor**

	⇒ **Keep in Chapter 4 and add in Annex II** Findings reported in all types of Brassica crops including head cabbages, also in spinaches, leeks and wheat.
<u>Metobromuron – PO</u> *Added: 10/2022* Toxicity: ADI=0.008 mg/kg bw/day, ARfD=0.3 mg/kg bw Method: MRM, Priority: 1A Evaluation: after 1 year (10/2023)→(10/2024)→(10/2025) ✓0.02% findings (0.01% MRL exceedances) EFSA2018 ✓0.02% findings (0.01% MRL exceedances) EFSA2019 ✓0.03% findings (0.01% MRL exceedances) EFSA2020 ✓0.02% findings (0.02% MRL exceedances) EFSA 2021 ✓0.02% findings (0.00% MRL exceedances) EFSA 2022 8% labs and 20% MS analysed full RD in 2022 11% labs and 15% MS analysed full RD in 2023 ⇒ **Analytical coverage poor** ⇒ **Keep in Chapter 4 and add in Annex II** Relevant for spinaches, lamb's lettuces and potatoes.	<u>Oxymatrine (Not Approved) – PO</u> *Added: 10/2021* Toxicity: ADI, ARfD NA Method: SRM/MRM, Priority: 2B Evaluation: after 2 years (10/2022) →10/2023 →(10/2024)→(10/2025) ✓ No data on occurrences in 2022, 2023 20% labs and 29% MS analysed full RD in 2021 28% labs and 46% MS analysed full RD in 2022 29% labs and 48% MS analysed full RD in 2023 ⇒ **Analytical coverage poor** ⇒ **Keep in Chapter 4 and Annex II** Found in honey, mandarins, tomatoes and lettuces, teas and aromatic herbs
<u>Phosphane and phosphide salts – PO</u> *Added: 10/2021* Toxicity: ADI = 0.011 mg/kg bw/day, ARfD=0.019 mg/kg bw Method: SRM (head-space equipment is needed) Priority: 2A Evaluation: after 2 years (10/2017) →10/2023→(10/2024)→(10/2025) ✓ 27.8 % findings in cereals EFSA 2011 ✓ 8.3% findings EFSA 2012 ✓ 8.47% findings EFSA 2013 ✓ 10% findings EFSA 2014 ✓ 11.54% findings (0.00% MRL exceedances) EFSA 2015 ✓ 22.45% findings (0.00% MRL exceedances) EFSA 2016 ✓ 9.57% findings (0.00% MRL exceedances) EFSA 2017 ✓ Not determined (0 samples) EFSA 2018 ✓ Not determined (0 samples) EFSA 2019 ✓ Not determined (0 samples) EFSA 2020 ✓ Not determined (0 samples) EFSA 2021 ✓ 2.8% findings (0.7% MRL exceedances) EFSA 2022 9% labs and 31% MS analysed full RD in 2015 6% labs and 19% MS analysed full RD in 2016 9% labs and 25% MS analysed full RD in 2017 8% labs and 25% MS analysed full RD in 2021 9% labs and 23% MS analysed full RD in 2022 8% labs and 22% MS analysed full RD in 2023 ⇒ **Analytical coverage poor** ⇒ **Keep in Chapter 4 and Annex II** Found in all cereals among the MACP commodities. (e.g. wheat, rye, oats, rice, barley). Additionally relevant for some non-MACP commodities such as: millet, maize, nuts, oilseeds and dry pulses. High rates of MRL exceedances found in lentils (including organic).	

4.1.2. Recently approved substances

<u>Florpyrauxyfen benzyl – PO</u> *Approved since 2019* Toxicity: ADI 0.5 mg/kg bw day, ARfD NA Method: MRM, Priority 1B Evaluation: after 1 year (10/2020)→10/2021→10/2022→ 10/2023→10/2024)→(10/2025) ✓ No EFSA monitoring data available. ✓ Not detected (184 samples) EFSA 2021 ✓ Not detected EFSA 2022. 5% labs and 15% MS analysed full RD in 2019 15% labs and 36% MS analysed full RD in 2020 24% labs and 54% MS analysed full RD in 2021 28% labs and 54% MS analysed full RD in 2022 26% labs and 59% MS analysed full RD in 2023 **⇒ Analytical coverage poor** **⇒ Keep in Chapter 4 and Annex II**	

4.1.3. Art. 12 priority list

4.1.4. High toxicity

No pesticide identified under this category.

4.2. Pesticides to be considered for analysis in products of animal origin (AO)

4.2.1. Frequent detections[4], MRL exceedances or RASFF notifications

[4] SRM-compounds are typically analysed on specific commodities so their detection frequencies are typically higher than if they would have been analysed randomly.

Boscalid – AO

Added: 10/2020

Toxicity: ADI = 0.04 mg/kg bw/day, ARfD NA
Method: SRM (de-conjugation required to cover the full residue definition), Priority: 1A
Evaluation after 1 year (10/2021)→10/2022→10/2023→10/2024)→(10/2025)

- ✓ 0.14% findings (0.00% MRL exceedances) EFSA 2016
- ✓ 0.35% findings (0.00% MRL exceedances) EFSA 2017
- ✓ 0.36% findings (0.10% MRL exceedances) EFSA 2018
- ✓ 0.35% findings (0.04% MRL exceedances) EFSA 2019
- ✓ 0.59% findings (0.00% MRL exceedances) EFSA 2020
- ✓ 1.18% findings (0.00% MRL exceedances) EFSA 2021
- ✓ 0.41% findings (0.00% MRL exceedances) EFSA 2022

Information on honey:

- ✓ 2.6% findings (0.00% MRL exceedances) EFSA 2020 / 390 honey samples out of 1870 AO, 10 honey findings out of 11 AO.
- ✓ 4.54% findings (0.00% MRL exceedances) EFSA 2021 / 595 honey samples out of 2368 AO, 27 honey findings out of 28 AO.
- ✓ 1.24% findings (0.00% MRL exceedances) EFSA 2022 / 728 honey samples out of 2221 AO, 9 honey findings out of 9 AO.

Information for partial RD:
18% labs and 25% MS in 2020
18% labs and 25% MS in 2021
40% labs and 75% MS in 2022
36% labs and 92% MS in 2023Information for full RD:
7% labs and 13% MS in 2022
5% labs and 8% MS in 2023
Information on honey, full RD:
82% labs and 89% MS in 2021
80% labs and 96% MS in 2022
78% labs and 92% MS in 2023

⇒ Analytical coverage poor

- ✓ **⇒ Keep in Chapter 4 and Annex II**

The hydroxy-metabolite of Boscalid (M510F01) was successfully validated by the EURL-SRM at 0.01 mg/kg in various AO commodities using CEN-QuEChERS (see document SRM-36 on the EURL website).
Findings reported here are related to honey, but the substance is also included here as findings in feed are expected.

Fluazifop-P – AO

Added: 10/2015

Toxicity: ADI=0.01 mg/kg bw/day, ARfD=0.017 mg/kg bw
Method: SRM (hydrolysis required to cover the full residue definition)
Priority: 2A
Evaluation after 2 years (10/2017) → 10/2018→10/2019→10/2020→10/2021→10/2022→10/2023 →10/2024)→(10/2025)

- ✓ 0 % findings EFSA 2012 (148 samples)
- ✓ 0% findings EFSA 2013
- ✓ 1.03% findings (0.51%MRL exceedances) EFSA 2014
- ✓ N.D. EFSA 2015 report (54 samples)
- ✓ N.D. EFSA 2016 report (953 samples)
- ✓ N.D. EFSA 2017 report (1026 samples)
- ✓ N.D. EFSA 2018 report (1134 samples)
- ✓ 0.44% findings (0.00% MRL exceedances) EFSA 2019
- ✓ N.D. EFSA 2020 report (752 samples)
- ✓ N.D. EFSA 2021 report (860 samples)
- ✓ 0.2% findings (0.00% MRL exceedances) EFSA 2022

Information on honey:

- ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2020 / 71 honey samples out of 1134 AO, 0 findings AO.
- ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2021 / 210 honey samples out of 860 AO, 0 findings AO.
- ✓ 0.88% findings (0.00% MRL exceedances) EFSA 2022 / 114 honey samples out of 504 AO, 1 honey findings out of 1 AO.

12% labs and 40% MS analysed full RD in 2015
10% labs and 32% MS analysed full RD in 2016
3% labs and 0% MS analysed full RD in 2017
5% labs and 11% MS analysed full RD in 2018
4% labs and 22% MS analysed full RD in 2019
9% labs and 32% MS analysed full RD in 2020
11% labs and 39% MS analysed full RD in 2021
18% labs and 42% MS analysed full RD in 2022
20% labs and 50% MS analysed full RD in 2022

Information on honey, full RD:
No data on analytical capability 2021.
24% labs and 45% MS in 2022
21% labs and 42% MS in 2023

⇒ Analytical coverage poor
⇒ Keep in Chapter 4 and Annex II Based on feeding studies relevant for animal fat, liver, kidney, eggs, cows' milk and butter. Findings reported are related to honey.

Fluopyram (AO) *Added: 10/2023* Toxicity: ADI = 0.012mg/kg bw/day, ARfD = 0.5mg/kg bw Method: MRM, Priority: 1A Evaluation after 1 year: 10/2024)→(10/2025) ✓ 0.48% findings (0.00% MRL exceedances) EFSA 2019 ✓ 0.29% findings (0.00% MRL exceedances) EFSA 2020 ✓ 0.58% findings (0.00% MRL exceedances) EFSA 2021 0.68% findings (0.00% MRL exceedances) EFSA 2022No information on analytical capability. 16% labs and 29% MS analysed full RD in 2023 Information on honey: ✓ 0.4% findings (0.00% MRL exceedances) EFSA 2020 / 251 honey samples out of 339 AO, 1honey findings out of 1 AO. ✓ 0.5% findings (0.00% MRL exceedances) EFSA 2021 / 343 AO samples, all honey, 2 findings. ✓ 0.7% findings (0.00% MRL exceedances) EFSA 2022 / 440 AO samples, all honey, 3 findings. Information on honey, full RD: No data on analytical capability 2021, 2022 48% labs and 75% MS in 2023 ⇒ **Keep in Chapter 4 and Annex II** Relevant for honey, bovine liver.	

4.2.2. Recently approved

4.3. Evaluation

- ✓ The evaluation of the chapter 4 substances at the end of the specified evaluation period will be done based on the information listed in Annex V.
- ✓ The data on the number of labs analysing each substance is collected by the EURLs and stored in the EURL data pool.
- ✓ The data on the number of MRL exceedances and findings is gathered by EFSA as part of data collection for the National Programmes. These results are then be summarised by COM and added to this document.
- ✓ In the expert group meeting a decision is taken for moving a substance to the MACP, for deletion from the WD (addition to Annex IV for information for Member States) or for an additional evaluation period in the working document.

5. Proposals for inclusion of new substances in the working document

COM, EFSA, the EURLs and the Member States can put forward substances to be included in the working document by filling out the form in Annex VI. The proposal for inclusion of new substances should be sent to COM by June, prior to the annual expert group meeting on pesticides residues monitoring. During this meeting the submitted proposals will be discussed.

Annex I: Substances for which information on residues is needed for addressing specific risk management questions.

Monitoring data for these substances could be used for answering specific risk management questions.

- **Anthraquinone**, especially relevant for products dried by the use of open fires or grown in areas with high environmental pollution, such as tea, dried herbs and dried spices. Also found in mate, tomatoes, cereals, and goji berries.
- **Chlormequat,** information needed on cultivated mushrooms; also relevant for e.g. cereals, fresh and dried sweet- and chili peppers, tomatoes, broccoli, lettuce, potatoes, stone fruits, pears, ginger, grapes and honey.
- **Glyphosate**, information needed on residues in soyabean; also relevant for commodities where glyphosate is used for desiccation prior to harvesting such as dried pulses (e.g. beans, lentils, chick peas), cereals (e.g. rye, oat,), pseudocereals (e.g. buckwheat, millet), oily seeds (e.g. flax seeds. chia seeds, sunflower seeds), dried mushrooms and tree fruits (e.g. citrus fruits, pome fruit, stone fruit).
- **Nicotine,** information needed for setting or adjusting provisional MRLs (provisional MRLs currently exist for rose hips, herbs and edible flowers, wild fungi, teas, herbal infusions and spices), other relevant matrices are listed under 4.1. ARfD exceedances reported.
- **Oxymatrine**, information needed for honey.
- **Mepiquat**, information needed on cultivated mushrooms; also relevant for cereals, fresh and dried sweet- and chili peppers, potatoes and pome fruits.
- **Ethylene oxide including 2-chloro-ethanol**: information needed on fresh produce, e.g. sweet peppers, onions and dry products such as dried herbs and spices; also relevant for e.g. spices, oily seeds, dry herbs, dry vegetables, dry "superfood" (e.g. moringa), and food supplements. Additionally relevant for certain food and feed additives such as those entailing polyethylene glycole chains (e.g. PEG and polysorbates;), thickeners (e.g. guar gum, locust bean gum) and calcium carbonate. Note: residues in food additives are regulated via Reg. 231/2012/EC).
- **Bromide ion**: In the context of discussions on Multiple source substances for which Annex IV inclusion is not recommended, discussions on bromide background levels in different products listed in Annex 1 to Regulation (EC) No 396/2005 were initiated at the Standing Committee on Plants, Animals, Food and Feed (ScoPAFF) – Section Phytopharmaceuticals, Pesticides Residues in November 2020 and further discussed since then. A first overview on bromide background levels collected by EFSA over the last years and presented at the SCoPAFF of 22/23 September 2021 shows that further data are needed for several commodities. When drawing up national programmes Member States should focus on those commodities for which data are still lacking, so that the database can be completed.

Annex II: Substances for which analytical support is requested from the EURLs

For the substances listed in this Annex, support is needed from the EURLs because no validated analytical method and/or no standards are available and/or because further EURL-contribution is needed for increasing the analytical coverage of these substances by official labs. To be checked and updated with the EURLs.

Substances relevant for plant origin commodities.

(a) Support required due to residue definition

Chlorpyrifos-methyl (Not approved)– PO

Method: MRM

EFSA investigated the metabolism of chlorpyrifos-methyl in post-harvest treatment in cereals. Desmethyl-chlorpyrifos-methyl was observed as a significant metabolite as a result of degradation of the parent compound under standard hydrolytic conditions. Toxicological data for desmethyl-chlorpyrifos-methyl are missing and should be provided.

EFSA proposed an enforcement residue definition (specific to chlorpyrifos-methyl) which includes the parent compound (in all crops) and its desmethyl metabolite (in cereals and processed commodities only); chlorpyrifos-methyl can be enforced in plant commodities with a limit of quantification (LOQ) of 0.01 mg/kg, while analytical methods are not available for its desmethyl metabolite and should be developed. The EURL-SRM has validated this compound in January 2019. Recoveries using unmodified QuEChERS were lower than those of the parent, but still within the acceptable range. PSA cleanup should be skipped to avoid unacceptable losses (recoveries drop to <70%). These validation data have not been published yet.

An analytical standard is commercially available.

Support needed: Publish analytical method and/or observations report.

Diquat (Not Approved) – PO

Toxicity: ADI = 0.002 mg/kg bw/day, ARfD NA

Method: SRM, Priority: 2A

Evaluation: after 1 year (10/2021)

- ✓ 0.94 % findings (0.00% MRL exceedances) EFSA 2015
- ✓ 1.27% findings (0.00% MRL exceedances) EFSA 2016
- ✓ 0.86% findings (0.00% MRL exceedances) EFSA 201728% labs and 68% MS analysed full RD in 2020

Support needed: Analytical method (SRM-09, QuPPe-PO) needs to be further optimized, validated and circulated. Act towards increasing the analytical coverage by official labs. Diquat is especially relevant in pulses, oily seeds and potatoes.

Guazatine (not approved) – PO

Method: SRM

No analytical method is currently available for the analysis of guazatine, which is a mixture of many components (standards are available for the mixtures but their composition does not always correspond to that of formulations or samples).

Toxicity: ADI=0.0048 mg/kg bw/day, ARfD=0.04 mg/kg bw

- ✓ No monitoring data EFSA 2012, 2013, 2014, 2015 or 2016.
- ✓ No findings in 2017 (10 samples).

0% labs and 0% MS analysed full RD in 2018

Especially relevant for citrus fruits and cereals based on use pattern.

Support needed: Encourage analytical standard providers to include standards of individual components in their portfolio. Further develop the method SRM-38 as soon as standards become available. Act towards increasing the analytical coverage by official labs

Meptyldinocap (approved since 01/04/2015) – PO

Method: SRM

2,4 DNOP and 2,4-DNOCP standards are available. The EURL-SRM has published a method covering both the parent and its metabolite 2,4-DNOP (SRM-47), both individually and as a sum, following conversion of meptyldinocap to 2,4-DNOP.

Toxicity: ADI = 0.016 mg/kg bw/day, ARfD = 0.12 mg/kg bw

- ✓ 0.04% findings EFSA 2012 report
- ✓ 0% findings EFSA 2013 report
- ✓ 0.04% findings EFSA 2014 report
- ✓ 0.00% findings EFSA 2015 report
- ✓ 0.13% findings EFSA 2016 report
- ✓ 0.06% findings EFSA 2017 report

9% labs and 29% MS analysed full RD in 2017

4% labs and 11% MS analysed full RD in 2018

14% labs and 32% MS analysed full RD in 2020

Especially relevant for melons, strawberries, table grapes and wine.

Support needed: Act towards increasing the analytical coverage by official labs.

Triclopyr – PO

Method: MRM/SRM
This substance shares the same metabolite (3,5,6-trichloropyridinol) as chlorpyrifos and chlorpyrifos-methyl. For these substances new toxicological studies are available requiring the review of certain MRLs. As these metabolites are not taken up in the current residue definition, method development should only start once the Art. 12 Regulation is voted.

Toxicity: ADI = 0.03 mg/kg bw/day, ARfD = 0.3 mg/kg bw
Method: MRM/SRM, method was developed by the EURL-SRM, the report will be published in the near future.
Relevant for oranges, mandarins, apples, pears
- ✓ 0.07% findings EFSA 2012 report (parent)
- ✓ 0.03% findings EFSA 2013 report (parent)
- ✓ 0.02% findings EFSA 2014 report
- ✓ 0.06% findings EFSA 2015 report (19604 samples)
- ✓ 0.03% findings EFSA 2016 report (22614 samples)
- ✓ 0.04% findings EFSA 2017 report (23466 samples)

42% labs and 77% MS analysed full RD in 2017
43% labs and 79% MS analysed full RD in 2017
36% labs and 79% MS analysed full RD in 2018
46% labs and 82% MS analysed full RD in 2020
Especially relevant for bananas, kiwi, pears, oranges, strawberries, grapefruits and table grapes. Additionally relevant for some non-MACP commodities such as: rice, apricots, mandarins/clementines, lemons, limes and plums.
Triclopyr has been successfully validated by the EURL-SRM in various commodities of plant origin. A report is available on-line (SRM-02). An analytical standard for triclopyr is commercially available.

Support needed: Act towards increasing the analytical coverage by official labs

Tritosulfuron – PO

Method: MRM
New residue definition after Art. 12 review: separate MRLs are set for tritosulfuron and 2-amino-4-methoxy-6-(trifluormethyl)-1,3,5-triazine (AMTT).
Toxicity parent: ADI = 0.06 mg/kg bw/day, ARfD NA
Toxicity AMTT: ADI and ARfD 0.0001 mg/kg bw/day
Method: MRM/SRM method for AMTT available
Especially relevant for rice, wheat, rye and oats
- ✓ 0% findings EFSA 2012 report
- ✓ 0% findings EFSA 2013 report
- ✓ 0% findings EFSA 2014 report (7447 samples)
- ✓ 0% findings EFSA 2015 report (4160 samples)
- ✓ 0% findings EFSA 2016 report (7002 samples)
- ✓ 0% findings EFSA 2017 report (8262 samples)

25% labs and 50% MS analysed full RD in 2016
25% labs and 46% MS analysed full RD in 2017
22% labs and 50% MS analysed full RD in 2018
43% labs and 75% MS analysed full RD in 2018
Tritosulfuron has been successfully validated by the EURL-CF and EURL-FV in various commodities of plant origin using a multiresidue approach. Numerous reports are available on-line (see EURL-Method Finder List). An analytical standard for tritosulfuron is commercially available.
AMTT has been successfully validated by the EURL-SRM in various commodities of plant origin. A report is available on-line (SRM-35). An analytical standard for AMTT is commercially available.

Support needed: Act towards increasing the analytical coverage of AMTT by official labs.

(b) Support required due to other reasons

1-Naphthylacetamide (NAD)
1-Naphthylacetic acid (NAA) – PO
Added: 10/2019

Toxicity: ADI = 0.1 mg/kg bw/day, ARfD 0.1mg/kg bw
Method: MRM/SRM, Priority: 2B
Evaluation: after 2 year (10/2021)
- ✓ 0.30 % findings (0.00% MRL exceedances) EFSA 2015
- ✓ 0.39% findings (0.00% MRL exceedances) EFSA 2016
- ✓ 0.49% findings (0.00% MRL exceedances) EFSA 2017

14% labs and 32% MS analysed full RD in 2020
Relevant for matrices of the cucurbit family (ca 12% positives and ca 25% positive in case of zucchini). Also relevant for aubergines, pears, peaches, strawberries and sweet peppers.

1-Naphthylacetamide has been successfully validated by the EURL-CF and EURL-FV in various commodities of plant origin using a multiresidue approach. Numerous reports are available on-line (see EURL-Method Finder List). An analytical standard for 1-naphthylacetamide is commercially available.
1-Naphthylacetic acid has been successfully validated by the EURL-SRM in various commodities of plant origin. A report is available on-line (SRM-02 and -43). An analytical standard for 1-naphthylacetic acid is commercially available.
Support needed: Act towards increasing the analytical coverage by official labs

4-CPA (4- chlorophenoxyaceticacid) (Not approved) – PO
Toxicological, occurrence and laboratory coverage data in §4.1.1
Method: MRM/SRM
4-CPA has been successfully validated by the EURL-SRM in various commodities of plant origin. A report is available on-line (SRM-02). An analytical standard for 4-CPA is commercially available.
Support needed: Act towards increasing the analytical coverage by official labs

Azadirachtin – PO
Method: MRM
Toxicological, occurrence and laboratory coverage data in §4.1.1
Support needed: Act towards increasing the analytical coverage by official labs

Bifenazate – PO
Method: MRM/SRM
Toxicological, occurrence and laboratory coverage data in §4.1.1
Bifenazate (sum) has been successfully validated by the EURL-SRM in various commodities of plant origin. A report is available on-line (SRM-34). Analytical standards for both bifenazate and bifenazate diazene are commercially available.
Support needed: Act towards increasing the analytical coverage by official labs

Chloridazon (Not Approved) – PO
Method: SRM
Toxicological, occurrence and laboratory coverage data in §4.1.1
Chloridazone-desphenyl, the component mainly encountered as residue is covered by the QuPPe method (SRM-09). Analytical standards of this compound and its corresponding IL-IS are available.
Support needed: Act towards increasing the analytical coverage by official labs

Fenpicoxamid – PO
Method: MRM
Toxicological, occurrence and laboratory coverage data in §4.1.2
Fenpicoxamid has been successfully validated by the EURL-CF and EURL-FV in various commodities of plant origin using a multiresidue approach. Numerous reports are available on-line (see EURL-Method Finder List). An analytical standard for fenpicoxamid is commercially available.
Support needed: Act towards increasing the analytical coverage by official labs.

Florpyrauxyfen benzyl – PO
Method: MRM
Toxicological, occurrence and laboratory coverage data in §4.1.2
Florpyrauxyfen benzyl has been successfully validated by the EURL-CF in various commodities of plant origin using a multiresidue approach. A report is available on-line (see EURL-Method Finder List). An analytical standard for florpyrauxyfen benzyl is commercially available.
Support needed: Act towards increasing the analytical coverage by official labs.

Fluensulfone – PO
Method: MRM
Not approved in EU, recently approved outside EU
5% labs and 18% MS analysed full RD in 2018.
ADI 0-0.01 mg/kg bw day, ARfD 0.1 mg/kg bw
Relevant commodities: fruiting vegetables
Fluensulfone has been successfully validated by the EURL-CF and EURL-FV in various commodities of plant origin using a multiresidue approach. Numerous reports are available on-line (see EURL-Method Finder List). An analytical standard for fluensulfone is commercially available.

	Support needed: Act towards increasing the analytical coverage by official labs.
Flutianil – PO Toxicological, occurrence and laboratory coverage data in §4.1.2 Method: MRM Flutianil has been successfully validated by the EURL-CF in various commodities of plant origin using a multiresidue approach. A report is available on-line (see EURL-Method Finder List). An analytical standard for flutianil is commercially available. **Support needed:** Act towards increasing the analytical coverage by official labs.	Isofetamid – PO Toxicological, occurrence and laboratory coverage data in §4.1.2 Method: MRM Isofetamid has been successfully validated by the EURL-CF in various commodities of plant origin using a multiresidue approach. area method report is available on-line (see EURL-Method Finder List). An analytical standard for isofetamid is commercially available. **Support needed:** Act towards increasing the analytical coverage by official labs.
Isoxaflutole – PO Method: MRM Isoxaflutole has been successfully validated by the EURL-CF and the EURL-FV in various commodities of plant origin using multiresidue methods. Numerous reports are available on-line (see EURL-Method Finder List). The analytical standard for isoxaflutole is commercially available. The diketonitrile metabolite of isoxaflutole (RPA202248) was successfully validated by the EURL-SRM in in all four main matrix groups of plant origin at 0.01 and 0.1 mg/kg using CEN-QuEChERS. It is therefore considered being a MRM compound. An analytical observation report concerning products of animal origin was published on the EURL-SRM website (SRM-36). Analytical standards for both isoxaflutole and RPA202248 are commercially available. **Support needed:** Act towards increasing the analytical coverage by official labs.	

Lambda-cyhalothrin, Gamma-cyhalothrin – PO

Method: MRM for lambda cyhalothrin and SRM for gamma cyhlothrin.

Cyhalothrin is not approved since 1994, hence the default MRL of 0.01* mg/kg applies. It is constituted by four isomers (2 diastereomeric pairs): R,R; R,S; S,R and S,S, as follows:

1: (R)-α-cyano-3-phenoxybenzyl (1R)-cis-3-[(Z)-2-chloro-3,3,3-trifluoropropenyl]-2,2-dimethylcyclopropanecarboxylate;
2: (R)-α-cyano-3-phenoxybenzyl (1S)-cis-3-[(Z)-2-chloro-3,3,3-trifluoropropenyl]-2,2-dimethylcyclopropanecarboxylate;
3: (S)-α-cyano-3-phenoxybenzyl (1R)-cis-3-[(Z)-2-chloro-3,3,3-trifluoropropenyl]-2,2-dimethylcyclopropanecarboxylate;
4: (S)-α-cyano-3-phenoxybenzyl (1S)-cis-3-[(Z)-2-chloro-3,3,3-trifluoropropenyl]-2,2-dimethylcyclopropanecarboxylate.

Lambda-cyhalothrin is a 1:1 mixture of two of the four cyhalothrin components, the R,R and S,R isomers (numbers 1 and 3) and its approval was renewed by Regulation (EU) 2016/146 of 4 February 2016. Gamma-cyhalothrin is constituted by only the most toxic of the four components, the S,R isomer (the third one), which is also contained in lambda-cyhalothrin. As a result, gamma cyhalothrin is twice as toxic as lambda-cyhalothin and four times more toxic than cyhalothrin. It is an approved active substance under Regulation (EU) 1334/2014 of 16 December 2014.

Following a Commission investigation in September 2016, it was found that most authorisations of gamma-cyhalothrin PPPs in MSs are based on reference to lambda-cyhalothrin, i.e to a less toxic compound of isomers than the actual substance used in the PPPs.

Analytical coverage of lambda cyhalothrin:
88% labs and 93% MS analysed full RD in 2018.

Lambda-cyhalothrin has been successfully validated by the EURL-CF and the EURL-FV in various commodities of plant origin using MRMs. Reports are available on-line (see EURL-Method Finder List). The analytical standard for lambda-cyhalothrin is commercially available

Using a stereoselective method gamma-cyhalothrin (as part of lambda cyhalothrin) has been successfully validated by the EURL-SRM in commodities of plant origin. A report is available on-line (SRM-39). The method allows distinction between gamma and lambda cyhalothrin. The analytical standard for gamma-cyhalothrin is commercially available.

Support needed: Act towards increasing the stereoselective coverage of gamma cyhalothrin by official labs.

Maleic hydrazide – PO

Method: SRM

Maleic hydrazide has been successfully validated by the EURL-SRM in various commodities of plant origin using a single-residue method (SRM-09). A report is available on-line (see EURL-Method Finder List). An analytical standard for maleic hydrazide is commercially available.

Support needed: Act towards increasing the analytical coverage by official labs

Matrine (Not Approved) – PO

Toxicological, occurrence and laboratory coverage data in §4.1.1

Method: MRM/SRM

Matrine has been successfully validated by the EURL-SRM using modified QuEChERS or QuPPe, see SRM-09 (QuPPe-PO).

Support needed: Act towards increasing the analytical coverage by official labs.

Mefentrifluconazole – PO

Method: MRM

Toxicological, occurrence and laboratory coverage data in §4.1.2

Mefentrifluconazole has been successfully validated by the EURL-CF in various commodities of plant origin using a multiresidue approach. An analytical standard for mefentrifluconazole is commercially available.

Support needed: Act towards increasing the analytical coverage by official labs.

Metaldehyde – PO Method: MRM Toxicological, occurrence and laboratory coverage data in §4.1.1 **Support needed:** Act towards increasing the analytical coverage by official labs.	Metazachlor – PO Method: MRM Toxicological, occurrence and laboratory coverage data in §4.1.1 **Support needed:** Act towards increasing the analytical coverage by official labs.
Metobromuron – PO Method: MRM Toxicological, occurrence and laboratory coverage data in §4.1.1 **Support needed:** Act towards increasing the analytical coverage by official labs	
Oxymatrine (Not Approved) – PO Toxicological, occurrence and laboratory coverage data in §4.1.1 Method: MRM/SRM Oxymatrine has been successfully validated by the EURL-SRM using modified QuEChERS or QuPPe (SRM-09, QuPPe-PO). **Support needed:** Act towards increasing the analytical coverage by official labs.	Paraquat – PO Method: SRM For the analysis of paraquat in soybean (high fat matrix) it is challenging to enforce the MRL set at the LOQ of 0.02* mg/kg. A method was developed but it does not show the robustness needed. Paraquat is especially relevant in pulses (e.g. lentils, beans) and oily seeds (e.g. chia). The analysis of paraquat in soyabean is no candidate for the EU MACP. It can be considered for the national programmes. 16% labs and 43% MS analysed full RD in 2018. **Support needed:** Analytical method (SRM-09) needs to be further optimized, validated and circulated. Act towards increasing the analytical coverage by official labs
Phosphane and phosphide salts – PO Toxicological, occurrence and laboratory coverage data in §4.1.1 Method: SRM **Support needed** on the availability of the analytical standard and inclusion in EUPTs.	Pyrethrins– PO Toxicological, occurrence and laboratory coverage data in §4.1.1 Method: MRM/SRM Pyrethrins has been successfully validated by the EURL-CF and the EURL-FV in various commodities of plant origin using multiresidue methods. Numerous reports are available on-line (see EURL-Method Finder List). The analytical standard for pyrethrins is commercially available for the mixture and a few of the six constituent components. **Support needed:** Encourage analytical standard providers to include standards of individual components in their portfolio. Act towards increasing the analytical coverage by official labs.
Pyriofenone – PO Toxicological, occurrence and laboratory coverage data in §4.1.2 Method: MRM Pyriofenone has been successfully validated by the EURL-CF and the EURL-FV in various commodities of plant origin using multiresidue methods. Numerous reports are available on-line (see EURL-Method Finder List). The analytical standard for pyriofenone is commercially available. **Support needed:** Act towards increasing the analytical coverage by official labs.	
Triazole Derivative Metabolites (TDMs) Method: SRM The triazole group of active substances contains the triazole moiety in their molecule. TDMs are a group of metabolites	Trimethyl-sulfonium cation (resulting from the use of glyphosate) – PO Toxicological, occurrence and laboratory coverage data in §4.1.1 Method: SRM Trimethyl-sulfonium cation has been successfully validated by the EURL-FV in various commodities of plant origin using

resulting from the use of pesticides belonging to the group of triazoles. The TDMs include: ✓ Triazole Acetic Acid (TAA) ✓ Triazole Alanine (TA) ✓ Triazole Lactic Acid (TLA) ✓ 1,2,4-Triazole (1,2,4-T) In its publication concerning the pesticide risk assessment of TDMs in June 2018 , EFSA recommends establishing a monitoring programme for all TDMs to gather information on their background levels in products of plant and animal commodities from current and previous uses of the triazole active substances. TDMs have been successfully validated by the EURL-SRM in various commodities of plant origin using specific QuPPe-based methods (SRM-9). The analytical standards for the individual TDMs and the corresponding ILISs are commercially available[5]. **Support needed:** Act towards increasing the analytical coverage by official labs.	multiresidue methods. Numerous reports are available on-line (see EURL-Method Finder List). The analytical standard of trimethyl-sulfonium-iodide and of the respective ILIS are commercially available. **Support needed:** Act towards increasing the analytical coverage by official labs.
Trinexapac – PO Toxicological, occurrence and laboratory coverage data in §4.1.1 Method: MRM/SRM Trinexapac (acid) has been successfully validated by the EURL-SRM in various commodities of plant origin (SRM-43). Numerous reports are available on-line (see EURL-Method Finder List). An analytical standard for trinexapac is commercially available. **Support needed:** Act towards increasing the analytical coverage by official labs	

(c) Support required due to policy making reasons

- Dithiocarbamates:
MRL review under Article 12 of Regulation (EC) No 396/2005 is ongoing. Validated analytical methods are needed for the main groups of dithiocarbamates. Work is ongoing according to an agreed action plan.
- Cypermethrins:
MRL review under Article 12 of Regulation (EC) No 396/2005 is ongoing. Two sets of MRLs are planned to be established "cypermethrins (sum of isomers)" & "alpha-cypermethrin". Validated analytical methods are needed for alpha-cypermethrin. Work is ongoing according to an agreed action plan.
-Trifluoroacetic acid (TFA):
TFA is a relevant metabolite of many pesticides substances belonging to the group of per- and polyfluoroalkyl substances (PFAS), and it also occurs naturally. Monitoring data in a wide range of foodstuffs are necessary to gain an overview of its occurrence in foodstuffs and to be able to carry out a consumer risk assessment. To obtain this, reliable and sufficiently sensitive methods are needed for PFAS pesticides.

[5] TA 13C2, 15N3:https://isosciences.com/shop/environmental/triazole-13c2-15n3-alanine/
TLA TA 13C2, 15N3:
https://isosciences.com/shop/environmental/triazole-13c2-15n3-lactic-acid/?q=Triazole-%5B%3Csup%3E13%3C%2Fsup%3EC%3Csub%3E2%3C%2Fsub%3E%2C%20%3Csup%3E15%3C%2Fsup%3EN%3Csub%3E3%3C%2Fsub%3E%5D%20Lactic%20Acid
TAA 13C2, 15N3: https://isosciences.com/shop/environmental/triazole-13c2-15n3-acetic-acid/?q=triazole
Triazole 13C2, 15N3: https://isosciences.com/shop/environmental/triazole-13c215n3/?q=triazole

Substances relevant for animal origin commodities

(a) Support required due to residue definition

Chlorpropham – AO

Method: SRM (de-conjugation needed to cover the full residue definition).
No method available for the full AO residue definition; a method for 4-HSA and its validation are pending (a different method is needed for the analysis of code 1016000 (poultry) and 1030000 (eggs)). For poultry and eggs hydrolysis is needed to cover the full residue definition (chlorpropham and 3-chloro-4-hydroxyaniline conjugates, expressed as chlorpropham)
Toxicity: ADI = 0.05 mg/kg bw/day, ARfD = 0.5 mg/kg bw

- ✓ 0.19 % findings EFSA 2012 report
- ✓ 0 % findings EFSA 2013 report
- ✓ 0% findings EFSA 2014 report (866 samples)
- ✓ 0% findings EFSA 2015 report (502 samples)
- ✓ 0% findings EFSA 2016 (1818 samples)
- ✓ 0% findings EFSA 2017 (1184 samples)

2% labs and 7% MS analysed full RD in 2018.
25% labs and 43% MS analysed full RD in 2020
Based on feeding studies, relevant for ruminant's and swine kidney

Chlorpropham has been successfully validated by the EURL-AO in various commodities of animal origin using a multiresidue approach. Numerous reports are available on-line (see EURL-Method Finder List). An analytical standard for chlorpropham is commercially available.

Support needed: Analytical method needs for 4-HSA and 3-chloro-4-hydroxyaniline conjugates need to be further optimized, validated and circulated. Act towards increasing the analytical coverage of the full residue definition by official labs

Fenpropidin – AO

Method: MRM/SRM
No method available for full AO residue definition, standards of 2-methyl-2-[4-(2-methyl-3- piperidin-1-yl-propyl)-phenyl]propionic acid commercially not available
Toxicity: ADI = 0.02 mg/kg bw/day, ARfD = 0.02 mg/kg bw

- ✓ 0 % findings EFSA 2012 report
- ✓ 0 % findings EFSA 2013 report
- ✓ 0% finding EFSA 2014 report (356 samples)
- ✓ 0% findings EFSA 2015 report (294 samples)
- ✓ 0% findings EFSA 2016 report (1016 samples)
- ✓ 0% findings EFSA 2017 report (554 samples)

0% labs and 0% MS analysed full RD in 2018.
3% labs and 11% MS analysed full RD in 2020
Based on feeding studies, relevant for ruminant's and swine liver and kidney.

Fenpropidin has been successfully validated by the EURL-AO in various commodities of animal origin using a multiresidue approach. Numerous reports are available on-line (see EURL-Method Finder List). An analytical standard for fenpropidin is commercially available.
Fenpropidin carboxylic acid (CGA 289267) has been successfully validated by the EURL-SRM in various commodities of animal origin. A report is available on-line (SRM-36). An analytical standard for CGA 289267 is commercially available.

Support needed: Act towards increasing the analytical coverage of the full residue definition by official labs.

Fluazifop-P – AO

Method: SRM (hydrolysis required to cover the full residue definition).
Toxicological, occurrence and laboratory coverage data in §4.2.1
Fluazifop has been successfully validated by the EURL-AO (AO-M27) and the EURL-SRM (SRM-43) in various commodities of animal origin. The latter method also involved alkaline hydrolysis to cover conjugates. Analytical standard for fluazifop and fluazifop-P are commercially available and can be considered equivalent.

Support needed: Act towards increasing the analytical coverage of the full residue definition by official labs.

Fluopyram – AO

Method: MRM.
Toxicity: ADI = 0.012 mg/kg bw/day, ARfD=0.5 mg/kg bw

- ✓ 0 % findings EFSA 2012 report
- ✓ 0 % findings EFSA 2013 report (83 samples)
- ✓ 0% findings EFSA 2014 report (173 samples)
- ✓ 0% findings EFSA 2015 report (107 samples)
- ✓ 0% findings EFSA 2016 report (1138 samples)
- ✓ 0.23% findings EFSA 2017 report (2 of 870 samples)

6% labs and 15% MS analysed full RD in 2018
14% labs and 32% MS analysed full RD in 2020
Fluopyram has been successfully validated by the EURL-AO in various commodities of animal origin using a multiresidue approach (AO-M27 and -28). Fluopyram-benzamide (M25) has been successfully validated by the EURL-SRM in cow's milk and bovine liver at 0.005 and 0.02 mg/kg using CEN-QuEChERS. The validation data can be accessed within the EURL-Datapool. The full residue definition of fluopyram can therefore be covered by MRM methods. Analytical standards of both parent and its benzamide metabolite (M25) are readily available.

Support needed:. Act towards increasing the analytical coverage of the full residue definition by official labs.

Glyphosate (future residue definition 'sum of glyphosate, AMPA and N-acetylglyphosate) – AO
Method: SRM
In the upcoming Art. 12 review the residue definition for glyphosate will be changed.
6% labs and 15% MS analysed full (future) RD in 2018.
Relevant commodities (see Annex I)
The EURL-SRM has published a method for glyphosate, N-acetyl glyphosate and AMPA (QuPPe-AO, SRM-25). An inter-laboratory validation for products of animal origin has been conducted and was successful.
Analytical standards of glyphosate, AMPA, N-acetyl glyphosate and their respective ILISs are commercially available.
Support needed: Act towards increasing the analytical coverage of the full (future) residue definition by official labs.

Haloxyfop – AO
Method: SRM (hydrolysis required to cover conjugates).
Method for food of animal origin (including conjugates) is pending. Toxicological, occurrence and laboratory coverage data in Annex IV.

Haloxyfop has been successfully validated by the EURL-AO (AO-M6 and -27) and the EURL-SRM (SRM-43) in various commodities of animal origin. The latter method also involved alkaline hydrolysis to cover conjugates. Analytical standard for haloxyfop and haloxyfop-P are commercially available and can be considered equivalent.

Support needed: Act towards increasing the analytical coverage of the full residue definition by official labs.

Ioxynil – AO
Method: SRM/MRM.
Toxicological, occurrence and laboratory coverage data in Annex IV.

Ioxynil (free phenol) has been successfully validated by the EURL-AO (AO-M6 and -27) and the EURL-SRM (SRM-43) in various commodities of animal origin. An analytical standard for ioxynil is commercially available.

Support needed: Act towards increasing the analytical coverage by official labs.

Spiroxamine – AO
Method: MRM/SRM
.
Toxicity: ADI = 0.025 mg/kg bw/day,ARfD = 0.1 mg/kg bw
- ✓ 0 % findings EFSA 2012 report (395 samples)
- ✓ 0 % findings EFSA 2013 report (428 samples)
- ✓ 0% findings EFSA 2014 report (636 samples)
- ✓ 0% findings EFSA 2015 report (92 samples)
- ✓ 0% findings EFSA 2016 report (84 samples)
- ✓ 0% findings EFSA 2017 report (850 samples)

3% labs and 11% MS analysed full RD in 2018.
7% labs and 14% MS analysed full RD in 2018
Based on feeding studies, relevant for cows' milk and liver.

Spiroxamine carboxylic acid (M06) has been successfully validated by the EURL-SRM (SRM-36) in various commodities of animal origin. An analytical standard for the metabolite M06 is commercially available.

Support needed: Act towards increasing the analytical coverage by official labs.

(b) Support required due to other reasons

Aminocyclopyrachlor – AO
Not approved in EU, recently approved outside EU
ADI 0-3 mg/kg bw day, ARfD N/A
Method: SRM
Standard commercially available. Successfully validated by EURL-SRM using QuPPe in food of plant origin. Validation in fat, milk, liver and kidney was conducted and published in the QuPPe-AO document.
Based on feeding studies, relevant commodities animal fat, milk, liver and kidney.

Aminocyclopyrachlor has been successfully validated by the EURL-SRM (QuPPe-AO, SRM-25) in various commodities of animal origin. An analytical standard for aminocyclopyrachlor is commercially available but the corresponding ILIS is not available.

Support needed: Act towards increasing the analytical coverage by official labs.

Benzovindiflupyr – AO
Toxicological, occurrence and laboratory coverage data in AnnexIV.
Method: MRM
Benzovindiflupyr has been successfully validated by the EURL-AO in various commodities of animal origin using a multiresidue approach (AO-M14 and -15). An analytical standard for benzovindiflupyr is commercially available.

Support needed: Act towards increasing the analytical coverage of the full residue definition by official labs.

Carbendazim and Thiophanate methyl – AO

Toxicity: ADI = 0.02 mg/kg bw/day, ARfD = 0.02 mg/kg bw
Method: MRM/SRM, Priority: 2A
Evaluation after 2 years (10/2017)→10/2018→10/2019

- ✓ 2.28% findings EFSA 2012
- ✓ 0% findings EFSA 2013 (712 samples)
- ✓ 0.37% findings EFSA 2014 (1350 samples)
- ✓ 1.49% findings (0.00% MRL exceedances) EFSA 2015
- ✓ 0.27% findings (0.00% MRL exceedances) EFSA 2016
- ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2017

51% labs and 68% MS analysed full RD in 2015
42% labs and 72% MS analysed full RD in 2016
38% labs and 64% MS analysed full RD in 2017
30% labs and 67% MS analysed full RD in 2018
36% labs and 64% MS analysed full RD in 2020
Relevant for honey.

Maleic hydrazide – AO

Method: SRM.
Maleic hydrazide is QuPPe amenable and has been validated by the EURL-SRM in various commodities (validation data can be found under SRM09, QuPPe-AO)
Toxicity: ADI = 0.25 mg/kg bw/day, ARfD NA
Priority: 2B
Evaluation after 2 years (10/2017) → 10/2018

- ✓ No monitoring results available in EFSA 2012 report
- ✓ 0% findings EFSA 2013 report (15 samples)
- ✓ 0% findings EFSA 2014 report (46 samples)
- ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2015 report (10 samples)
- ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2016 report (46 samples)
- ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2017 report (6 samples)

10% labs and 28% MS analysed full RD in 2015
12% labs and 36% MS analysed full RD in 2016
6% labs and 14% MS analysed full RD in 2017
6% labs and 15% MS analysed full RD in 2018
13% labs and 29% MS analysed full RD in 2020
Based on feeding studies, relevant for all commodities of animal origin.
Maleic hydrazide has been successfully validated by the EURL-SRM (QuPPe-AO, SRM-25) in various commodities of animal origin. Analytical standards for maleic hydrazide and its corresponding ILIS are commercially available.

Support needed: Act towards increasing the analytical coverage by official labs.

Mefentrifluconazole – AO

Toxicological, occurrence and laboratory coverage data in §4.2.1.
Method: MRM

Penflufen – AO

Toxicological, occurrence and laboratory coverage data in §4.2.2.
Method: MRM

Penflufen has been successfully validated by the EURL-AO in various commodities of animal origin using a multiresidue approach (AO-M27 and -28). An analytical standard for penflufen is commercially available.

Support needed: Conduct a validation study for penflufen on further commodities and circulate information. Act towards increasing the analytical coverage by official labs.

Sulfoxaflor – AO

Toxicological, occurrence and laboratory coverage data in §4.2.2.
Method: MRM

Sulfoxaflor has been successfully validated by the EURL-AO in various commodities of animal origin using a multiresidue approach (AO-M27 and -28). An analytical standard for sulfoxaflor is commercially available.

Support needed: Conduct a validation study for sulfoxaflor on further commodities and circulate information. Act towards increasing the analytical coverage by official labs.

Annex III: Substances that are of interest for cumulative risk assessment

- ✓ This Annex will be updated whenever necessary in the light of the finalisation by EFSA of new Cumulative Assessment Groups (CAGs). If substances, not yet captured in the EU MACP and the current WD, but relevant for the newly developed CAGs, they will be listed here.
- ✓ With status of October 2024, all relevant substances for the already existing CAGs, are captured by the EU MACP and/or the current WD.

Annex IV: Substances with a low level of findings

This annex contains substances for which few residues were detected during their evaluation under chapter 4. They were moved to this annex for information of the Member States that are interested of keeping them in their National Programmes as most of them are analysed by a large fraction of laboratories and Member States.

Pesticides relevant to products of plant origin

Previously listed in Chapter 4.1.1 (Frequent detections, MRL exceedances or RASFF notifications)

Amitraz (Not approved) – PO Method: SRM Toxicity: ADI 0.003 mg/kg bw/day, ARfD 0.01 mg/kg bw Priority 2A Evaluation after 2 years (10/2017) → 10/2018 ✓ 0.03% findings 2012 EFSA report ✓ 0.27% findings EFSA 2013 report ✓ 0.09% findings (0.01% MRL exceedances) EFSA 2014 ✓ 0.06% findings (0.04% MRL exceedances) EFSA 2015 ✓ 0.05% findings (0.03% MRL exceedances) EFSA 2016 ✓ 0.10% findings (0.02% MRL exceedances) EFSA 2017 ✓ 0.06% findings (0.02% MRL exceedances) EFSA 2018 ✓ 0.02% findings (0.01% MRL exceedances) EFSA 2019 ✓ 0.01% findings (0.02% MRL exceedances) EFSA 2020 14% labs and 54% MS analysed full RD in 2015 15% labs and 39% MS analysed full RD in 2016 14% labs and 9% MS analysed full RD in 2017 13% labs and 39% MS analysed full RD in 2018. ⇒ **Analytical coverage poor** ⇒ **Few findings** Especially relevant for sweet peppers, apples, tomatoes, aubergines, grapefruit, oranges, peaches and pears. Additionally relevant for chili peppers, honey, papaya, basil, green beans, okra, mandarins, cucumbers; not relevant for cereals.	Benalaxyl including other mixtures of constituent isomers including benalaxyl-M – PO Method: MRM Toxicity: ADI = 0.04 mg/kg bw/day, ARfD NA Priority: 1A Evaluation: after 1 year (10/2016) ✓ 0.1% findings in vegetables EFSA 2011 report ✓ 0.05% findings EFSA 2012 report ✓ 0.02% findings EFSA 2013 report ✓ 0.02% findings EFSA 2014 report ✓ 0.04% findings, 0.00% MRL exceedances 2015 EFSA ✓ 0.03% findings (0.00% MRL exceedances) EFSA 2016 ✓ 0.03% findings (0.00% MRL exceedances) EFSA 2017 ✓ 0.03% findings (0.00% MRL exceedances) EFSA 2018 ✓ 0.03% findings (0.00% MRL exceedances) EFSA 2019 ✓ 0.03% findings (0.00% MRL exceedances) EFSA 2020 66% labs and 85% MS analysed full RD in 2015 70% labs and 86% MS analysed full RD in 2018. ⇒ **Analytical coverage good** ⇒ **Few findings** Findings in lettuce, grapes, wine, tomatoes, sweet peppers, melons, strawberries
Chlorfluazuron (Not approved) – PO Toxicity: no toxicological reference values available Method: MRM Priority: 1B Evaluation: after 1 year (10/2018) ✓ 0.01% findings (0.01% MRL exceedances) EFSA 2013 ✓ 0.09% findings (0.09% MRL exceedances) EFSA 2014 ✓ 0.01% findings (0.02% MRL exceedances) EFSA 2015 ✓ 0.00% findings (0.02% MRL exceedances) EFSA 2016 ✓ 0.00% findings (0.02% MRL exceedances) EFSA 2017 ✓ 0.01% findings (0.01% MRL exceedances) EFSA 2018 ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2019 ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2020 30% labs and 46% MS analysed full RD in 2016 36% labs and 64% MS analysed full RD in 2017 37% labs and 64% MS analysed full RD in 2018. ⇒ **Analytical coverage poor** ⇒ **Few findings**	Clomazone – PO Method: MRM Toxicity: ADI = 0.133 mg/kg bw/day, ARfD NA Priority: 1B Evaluation: after 1 year (10/2016) ✓ 0.1% findings in vegetables (EFSA 2011 report) ✓ 0.05% findings EFSA 2012 report ✓ 0.03% findings EFSA 2013 report ✓ 0.04% findings EFSA 2014 report ✓ 0.08% findings, 0.01% MRL exceedances 2015 EFSA ✓ 0.04% findings (0.00% MRL exceedances) EFSA 2016 ✓ 0.05% findings (0.00% MRL exceedances) EFSA 2017 ✓ 0.04% findings (0.02% MRL exceedances) EFSA 2018 ✓ 0.02% findings (0.02% MRL exceedances) EFSA 2019 ✓ 0.02% findings (0.00% MRL exceedances) EFSA 2020 57% labs and 81 % MS analysed full RD in 2015 63% labs and 82% MS analysed full RD in 2018. ⇒ **Analytical coverage medium** ⇒ **Few findings** Findings in carrots and caulifower
Diafenthiuron (Not Approved) – PO *Added: 10/2018*	Diuron (Not Approved) – PO *Added: 10/2020*

Toxicity: no toxicological reference values available
Method: MRM/SRM, Priority: 1B
Evaluation: after 1 year
(10/2019)→10/2020→10/2021→10/2022→10/2023
✓ 0.03% findings (0.03% MRL exceedances) EFSA 2014
✓ 0.00% findings (0.01% MRL exceedances) EFSA 2015
✓ 0.02% findings (0.03% MRL exceedances) EFSA 2016
✓ 0.01% findings (0.02% MRL exceedances) EFSA 2017
✓ 0.01% findings (0.02% MRL exceedances) EFSA 2018
✓ 0.01% findings (0.00% MRL exceedances) EFSA 2019
✓ 0.02% findings (0.00% MRL exceedances) EFSA 2020
29% labs and 64% MS analysed full RD in 2018
30% labs and 65% MS analysed full RD in 2019
35% labs and 68% MS analysed full RD in 2020
42% labs and 64% MS analysed full RD in 2021
⇒ **Analytical coverage average**
⇒ **Few findings**
Analytical method influenced by matrix, but already included in a screening PT. Found in green beans and oranges.

Toxicity: ADI=0.007 mg/kg bw/day, ARfD 0.016 mg/kg bw
Method: MRM, Priority: 1B
Evaluation: after 1 year (10/2021)
✓ 0.02% findings (0.01% MRL exceedances) EFSA 2016
✓ 0.05% findings (0.01% MRL exceedances) EFSA 2017
✓ 0.06% findings (0.01% MRL exceedances) EFSA 2018
✓ 0.04% findings (0.00% MRL exceedances) EFSA 2019
✓ 0.01% findings (0.01% MRL exceedances) EFSA 2020
60% labs and 79% MS analysed full RD in 2020
⇒ **Analytical coverage good**
⇒ **Few findings**

Dinotefuran (Not Approved) – PO
Added: 10/2018

Toxicity: no toxicological reference values available
Method: MRM, Priority: 1B
Evaluation: after 1 year (10/2019)
✓ 0.07% findings (0.06% MRL exceedances) EFSA 2014
✓ 0.01% findings (0.03% MRL exceedances) EFSA 2015
✓ 0.03% findings (0.03% MRL exceedances) EFSA 2016
✓ 0.02% findings (0.03% MRL exceedances) EFSA 2017
✓ 0.00% findings (0.02% MRL exceedances) EFSA 2018
✓ 0.02% findings (0.04% MRL exceedances) EFSA 2019
✓ 0.04% findings (0.02% MRL exceedances) EFSA 2020
36% labs and 75% MS analysed full RD in 2018.
⇒ **Analytical coverage poor**
⇒ **Few findings**
Findings in green beans and rice, and tea (19 RASFF notifications in 2019)

Fenobucarb (Not Approved) – PO
Added: 10/2018

Toxicity: no toxicological reference values available
Method: MRM
Priority: 1B
Evaluation: after 1 year (10/2019)
✓ 0.09% findings (0.06% MRL exceedances) EFSA 2014
✓ 0.00% findings (0.02% MRL exceedances) EFSA 2015
✓ 0.06% findings (0.01% MRL exceedances) EFSA 2016
✓ 0.03% findings (0.01% MRL exceedances) EFSA 2017
✓ 0.01% findings (0.02% MRL exceedances) EFSA 2018
✓ 0.00% findings (0.01% MRL exceedances) EFSA 2019
✓ 0.00% findings (0.01% MRL exceedances) EFSA 2020
33% labs and 50% MS analysed full RD in 2018.
⇒ **Analytical coverage poor**
⇒ **Few findings**
Findings in green beans, tomatoes, rice and citrus fruits.

Fenpicoxamid – PO

Approved since 10/2018

Toxicity: ADI 0.05 mg/kg bw day, ARfD 1.8 mg/kg bw
Method MRM, Priority: 1B
Evaluation after 1 year (10/2019)→ 10/2020→10/2021 →10/2022→10/2023
✓Not detected (4.067 samples) EFSA 2020
✓Not detected (14.661 samples) EFSA 2021
2% labs and 4% MS analysed full RD in 2018
17% labs and 46% MS analysed full RD in 2019
29% labs and 57% MS analysed full RD in 2020
36% labs and 64% MS analysed full RD in 2021
39% labs and 65% MS analysed full RD in 2022
⇒ **Analytical coverage average**
⇒ **Few findings**

Forchlorfenuron – PO

Added: 10/2020

Toxicity: ADI = 0.05 mg/kg bw/day, ARfD 0.5 mg/kg bw
Method: MRM, Priority: 1A
Evaluation: after 1 year (10/2021)
✓ 0.09% findings (0.01% MRL exceedances) EFSA 2016
✓ 0.04% findings (0.02% MRL exceedances) EFSA 2017
✓ 0.03% findings (0.01% MRL exceedances) EFSA 2018
✓ 0.04% findings (0.00% MRL exceedances) EFSA 2019
✓ 0.02% findings (0.03% MRL exceedances) EFSA 2020
40% labs and 75% MS analysed full RD in 2020
⇒ **Analytical coverage good**
⇒ **Few findings**

Found in table grapes (2015, 2018), sweet peppers (2015), kiwi.

Fluazinam – PO

Added: 10/2022

Toxicity: ADI = 0.01 mg/kg bw/day, ARfD 0.07 mg/kg bw
Method: MRM, Priority: 1A
Evaluation: after 1 year (10/2023)
✓ 0.03% findings (0.00% MRL exceedances) EFSA 2018
✓ 0.02% findings (0.01% MRL exceedances) EFSA 2019
✓ 0.04% findings (0.00% MRL exceedances) EFSA 2020
✓ 0.07% findings (0.01% MRL exceedances) EFSA 2021
55% labs and 77% MS analysed full RD in 2022
⇒ **Analytical coverage medium**
⇒ **Few findings**
Mainly found in apples, pears, sweet pepper, cultivated mushrooms, potatoes, tomatoes.

Flutianil – PO

Approved since 2019

Toxicity: ADI 0.82 mg/kg bw day, ARfD 1 mg/kg bw
Method: MRM, Priority 1B
Evaluation: after 1 year (10/2020)→10/2021→10/2022→10/2023
✓ 0.05% findings (0.00% MRL exceedances) EFSA 2017
✓ 0.03% findings (0.00% MRL exceedances) EFSA 2018
✓ 0.04% findings (0.00% MRL exceedances) EFSA 2019
✓ No findings 2020
✓ Not detected (10.187 samples) EFSA 2021
11% labs and 27% MS analysed full RD in 2019
26% labs and 57% MS analysed full RD in 2020
38% labs and 70% MS analysed full RD in 2022
⇒ **Analytical coverage medium**
⇒ **Few findings**

Heptachlor (Not approved) – PO

Method: MRM
Toxicity: ADI = 0.0001 mg/kg bw/day, ARfD = NA
Priority: 1A
Evaluation: after 1 year (10/2016)
✓ 0.3% findings in animal commodities, 0.1% in vegetables EFSA 2011 report
✓ 0.06% findings EFSA 2012 report
✓ 0.05% findings EFSA 2013 report
✓ 0.02% findings EFSA 2014 report
✓ 0.01% findings, 0.00% MRL exceedances 2015 EFSA
✓ 0.02% findings (0.00% MRL exceedances) EFSA 2016
✓ 0.00% findings (0.00% MRL exceedances) EFSA 2017
✓ 0.00% findings (0.00% MRL exceedances) EFSA 2018
✓ 0.00% findings (0.00% MRL exceedances) EFSA 2019
✓ 0.01% findings (0.00% MRL exceedances) EFSA 2020
67% labs and 92% MS analysed full RD in 2015
58% labs and 86% MS analysed full RD in 2018.
⇒ **Analytical coverage good**
⇒ **Few findings**
.

Isoxaflutole – PO

Renewed since 2019

Toxicity: ADI 0.02 mg/kg bw day, ARfD 0.05 mg/kg bw
Method: SRM, Priority 2A
Evaluation: after 2 years (10/2021)→10/2022→10/2023
✓ Not Detected (11.287 samples) EFSA 2017
✓ Not detected (11.962 samples) EFSA 2018
✓ Not detected (11.519 samples) EFSA 2019
✓ Not detected (15.898 samples) EFSA 2020
✓ Not detected (16.911 samples) EFSA 2021
11% labs and 39% MS analysed full RD in 2019
22% labs and 46% MS analysed full RD in 2020
26% labs and 39% MS analysed full RD in 2021
28% labs and 39% MS analysed full RD in 2022
⇒ **Analytical coverage poor**
⇒ **Few findings**

Novaluron (not approved) – PO

Added: 10/2017

Toxicity: ADI = 0.01 mg/kg bw/day, ARfD NA

Oxathiapiprolin – PO

Approved since 03/2017

Toxicity: ADI = 0.15 mg/kg bw/day

Method: MRM, Priority: 1A
Evaluation: after 1 year (10/2018) →10/2019
- ✓ 0.14% findings (0.00% MRL exceedances) EFSA 2013
- ✓ 0.12% findings (0.00% MRL exceedances) EFSA 2014
- ✓ 0.06% findings (0.00% MRL exceedances) EFSA 2015
- ✓ 0.05% findings (0.00% MRL exceedances) EFSA 2016
- ✓ 0.07% findings (0.00% MRL exceedances) EFSA 2017
- ✓ 0.04% findings (0.00% MRL exceedances) EFSA 2018
- ✓ 0.01% findings (0.00% MRL exceedances) EFSA 2019
- ✓ 0.03% findings (0.00% MRL exceedances) EFSA 2020

45% labs and 58% MS analysed full RD in 2016
49% labs and 71% MS analysed full RD in 2017
48% labs and 71% MS analysed full RD in 2018

⇒ Analytical coverage medium

⇒ Low findings

Found in apples, pears, tomatoes
Import tolerances for apples, blueberries, tomatoes, cotton seeds (all US)

Method MRM, Priority: 1B
- ✓ Evaluation (10/2019)→10/2020→ 10/2021→10/2022→10/2023
- ✓ No monitoring data available EFSA 2014-2017
- ✓ Not detected in 2.558 samples (EFSA)
- ✓ Not detected (8.774 samples) EFSA 2019
- ✓ 0.01% findings (0.00% MRL exceedances) EFSA2020
- ✓ 0.03% findings (0.01% MRL exceedances) EFSA2021

7% labs and 18% MS analysed full RD in 2018
21% labs and 46% MS analysed full RD in 2019
32% labs and 57% MS analysed full RD in 2020
38% labs and 61% MS analysed full RD in 2021
42% labs and 69% MS analysed full RD in 2022

⇒ Analytical coverage medium

⇒ Low findings

Pyriofenone – PO
Approved since 02/2014

Toxicity: ADI = 0.07 mg/kg bw/day, ARfD NA
Method MRM, Priority 1A
Evaluation after 1 year (10/2018) →10/2019→10/2020 →10/2021→10/2022→10/2023
✓ No monitoring data available EFSA 2012-2015
✓ N.D EFSA 2016
✓ 0.04% findings (0.00% MRL exceedances) EFSA 2017
✓ 0.03% findings (0.00% MRL exceedances) EFSA 2018
✓ 0.01% findings (0.00% MRL exceedances) EFSA 2019
✓ 0.06% findings (0.00% MRL exceedances) EFSA 2020
✓ 0.09% findings (0.00% MRL exceedances) EFSA 2021
17% labs and 39% MS analysed full RD in 2016
24% labs and 50% MS analysed full RD in 2017
21% labs and 50% MS analysed full RD in 2018
33% labs and 77% MS analysed full RD in 2019
36% labs and 75% MS analysed full RD in 2020
41% labs and 71% MS analysed full RD in 2021
46% labs and 77% MS analysed full RD in 2022
⇒ Analytical coverage medium
⇒ Low findings
Found in wines.

Phenmedipham (Approved) – PO
Added: 10/2021

Toxicity: ADI = 0.03 mg/kg bw/day, ARfD NA
Method: MRM, Priority: 1A
Evaluation: after 1 year (10/2022)
✓ 0.07% findings (0.01% MRL exceedances) EFSA 2017
✓ 0.07% findings (0.01% MRL exceedances) EFSA 2018
✓ 0.01% findings (0.03% MRL exceedances) EFSA 2019
✓ 0.04% findings (0.00% MRL exceedances) EFSA 2020
60% labs and 82% MS analysed full RD in 2021
⇒ Analytical coverage good
⇒ Few findings

Found in spinaches, lettuces and strawberries

Quintozene (Not approved) – PO

Method: MRM
Toxicity: ADI = 0.01 mg/kg bw/day, ARfD NA
Priority: 1A
Evaluation: after 1 year (10/2016)
✓ % findings EFSA 2011 report
✓ 0.04% findings EFSA 2012 report
✓ 0.01% findings EFSA 2013 report
✓ 0.03% findings EFSA 2014 report
✓ 0.02% findings, 0.00% MRL exceedances 2015 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2016 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2017 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2018 EFSA
✓ 0.02% findings, 0.00% MRL exceedances 2019 EFSA
✓ 0.02% findings, 0.00% MRL exceedances 2020 EFSA
48% labs and 89% MS analysed full RD in 2015
46% labs and 79% MS analysed full RD in 2018.
⇒ Analytical coverage medium
⇒ Low findings

Quinalphos (not approved) – PO
Added: 10/2018

Toxicity: no toxicological reference values available
Method: MRM
Priority: 1B
Evaluation: after 1 year (10/2019)
✓ 0.02% findings (0.01% MRL exceedances) EFSA 2014
✓ 0.02% findings (0.01% MRL exceedances) EFSA 2015
✓ 0.01% findings (0.01% MRL exceedances) EFSA 2016
✓ 0.00% findings (0.00% MRL exceedances) EFSA 2017
✓ 0.01% findings (0.00% MRL exceedances) EFSA 2018
✓ 0.01% findings (0.01% MRL exceedances) EFSA 2019
✓ 0.00% findings (0.00% MRL exceedances) EFSA 2020
71% labs and 89% MS analysed full RD in 2018.
⇒ Good analytical coverage
⇒ Low findings
Found in peas with pods

Tetramethrin (Not approved) – PO

Toxicity: no toxicological reference values available
Method: MRM
Priority: 1B
Evaluation after 1 year (10/2016)→ 10/2018
✓ 0.02% findings EFSA 2012 report
✓ 0.02% findings EFSA 2013 report
✓ 0.04% findings (0.01% MRL exceedances) EFSA 2014
✓ 0.00% findings (0.01% MRL exceedances) EFSA 2015
✓ 0.01% findings (0.01% MRL exceedances) EFSA 2016
✓ 0.01% findings (0.01% MRL exceedances) EFSA 2017
✓ 0.01% findings (0.03% MRL exceedances) EFSA 2018
✓ 0.01% findings (0.03% MRL exceedances) EFSA 2019
✓ 0.01% findings (0.03% MRL exceedances) EFSA 2020

Tolfenpyrad (not approved) – PO
Added: 10/2018

Toxicity: no toxicological reference values available
Method: MRM, Priority: 1B
Evaluation: after 1 year (10/2019)→ 10/2020
✓ 0.14% findings (0.11% MRL exceedances) EFSA 2014
✓ 0.19% findings (0.00% MRL exceedances) EFSA 2015
✓ 0.04% findings (0.04% MRL exceedances) EFSA 2016
✓ 0.03% findings (0.05% MRL exceedances) EFSA 2017
✓ 0.00% findings (0.13% MRL exceedances) EFSA 2018
✓ 0.01% findings (0.10% MRL exceedances) EFSA 2019
✓ 0.01% findings (0.05% MRL exceedances) EFSA 2020
23% labs and 64% MS analysed full RD in 2018
33% labs and 70% MS analysed full RD in 2019

68% labs and 92% MS analysed full RD in 2015 70% labs and 93% MS analysed full RD in 2018. ⇒ **Low findings** ⇒ **Good analytical coverage** Found in green beans, citrus fruits, cereals.	⇒ **Analytical coverage poor** ⇒ **Low findings** Relevant for tea. **Not found in any EU MACP commodity.** Found in carrots.
Trifluralin (not approved) – PO *Added: 10/2018* Toxicity: ADI = 0.015mg/kg bw/day Method: SRM, Priority: 2B Evaluation: after 2 years (10/2020) ✓ 0.02% findings (0.01% MRL exceedances) EFSA 2014 ✓ 0.01% findings (0.01% MRL exceedances) EFSA 2015 ✓ 0.01% findings (0.01% MRL exceedances) EFSA 2016 ✓ 0.01% findings (0.00% MRL exceedances) EFSA 2017 ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2018 ✓ 0.01% findings (0.00% MRL exceedances) EFSA 2019 ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2020 No data on analytical coverage 80% labs and 93% MS analysed full RD in 2018 ⇒ **Analytical coverage good** ⇒ **Low findings**	

Previously listed in Chapter 4.1.2 (Recently Approved)

Benzovindiflupyr – PO *Approved since 03/2016* Toxicity: ADI 0-0.05 mg/kg bw day, ARfD 0.1 mg/kg bw Method: MRM, Priority 1A Evaluation: after 1 year (10/2017) →10/2018→10/2019→ 10/2020 ✓ No EFSA monitoring data for 2012, 2013, 2014, 2015. ✓ In 2016 and 2017 analysed but not detected. ✓ 0.01% findings (0.00% MRL exceedances) EFSA 2018 ✓ 0.01% findings (0.00% MRL exceedances) EFSA 2019 ✓ 0.03% findings (0.00% MRL exceedances) EFSA 2020 2% labs and 8% MS analysed full RD in 2015 14.4% labs and 50% MS analysed full RD in 2016 24% labs and 46% MS analysed full RD in 2017 22% labs and 57% MS analysed full RD in 2017 35% labs and 70% MS analysed full RD in 2019 ⇒ **Analytical coverage poor** ⇒ **Findings too low** Relevant commodities: soybean, wheat, apples, grapes, pears, peanuts, potatoes and barley and maize	Fluxapyroxad – PO *Approved since 01/2013* Toxicity: ADI = 0.02 mg/kg bw/day, ARfD = 0.25 mg/kg bw Method: MRM, Priority: 1A Evaluation: after 1 year (10/2016, extended to 10/2017) ✓ 0% findings EFSA 2012 report ✓ 0.12% findings EFSA 2013 report ✓ 0.01% findings EFSA 2014 report ✓ 0.04% findings (0.01% MRL exceedances) EFSA 2015 report (19016 samples) ✓ 0.01% findings (0.00% MRL exceedances) EFSA 2016 report (21906 samples) ✓ 0.12% findings (0.00% MRL exceedances) EFSA 2017 report (39397 samples) ✓ 0.48% findings (0.00% MRL exceedances) EFSA 2018 ✓ 0.97% findings (0.00% MRL exceedances) EFSA 2019 ✓ 1.27% findings (0.01% MRL exceedances) EFSA 2020 42% labs and 85% MS analysed full RD in 2015 45% labs and 81% MS analysed full RD in 2016 51% labs and 89% MS analysed full RD in 2018. ⇒ **Medium analytical coverage** Found in apples, pears, cereals, cabbages, grapes, wine, lettuce, peaches, aubergines, tomatoes, sweet peppers, strawberries.

Isopyrazam (not approved)– PO
Approved since 4/2013

Method: MRM
Toxicity: ADI = 0.03 mg/kg bw/day, ARfD = 0.2 mg/kg bw
Priority: 1A
Evaluation: after 1 year (10/2016) extended with an extra year (10/2017)
- ✓ No monitoring results EFSA 2012 report
- ✓ 0% findings EFSA 2013 report (473 samples)
- ✓ 0% findings EFSA 2014 report
- ✓ 0.04% findings (0.00% MRL exceedances) EFSA 2015 report (2668 samples)
- ✓ 0.05% findings (0.00% MRL exceedances) EFSA 2016 report (6568 samples)
- ✓ 0.11% findings (0.01% MRL exceedances) EFSA 2017 report (22042 samples)
- ✓ 0.01% findings (0.00% MRL exceedances) EFSA 2018
- ✓ 0.02% findings (0.00% MRL exceedances) EFSA 2019
- ✓ 0.12% findings (0.00% MRL exceedances) EFSA 2020

27% labs and 69% MS analysed full RD in 2015
42% labs and 73% MS analysed full RD in 2016
41% labs and 75% MS analysed full RD in 2018.
⇒ **Analytical coverage medium**
⇒ **Findings don't justify inclusion in EU MACP**
Findings in apples, carrots, cereals (rye, barley), tomatoes

Penflufen – PO
Approved since 02/2014

Toxicity:ADI = 0.04 mg/kg bw/day, ARfD = 0.5 mg/kg bw
Method: MRM
Priority: 1A
Evaluation: after 1 year (10/2017) → 10/2018
- ✓ No monitoring data available EFSA 2012, 2013 or 2014
- ✓ N.D. EFSA 2015, 2016 (4161 samples), 2017 (18821), 2018, 2019, 2020

14% labs and 46% MS analysed full RD in 2015
26% labs and 65% MS analysed full RD in 2016
33% labs and 57% MS analysed full RD in 2017
30% labs and 68% MS analysed full RD in 2018.

⇒ **Analytical coverage poor**
⇒ **Low findings**

Penthiopyrad – PO
Approved since 5/2014

Method: MRM
Toxicity: ADI = 0.1 mg/kg bw/day, ARfD = 0.75 mg/kg bw
Priority: 1B
Evaluation: after 1 year (10/2017)
- ✓ No monitoring data available EFSA 2012 report
- ✓ No monitoring data available EFSA 2013 report
- ✓ 0.08% findings EFSA 2014 report
- ✓ 0.04% findings (0.00% MRL exceedances) EFSA 2015 report (2595 samples)
- ✓ 0.06% findings (0.00% MRL exceedances) EFSA 2016 report (8298 samples)
- ✓ 0.07% findings (0.00% MRL exceedances) EFSA 2017 report (25192 samples)
- ✓ 0.06% findings (0.00% MRL exceedances) EFSA 2018
- ✓ 0.13% findings (0.01% MRL exceedances) EFSA 2019
- ✓ 0.13% findings (0.00% MRL exceedances) EFSA 2020

19% labs and 50% MS analysed full RD in 2015
40% labs and 77% MS analysed full RD in 2016
41% labs and 79% MS analysed full RD in 2018.
⇒ **Analytical coverage medium**
⇒ **Findings don't justify inclusion in EU MACP**

Findings in aubergines, apples, pears, lettuce, strawberries, tomatoes, spinach

Previously listed in Chapter 4.1.4 (High toxicity)

Ethoprophos (not approved) – PO

Toxicity:ADI =0.0004 mg/kg bw/day, ARfD = 0.01 mg/kg bw
Method: MRM
Priority: 1A
Evaluation: after 1 year (10/2016)

✓ 0.01% findings EFSA 2012 report
✓ 0.02% findings EFSA 2013 report
✓ 0.01% findings EFSA 2014 report
✓ 0.01% findings, 0.00% MRL exceedances 2015 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2016 EFSA
✓ 0.00% findings, 0.00% MRL exceedances 2017 EFSA
✓ 0.00% findings (0.00% MRL exceedances) 2018 EFSA
✓ 0.01% findings (0.00% MRL exceedances) 2019 EFSA
✓ 0.00% findings (0.00% MRL exceedances) 2020 EFSA
83% labs and 100% MS analysed full RD in 2015
80% labs and 93% MS analysed full RD in 2018.
EURL comment: a lot of laboratories use this as an internal standard. If there are significant findings then this practice is called into question. Also this compound is unstable in protic solvents and therefore is unlikely to be found
⇒ **Analytical coverage good**
⇒ **Few findings**
Findings reported in green beans, sweet peppers, orange juice, peaches.

Previously listed in Chapter 4.1.5 (Voluntary in Reg. (EU) N° 788/2012)

<u>Phenthoate (Not approved) – PO</u>
Footnote i) in Reg. (EC) N° 788/2012
Method MRM
Toxicity: ADI = 0.003 mg/kg bw/day, ARfD NA
Priority: 1A
Evaluation after 1 year (10/2016)
✓ 0.01% findings EFSA 2012 report
✓ 0% findings EFSA 2013 report
✓ 0.03% findings EFSA 2014 report
✓ 0.01% findings, 0.00% MRL exceedances 2015 EFSA
✓ 0.01% findings, 0.01% MRL exceedances 2016 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2017 EFSA
✓ 0.00% findings, 0.01% MRL exceedances 2018 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2019 EFSA
✓ 0.00% findings, 0.01% MRL exceedances 2020 EFSA
78% labs and 100% MS analysed full RD in 2015
68% labs and 93% MS analysed full RD in 2018.
⇒ **Analytical coverage good**
⇒ **Few findings**
Findings reported in oranges and rice

<u>Prothiofos (Not approved) – PO</u>
Footnote g) in Reg. (EC) N° 788/2012
Method: MRM
Toxicity: no ADI or ARfD available in database
Priority: 1B
Evaluation after 1 year (10/2016)
✓ 0.01% findings EFSA 2012 report
✓ 0.01% findings EFSA 2013 report
✓ 0.01% findings EFSA 2014 report
✓ 0.01% findings, 0.00% MRL exceedances 2015 EFSA
✓ 0.00% findings, 0.00% MRL exceedances 2016 EFSA
✓ 0.00% findings, 0.01% MRL exceedances 2017 EFSA
✓ 0.01% findings, 0.01% MRL exceedances 2018 EFSA
✓ 0.00% findings, 0.00% MRL exceedances 2019 EFSA
✓ 0.01% findings, 0.01% MRL exceedances 2020 EFSA
66% labs and 96% MS analysed full RD in 2015
66% labs and 93% MS analysed full RD in 2018.
⇒ **Low findings**
⇒ **Substance mainly of interest for imported commodities**
⇒ **Good analytical coverage**
Findings reported in citrus fruits, aubergines and wheat

<u>Rotenone (Not approved) – PO</u>
Footnote g) in Reg. (EC) N° 788/2012
Method: MRM
Toxicity: no ADI or ARfD in database
Priority: 1B
Evaluation after 1 year (10/2016)
✓ 0% findings EFSA 2012 report
✓ 0% findings EFSA 2013 report
✓ 0.01% findings EFSA 2014 report
✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
✓ 0.00% findings, 0.00% MRL exceedances 2016 EFSA
✓ 0.00% findings, 0.00% MRL exceedances 2017 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2018 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2019 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2020 EFSA
50% labs and 89% MS analysed full RD in 2015
52% labs and 8% MS analysed full RD in 2018.
⇒ **Low findings**
⇒ **Medium analytical coverage**

<u>Triticonazole – PO</u>
Footnote i) in Reg. (EC) N° 788/2012
Method: MRM
Toxicity ADI = 0.025 mg/kg bw/day, ARfD = 0.05 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
✓ 0% findings EFSA 2012 report
✓ 0% findings EFSA 2013 report
✓ 0.02% findings EFSA 2014 report
✓ 0.01% findings, 0.01% MRL exceedances 2015 EFSA
✓ 0.00% findings, 0.00% MRL exceedances 2016 EFSA
✓ 0.00% findings, 0.00% MRL exceedances 2017 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2018 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2019 EFSA
✓ 0.01% findings, 0.00% MRL exceedances 2020 EFSA
77% labs and 100% MS analysed full RD in 2015
76% labs and 96% MS analysed full RD in 2018.
⇒ **Low findings**
⇒ **Good analytical coverage**

	Findings reported in pears and rice

Pesticides for analysis in products of animal origin

Previously listed in Chapter 4.2.1 (Frequent detections, MRL exceedances or RASFF notification)

Azinphos ethyl (Not approved) – AO Method: MRM Toxicity: no toxicological information available Priority: 1B Evaluation after 1 year (10/2017) ✓ 0% findings EFSA 2012 report ✓ 0.12% findings EFSA 2013 report ✓ 0% findings EFSA 2014 report ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2015 report (73 samples) ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2016 report (2092 samples) ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2017 report (3984 samples) ✓ 0.00% findings, 0.00% MRL exceedances 2018 EFSA ✓ 0.04% findings, 0.00% MRL exceedances 2019 EFSA ✓ 0.00% findings, 0.00% MRL exceedances 2020 EFSA 62% labs and 92% MS analysed full RD in 2015 65% labs and 93% MS analysed full RD in 2018. ⇒ **Analytical coverage good** ⇒ **Low findings** Based on feeding studies, relevant for animal muscle and fat. Found in cow milk.	Endrin (Not approved) – AO *Added: 10/2018* Toxicity: ADI 0.0002 mg/kg bw/day, ARfD NA Method: MRM, Priority: 1A Evaluation: after 1 years (10/2019) ✓ 0.05 % findings (0.00% MRL exceedances) EFSA 2014 ✓ 0.30 % findings (0.00% MRL exceedances) EFSA 2015 ✓ 0.04 % findings (0.00% MRL exceedances) EFSA 2016 ✓ 0.04% findings (0.00% MRL exceedances) EFSA 2017 ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2018 ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2019 ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2020 77% labs and 96% MS analysed full RD in 2018. ⇒ **Analytical coverage good** ⇒ **Low findings** Experts indicated findings on liver.
Fenpyrazamine – AO *Approved since 01/2013* Toxicity: ADI = 0.13 mg/kg bw/day, ARfD = 0.3 mg/kg bw Method: MRM Priority: 1B Evaluation: after 1 year (10/2017) → 10/2018→10/2019 ✓ No EFSA monitoring data for 2014 ✓ N.D. EFSA 2015, 2016, 2017 (127 samples), 2018, 2019, 2020 14.3% labs and 36% MS analysed full RD in 2015 17.3% labs and 44% MS analysed full RD in 2016 21% labs and 36% MS analysed full RD in 2017 18% labs and 44% MS analysed full RD in 2018. ⇒ **Analytical coverage poor** ⇒ **No findings** This substance is not expected to leave significant residues in food of animal origin.	Fenpropimorph (Not approved) – AO Method MRM/ SRM. The standard for metabolite fenpropimorph carboxylic acid is now commercially available. Successful validation at 0.01 mg/kg by EURL-SRM using QuEChERS without PSA cleanup in milk and swine meat.. Toxicity: ADI = 0.003mg/kg bw/day,ARfD = 0.03 mg/kg bw ✓ 0 % findings EFSA 2012 report (396 sample) ✓ 0 % findings EFSA 2013 report (453 samples) ✓ 0% findings EFSA 2014 report (238 samples) ✓ 0% findings EFSA 2015 report (154 samples) ✓ 0% findings EFSA 2016 report (2064samples) ✓ 0% findings EFSA 2017 report (919 samples) ✓ 0% findings EFSA 2018, 2019, 2020 6% labs and 15% MS analysed full RD in 2018. According to feeding studies relevant for ruminant's fat, swine and ruminant's muscle, liver and kidney and cow's milk.
Haloxyfop (Not approved) – AO Toxicity: ADI=0.00065 mg/kg bw/day, ARfD=0.075 mg/kg bw Method: SRM (hydrolysis required to cover conjugates) Priority: 2A Evaluation after 2 years (10/2017) → 10/2018 ✓ 0 % findings EFSA 2012 report ✓ 0% findings EFSA 2013 report (171 samples) ✓ 0% findings EFSA 2014 report (258 samples)	Ioxynil (Not approved) – AO Toxicity: ADI = 0.005 mg/kg bw/day, ARfD 0.04 mg/kg bw Method: MRM/SRM Priority: 2A Evaluation after 2 years (10/2017) → 10/2018 ✓ No monitoring results available in EFSA 2012 report ✓ 0% findings EFSA 2013 report (177 samples) ✓ 0% findings EFSA 2014 report (563 samples)

✓ N.D EFSA 2015 (16 samples) ✓ N.D EFSA 2016 (708 samples) ✓ 0.04% findings EFSA 2017 (1 of 2603 samples) ✓ 0% findings EFSA 2018, 2019, 2020 14% labs and 40% MS analysed full RD in 2015 9% labs and 24% MS analysed full RD in 2016 4% labs and 0% MS analysed full RD in 2017 6% labs and 15% MS analysed full RD in 2018. ⇒ **Analytical coverage poor** ⇒ **No findings** Based on feeding studies, relevant for cows' milk, kidney, liver, butter and poultry fat.	✓ N.D EFSA 2015 report (21 samples) ✓ N.D EFSA 2016 report (44 samples) ✓ N.D EFSA 2017 report (38 samples) ✓ 0% findings EFSA 2018, 2019, 2020 4% labs and 12% MS analysed full RD in 2015 6% labs and 16% MS analysed full RD in 2016 3% labs and 7% MS analysed full RD in 2017 7% labs and 22% MS analysed full RD in 2018. ⇒ **Analytical coverage poor** ⇒ **No findings** Based on feeding studies, relevant for ruminant fat, muscle, kidney and liver.
Penflufen – AO *Approved since 02/2014* Toxicity:ADI = 0.04 mg/kg bw/day, ARfD = 0.5 mg/kg bw Method: MRM, Priority: 1A ✓ No monitoring data available EFSA 2012, 2013, 2014, 2015 ✓ N.D. EFSA 2016, 2017 (11 samples) ✓ N.D. EFSA 2018 (186 samples) ✓ N.D. EFSA 2019 (734 samples) ✓ N.D. EFSA 2020 (826 samples) ✓ N.D. EFSA 2021 (1046 samples) 6% labs and 20% MS analysed full RD in 2015 9% labs and 24% MS analysed full RD in 2016 15% labs and 29% MS analysed full RD in 2017 15% labs and 33% MS analysed full RD in 2018 28% labs and 52% MS analysed full RD in 2019 31% labs and 54% MS analysed full RD in 2020 33% labs and 61% MS analysed full RD in 2021 37% labs and 63% MS analysed full RD in 2022 ⇒ **Analytical coverage medium** ⇒ **No findings**	Sulfoxaflor – AO *Approved since 08/2015* Toxicity: ADI = 0.04 mg/kg bw/day, ARfD = 0.25 mg/kg bw Method: MRM, Priority: 1B ✓ No monitoring data 2012, 2013, 2014 and 2015. ✓ N.D. EFSA 2016 (24 samples), 2017 not analysed ✓ N.D. EFSA 2018 (223 samples) ✓ N.D. EFSA 2019 (875 samples) ✓ N.D. EFSA 2020 (917 samples) ✓ N.D. EFSA 2020 (1121 samples) 3.6% labs and 12% MS analysed full RD in 2015 3.6% labs and 12% MS analysed full RD in 2016 13% labs and 29% MS analysed full RD in 2017 15% labs and 37% MS analysed full RD in 2018 25% labs and 48% MS analysed full RD in 2019 33% labs and 54% MS analysed full RD in 2020 37% labs and 50% MS analysed full RD in 2021 40% labs and 58% MS analysed full RD in 2022 ⇒ **Analytical coverage medium** ⇒ **No findings**

Previously listed in Chapter 4.2.3 (Voluntary in Reg. (EU) N° 788/2012)

Benzovindiflupyr – AO *Approved since 03/2016* Toxicity: ADI 0-0.05 mg/kg bw day, ARfD 0.1 mg/kg bw Method: MRM Priority 1A Evaluation: after 1 year (10/2017) -> 10/2018 ✓ No EFSA monitoring data for 2012, 2013, 2014, 2015, 2016. ✓ N.D EFSA 2017 report (103 samples), 2018, 2019 ✓ 0.12 % findings EFSA 2020 0% labs and 0% MS analysed full RD in 2015 4.9% labs and 16% MS analysed full RD in 2016 13% labs and 29% MS analysed full RD in 2017 13% labs and 33% MS analysed full RD in 2018. **⇒ Analytical coverage poor** **⇒ Not clear if findings justify inclusion in EU MACP** **⇒ Already kept in chapter 4 of WD for an extra year.** Based on feeding studies, relevant for animal fat and liver.	Bixafen – AO *Approved since 01/2013* Remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in milk and swine meat (2013) and butter and egg (2015). Not relevant for commodities listed in 2014.' Method: MRM Toxicity: ADI = 0.02 mg/kg bw/day, ARfD = 0.2 mg/kg bw Priority 1A. Evaluation after 1 year (10/2017) ✓ 0 % findings EFSA 2012 report (133 samples) ✓ 0 % findings EFSA 2013 report (527 samples) ✓ 0 % findings EFSA 2014 report (480samples) ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2015 report (22854 samples) ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2016 report (104 samples) ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2017 report (1139 samples) ✓ N.D EFSA 2018, 2019, 2020 0% labs and 0% MS analysed full RD in 2015 1% labs and 4% MS analysed full RD in 2016 4% labs and 4% MS analysed full RD in 2018. **⇒ Analytical coverage poor**

	⇒ **No findings** Based on feeding studies, relevant for cows' milk, animal muscle and fat, butter and eggs.
<u>Chlorobenzilate (not approved) – AO</u> Footnotes g) and i) in Reg. (EC) N° 788/2012. Method: MRM Toxicity: ADI = 0.02 mg/kg bw/day, ARfD NA Priority: 1A Evaluation after 1 year (10/2016) ✓ 0.96 % findings EFSA 2012 report ✓ 0.03% findings EFSA 2013 report ✓ 0.05% findings EFSA 2014 report ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA ✓ 0.14% findings, 0.00% MRL exceedances 2016 EFSA ✓ N.D EFSA 2017 report (2233 samples) 55% labs and 84% MS analysed full RD in 2015 48% labs and 82% MS analysed full RD in 2018. Based on feeding studies, relevant for animal fat, milk and eggs. **⇒ Analytical coverage medium** **⇒ Findings don't justify inclusion in EU MACP**	<u>Cyfluthrin (Not approved) – AO</u> Footnote i) in Reg. (EC) N° 788/2012 Method: MRM Toxicity: ADI = 0.003 mg/kg bw/day, ARfD = 0.02 mg/kg bw Priority: 1A Evaluation after 1 year (10/2016) ✓ 0 % findings EFSA 2012 report ✓ 0% findings EFSA 2013 report (3531 samples) ✓ 0% findings EFSA 2014 report (4189 samples) ✓ 0% findings EFSA 2015 ✓ N.D EFSA 2016 report (2888 samples) ✓ N.D EFSA 2017 report (2365 samples) 82% labs and 96% MS analysed full RD in 2015 58% labs and 82% MS analysed full RD in 2018. Based on feeding studies, relevant for animal fat. **⇒ Analytical coverage good** **⇒ No findings**
<u>Cyproconazole (Not approved) – AO</u> No footnote, remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in liver (2014), it does not need to be analysed in poultry meat (2014). Not relevant for commodities listed in 2013/2015.' Method: MRM Toxicity: ADI = 0.02 mg/kg bw/day, ARfD = 0.02 mg/kg bw Priority: 1A Evaluation after 1 year (10/2016) ✓ 0 % findings EFSA 2012 report ✓ 0% findings EFSA 2013 report (902 samples) ✓ 0% findings EFSA 2014 report (2164 samples) ✓ 0 % findings EFSA 2015 report ✓ 0 % findings EFSA 2016 report (2169 samples) ✓ 0 % findings EFSA 2017 report (1813 samples) 46% labs and 76% MS analysed full RD in 2015 37% labs and 67% MS analysed full RD in 2018. Based on feeding studies, relevant for liver. **⇒ Analytical coverage medium** **⇒ No findings**	<u>Dichlorprop– AO</u> *Approved since 01/2007 (dichlorprop-P)* No footnote, remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in liver (2014), it does not need to be analysed in poultry meat (2014). Not relevant for commodities listed in 2013/2015.' Method: SRM (hydrolysis required to cover conjugates) Toxicity: no ADI or ARfD in COM database, non-approved substance Priority: 2B Evaluation after 2 years (10/2017) ✓ 0 % findings EFSA 2012 report (124 samples) ✓ 0 % findings EFSA 2013 report (234samples) ✓ 0 % findings EFSA 2014 report (531 samples) ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2015 report (53 samples) ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2016 report (111 samples) ✓ N.D EFSA 2017 report (48 samples) 16% labs and 40% MS analysed full RD in 2015 27% labs and 44% MS analysed full RD in 2016 21% labs and 59% MS analysed full RD in 2018. **⇒ Analytical coverage poor** ⇒ **No findings** Based on feeding studies, relevant for liver and kidney.
<u>Epoxiconazole (Not approved) – AO</u> No footnote, remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in liver (2014), it does not need to be analysed in poultry meat (2014). Not relevant for commodities listed in 2013/2015.' Method: MRM	<u>Etofenprox – AO</u> *Approved since 01/2010* No footnote, remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in milk (2013) and butter (2015), it does not need to be analysed in swine meat (2013) and egg (2015). Not relevant for commodities listed in 2014.'

Toxicity: ADI = 0.008 mg/kg bw/day, ARfD = 0.023 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
- ✓ 0 % findings EFSA 2012 report
- ✓ 0 % findings EFSA 2013 report (854 samples)
- ✓ 0 % findings EFSA 2014 report (1848 samples)
- ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA data
- ✓ 0 % findings EFSA 2016 report (2104 samples)
- ✓ 0 % findings EFSA 2017 report (1989 samples)

43% labs and 76% MS analysed full RD in 2015
37% labs and 63% MS analysed full RD in 2018.
Based on feeding studies, relevant for liver.
⇒ Analytical coverage medium
⇒ No findings

Method: MRM
Toxicity: ADI = 0.03 mg/kg bw/day, ARfD = 1 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
- ✓ 0 % findings EFSA 2012 report
- ✓ 0 % findings EFSA 2013 report (1366 samples)
- ✓ 0 % findings EFSA 2014 report (1959 samples)
- ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
- ✓ 0 % findings EFSA 2016 report (1930 samples)
- ✓ 0 % findings EFSA 2017 report (1637 samples)

44% labs and 80% MS analysed full RD in 2015
39% labs and 74% MS analysed full RD in 2018.
Based on feeding studies relevant for animal fat, cows' milk and butter.
⇒ Analytical coverage medium
⇒ No findings

Fenthion (Not approved) – AO

Footnote i) in Reg. (EC) N° 788/2012
Method: MRM
Toxicity: ADI = 0.007 mg/kg bw/day, ARfD = 0.01 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
- ✓ 0 % findings EFSA 2012 report
- ✓ 0 % findings EFSA 2013 report (2260 samples)
- ✓ 0 % findings EFSA 2014 report (3598 samples)
- ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
- ✓ 0 % findings EFSA 2016 report (1631 samples)
- ✓ 0 % findings EFSA 2017 report (2211 samples)

31% labs and % MS analysed full RD in 2015
30% labs and 56% MS analysed full RD in 2018.
Based on feeding studies relevant for animal fat and liver.
⇒ Analytical coverage low
⇒ No findings

Fluquinconazole (Not approved) – AO

No footnote, remark h) in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in milk (2013), liver (2014) and butter (2015), it does not need to be analysed in swine meat (2013), poultry meat (2014) and egg (2015).'
Method: MRM
Toxicity: ADI = 0.002 mg/kg bw/day, ARfD = 0.02 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
- ✓ 0.35 % findings EFSA 2012 report
- ✓ 0% findings EFSA 2013 report (1280 samples)
- ✓ 0% findings EFSA 2014 report (2703 samples)
- ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
- ✓ 0 % findings EFSA 2016 report (2284 samples)
- ✓ 0 % findings EFSA 2017 report (2071 samples)

48% labs and 76% MS analysed full RD in 2015
44% labs and 78% MS analysed full RD in 2018.
Based on feeding studies relevant for cows' milk, liver and butter.
⇒ Analytical coverage medium
⇒ No findings

Flusilazole (not approved) – AO

No footnote, remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in swine meat (2013) and liver (2014), it does not need to be analysed in milk (2013) and poultry meat (2014). Not relevant for commodities listed in 2015.'
Method: MRM
Toxicity: ADI = 0.002 mg/kg bw/day, ARfD = 0.005 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
- ✓ 0 % findings EFSA 2012 report
- ✓ 0% findings EFSA 2013 report (669 samples)
- ✓ 0% findings EFSA 2013 report (1074 samples)
- ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
- ✓ 0 % findings EFSA 2016 report (858 samples)
- ✓ 0 % findings EFSA 2017 report (2151 samples)

1% labs and 4% MS analysed full RD in 2015
1% labs and 4% MS analysed full RD in 2018.

Metaflumizone – AO

Approved since 01/2015

No footnote, remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in swine meat (2013), poultry meat, (2014) and egg (2015), it does not need to be analysed in milk (2013), liver (2014) and butter (2015).'
Method: MRM
Toxicity: ADI = 0.01 mg/kg bw/day, ARfD = 0.13 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016).
- ✓ 0 % findings EFSA 2012 report
- ✓ 0% findings EFSA 2013 report (222 samples)
- ✓ 0% findings EFSA 2014 report (1027 samples)
- ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
- ✓ 0 % findings EFSA 2016 report (1262 samples)
- ✓ 0 % findings EFSA 2017 report (1219 samples)

31% labs and 72% MS analysed full RD in 2015
4% labs and 15% MS analysed full RD in 2018.

Based on feeding studies relevant for animal fat, kidney and liver.
⇒ **Analytical coverage low**
⇒ **No findings**

Based on feeding studies relevant for swine muscle, poultry muscle and eggs.
⇒ **Analytical coverage low**
⇒ **No findings**

Metazachlor – AO
Approved since 08/2009

Footnote h) in Reg. (EC) N° 788/2012 and remark: 'To be analysed on voluntary basis in liver (2014), it does not need to be analysed in poultry meat (2014). Not relevant for commodities listed in 2013/2015.'
Method: SRM, there is currently no method available for covering the full residue definition within the EURLs.
Toxicity: ADI = 0.08 mg/kg bw/day, ARfD = 0.5 mg/kg bw
Priority: 2A
Evaluation after 2 years (10/2017)
✓ 0 % findings EFSA 2012 report
✓ 0% findings EFSA 2013 report (701 samples)
✓ 0% findings EFSA 2014 report (1650 samples)
✓ 0.00% findings (0.00% MRL exceedances) EFSA 2015 report (821 samples)
✓ 0.00% findings (0.00% MRL exceedances) EFSA 2016 report (628 samples)
✓ 0 % findings EFSA 2017 report (676 samples)
1% labs and 4% MS analysed full RD in 2015
6% labs and 16% MS analysed full RD in 2016
2% labs and 7% MS analysed full RD in 2018.
⇒ **Analytical coverage poor**
⇒ **No findings**
Based on feeding studies relevant for liver and kidney of swine and ruminants.

Methidathion (Not approved) – AO

Footnote i) in Reg. (EC) N° 788/2012
Method: MRM
Toxicity: ADI = 0.001 mg/kg bw/day, ARfD = 0.01 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
✓ 0 % findings EFSA 2012 report
✓ 0% findings EFSA 2013 report (3707 samples)
✓ 0% findings EFSA 2014 report (4804 samples)
✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
✓ 0 % findings EFSA 2016 report (3250 samples)
✓ 0 % findings EFSA 2017 report (4004 samples)
70% labs and 92% MS analysed full RD in 2015
66% labs and 96% MS analysed full RD in 2018.
Based on feeding studies relevant for animal fat, muscle, milk and eggs.
⇒ **Analytical coverage good**
⇒ **No findings**

Parathion-methyl (Not approved) – AO

Footnote i) in Reg. (EC) N° 788/2012
Method: MRM
Toxicity: ADI = 0.003 mg/kg bw/day, ARfD = 0.03 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
✓ 0 % findings EFSA 2012 report
✓ 0% findings EFSA 2013 report (3342 samples)
✓ 0% findings EFSA 2014 report (4097 samples)
✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
✓ 0 % findings EFSA 2016 report (2709 samples)
✓ 0 % findings EFSA 2017 report (3136 samples)
52% labs and 88% MS analysed full RD in 2015
42% labs and 74% MS analysed full RD in 2018.
Based on feeding studies relevant for animal muscle, fat, milk and eggs.
⇒ **Analytical coverage medium**
⇒ **No findings**

Profenofos (Not approved) – AO

Footnote i) in Reg. (EC) N° 788/2012:
Method: MRM
Toxicity: ADI = 0.03 mg/kg bw/day, ARfD = 1 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
✓ 0 % findings EFSA 2012 report
✓ 0% findings EFSA 2013 report (3048 samples)
✓ 0% findings EFSA 2014 report (4290 samples)
✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
✓ 0 % findings EFSA 2016 report (3206 samples)
✓ 0 % findings EFSA 2017 report (3995 samples)
70% labs and 92% MS analysed full RD in 2015
61% labs and 93% MS analysed full RD in 2018.
Based on feeding studies relevant for animal fat, milk and eggs.
⇒ **Analytical coverage good**
⇒ **No findings**

Prothioconazole – AO

No footnote, remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in liver (2014), it does not need to be analysed in poultry meat (2014). Not relevant for commodities listed in 2013/2015.'
Method: MRM/ SRM

Resmethrin (Not approved) – AO

Footnote i) in Reg. (EC) N° 788/2012
Method: MRM
Toxicity: ADI = 0.03 mg/kg bw/day, ARfD = NA
Priority: 1A
Evaluation after 1 year (10/2016)

Toxicity: ADI = 0.01 mg/kg bw/day, ARfD = 0.01 mg/kg bw
Priority: 2A
Evaluation after 2 years (10/2017)
- ✓ 0 % findings EFSA 2012 report
- ✓ 0% findings EFSA 2013 report (157 samples)
- ✓ 0% findings EFSA 2014 report (405 samples)
- ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2015 report (342 samples)
- ✓ 0.00% findings (0.00% MRL exceedances) EFSA 2016 report (882 samples)
- ✓ 0 % findings EFSA 2017 report (1099 samples)

2% labs and 8% MS analysed full RD in 2015
25% labs and 52% MS analysed full RD in 2018.
⇒ **Analytical coverage poor**
⇒ **No findings**
Based on feeding studies relevant for ruminants and swine liver and kidney.

- ✓ 0 % findings EFSA 2012 report
- ✓ 0% findings EFSA 2013 report (2872 samples)
- ✓ 0.06% findings EFSA 2014 report (3372 samples)
- ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
- ✓ 0 % findings EFSA 2016 report (2607 samples)
- ✓ 0 % findings EFSA 2017 report (2133 samples)

19% labs and 40% MS analysed full RD in 2015
25% labs and 48% MS analysed full RD in 2018.
Based on feeding studies relevant for animal fat, muscle, liver, kidney, cow's milk and eggs.
⇒ **Analytical coverage low**
⇒ **Few findings**

Tau-fluvalinate – AO

Also approved as veterinary drug

No footnote, remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in milk (2013) and butter (2015), it does not need to be analysed in swine meat (2013) and egg (2015). Not relevant for commodities listed in 2014.'
Method: MRM
Toxicity: ADI = 0.005 mg/kg bw/day, ARfD = 0.05 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
- ✓ 0 % findings EFSA 2012 report
- ✓ 0% findings EFSA 2013 report (1308 samples)
- ✓ 0% findings EFSA 2014 report (2417 samples)
- ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
- ✓ 0.08 % findings EFSA 2016 report (2247 samples)
- ✓ 0.05 % findings EFSA 2017 report (1765 samples)

6% labs and 84% MS analysed full RD in 2015
45% labs and 70% MS analysed full RD in 2018.
Based on feeding studies relevant for cows' milk and butter
⇒ **Analytical coverage low**
⇒ **No findings**

Tetraconazole – AO

No footnote, remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in milk (2013), liver (2014) and butter (2015), it does not need to be analysed in swine meat (2013), poultry meat (2014) and egg (2015).'
Method: MRM
Toxicity: ADI = 0.004 mg/kg bw/day, ARfD = 0.05 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
- ✓ 0 % findings EFSA 2012 report
- ✓ 0% findings EFSA 2013 report (1834 samples)
- ✓ 0% findings EFSA 2014 report (3058 samples)
- ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA
- ✓ 0 % findings EFSA 2016 report (2316 samples)
- ✓ 0.04 % findings EFSA 2017 report (2058 samples)

51% labs and 80% MS analysed full RD in 2015
41% labs and 74% MS analysed full RD in 2018.
Based on feeding studies relevant for cows' milk, liver and butter.
⇒ **Analytical coverage medium**
⇒ **No findings**

Thiacloprid (Not approved) –AO

No footnote, remark in Reg. (EC) N° 788/2012: 'To be analysed on voluntary basis in liver (2014), it does not need to be analysed in poultry meat (2014). Not relevant for commodities listed in 2013/2015.'
Method: MRM
Toxicity: ADI = 0.01 mg/kg bw/day, ARfD = 0.03 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
- ✓ 0 % findings EFSA 2012 report
- ✓ 0% findings EFSA 2013 report (856 samples)
- ✓ 4.27% findings EFSA 2014 report (0.06% MRL exceedances)
- ✓ 2015 preliminary EFSA data 26.6% findings, 0.5% MRL exceedances in honey. Not tested on other AO commodities.
- ✓ 26.60% findings, 0.50% MRL exceedances 2015 EFSA
- ✓ 4.50% findings, 0.09% MRL exceedances 2016 EFSA
- ✓ 5.60% findings, 0.11% MRL exceedances 2017 EFSA

Topramezone (Not approved) – AO

Footnote h) in Reg. (EC) N° 788/2012 and remark: 'To be analysed on voluntary basis in liver (2014), it does not need to be analysed in poultry meat (2014). Not relevant for commodities listed in 2013/2015.'
Method: MRM
Toxicity: ADI = 0.001 mg/kg bw/day, ARfD = 0.001 mg/kg bw
Priority: 1A
Evaluation after 1 year (10/2016)
- ✓No monitoring results available in EFSA 2012 report
- ✓0% findings EFSA 2013 report (120 samples)
- ✓0% findings EFSA 2014 report (182 samples)
- ✓0.00% findings, 0.00% MRL exceedances 2015 EFSA data (47 samples)
- ✓0 % findings EFSA 2016 report (480 samples)
- ✓0% findings EFSA 2017 report (413 samples)

8% labs and 24% MS analysed full RD in 2015
4% labs and 15% MS analysed full RD in 2018.

41% labs and 76% MS analysed full RD in 2015 33% labs and 59% MS analysed full RD in 2018. Based on feeding studies relevant for liver, kidney and honey. ⇒ **Analytical coverage medium** ⇒ **Some findings in honey (see Annex VII)**	Based on feeding studies relevant for ruminant's liver and kidney. ⇒ **Analytical coverage low** ⇒ **No findings**
<u>Triazophos (Not approved) – AO</u> Footnote i) in Reg. (EC) N° 788/2012 Method: MRM Toxicity: ADI = 0.001 mg/kg bw/day,ARfD = 0.001 mg/kg bw Priority: 1A Evaluation after 1 year (10/2016) ✓ 0 % findings EFSA 2012 report ✓ 0% findings EFSA 2013 report (3385 samples) ✓ 0% findings EFSA 2014 report (4687 samples) ✓ 0.00% findings, 0.00% MRL exceedances 2015 EFSA ✓ 0 % findings EFSA 2016 report (3415 samples) ✓ 0% findings EFSA 2017 report (4226 samples) 69% labs and 88% MS analysed full RD in 2015 63% labs and 89% MS analysed full RD in 2018. Based on feeding studies relevant for animal fat, eggs and milk. ⇒ **Analytical coverage good** ⇒ **No findings**	

Annex V: Evaluation at the end of the evaluation period

Information to be gathered for evaluation at the end of the evaluation period
Pesticide X

- Analytical coverage (data collection via EURLs)
  - % of labs that took part in the survey
  - % of Member States that took part in the survey
  - % of the labs that is able to analyse the full residue definition
  - % of the labs that analyses part of the residue definition
  - % of the Member States that is able to analyse the full residue definition
  - % of the Member States that analyses part of the residue definition

- MRL exceedances/ findings (data collection by EFSA as part of the data collection for the National Programmes)
  - N° of samples analysed
  - % of samples with findings > LOQ
  - % of samples numerically exceeding the MRL
  - % of samples analysed according to full residue definition (SSD code P005)
  - % of samples analysed for part of the residue definition (SSD code P004)
  - N° of RASFF notifications
  - N° of ARfD exceedances (not systematically calculated by EFSA, only mentioned if specific MS information is available)

Evaluation summarised by COM in Working Document

Pesticide X

- % of labs that is able to analyse the full residue definition
- % of samples with residues > MRL
- % of findings
- N° of RASFF notifications

Annex VI: Proposals for uptake of new substances in the Working Document

Proposal sheet to be filled out by COM, EFSA, EURLs or Member States

- Proposal made by:
- Substance:
- Proposed category or annex:
- Findings and/or MRL exceedances:
- Method:
- Toxicity:
- Proposed priority:
- Proposed evaluation period:
- Relevant commodities:
- Additional information:

Annex VII: Substances of interest to be analysed in honey under the national control programmes

In its 2014 annual report, EFSA recommended to analyse honey samples for the substances that are listed in the EU MACP in commodities of plant origin, in order to allow estimating the exposure of bees and adapting certain MRLs for honey. Moreover, in its 2020 annual report, EFSA recommended that Member States should keep monitoring honey in their national control programmes with an analytical scope as wide as possible.

Member States are encouraged to perform these analyses under their national programmes and to clearly report to EFSA which MRL (pesticides MRL or veterinary medicinal product MRL) was used for the evaluation. For honey the residue definition for plant products applies. Next to residue information for the residue definition for plant products, also information on residues in line with the residue definition for animal origin can be useful to get a view on other specific metabolites that might occur in bees.

Substances for which residues frequently occur in honey:

- 2,4-D
- Acetamiprid
- Amitraz (veterinary medicinal product)
- Azoxystrobin
- Benzalkonium chloride (BAC)
- Boscalid
- Carbendazim and thiophanate methyl
- Chlorates
- Chlordane
- Chlormequat
- Clothianidin
- Chlorfenvinphos
- Coumaphos (veterinary medicinal product)
- Copper compounds
- Didecyldimethylammonium chloride[6] (DDAC)
- Dimoxystrobin
- Dimethoate
- Fluazifop-P
- Fluopyram
- Fosetyl
- Glyphosate
- Iprodione
- Imidacloprid
- Lambda-cyhalothrin
- Matrine
- Mepiquat
- Orthophenylphenol (2-phenylphenol)
- Oxymatrine
- Picoxystrobin
- Pendimethalin
- Thiacloprid
- Tritosulfuron

[6] The results should be reported as mixture of alkyl-quaternary ammonium salts with alkyl chain lengths of C8, C10 and C12.

Annex VIII: Commodities and pesticide/commodity combinations of interest to be analysed under the national programmes

A) EFSA recommended focusing monitoring activities on commodities that frequently contain pesticides residues or that have the potential to result in a significant short-term intake:

- Small fruits and berries
- Grapefruits
- Rucola
- Apricots
- Celeriacs
- Brussels sprouts
- Cherries
- Tea
- Grape leaves
- Wild fungi
- Zucchinis / Courgettes

As currently little monitoring data are available for pesticides residues in feed, EFSA recommended to include animal feed commodities in the monitoring programmes in order to get a view on the animal exposure. On the basis of residue data for feed EFSA is able to estimate the exposure of humans to the pesticides residues.

- Rapeseed
- Soybean

B) Pesticide/commodity combinations in addition to those listed in the EU MACP that are of interest for EU MACP compounds:

- 2,4-D: lentils, other citrus fruits (esp. lemons), paprika spice
- 2-Phenylphenol: currants (black, red and white), herbs (esp. parsley, oregano, mint), other citrus fruits (esp. lemons, mandarins), bovine fat; sheep fat, poultry fat
- Boscalid: apricots, beans with pods (esp. green beans), other berries (esp. raspberries, blueberries, currants), cherries, celeriac, herbs (esp. parsley), plums
- Bromide ion: cumin seeds, herbs (esp. dill and parsley), sesame seeds
- Carbendazim: apricots, beans with pods (esp. green beans), cherries, cumin seeds, currants (black, red and white), grape leaves, mangoes, papaya, paprika spice, pepper
- Chlormequat: paprika spice, chilies fresh and dried, ginger, honey
- Chlorothalonil: apricot, cucumber, peas with pods, papaya
- Lambda cyhalothrin: bovine fat
- Cyromazine: beans with pods (esp. green beans), cucumber, ginger
- Dicofol: bovine fat, chicken egg
- Dithianon: currants (black, red and white), plums
- Dithiocarbamates: grape leaves, cucumber, parsley

- Ethephon: pineapples, kaki, figs, cherries
- Ethylene oxide: spices, oily seeds, dry herbs, dry vegetables, dry “superfood” (e.g. moringa), and food supplements. Additionally relevant for certain food and feed additives such as those entailing polyethylene glycole chains (e.g. PEG and polysorbates;), thickeners (e.g. guar gum, locust bean gum) and calcium carbonate. Note: residues in food additives are regulated via Reg. 231/2012/EC)
- Fenbutatin oxide: cucumber
- Flonicamid: apricot, cucumber, plums
- Fluazifop: beans with pods (esp. green beans), beetroot, broccoli, oregano
- Folpet: grape leaves
- Fosetyl-Al: beans with pods (esp. green beans), other berries (esp. raspberries, blueberries, currants), other citrus fruits (esp. lemons, mandarins, clementines, limes), mango, plums, pineapple, pomegranate
- Glyphosate: other citrus fruits (esp. limes), lentils, paprika spice, pomegranate
- Haloxyfop: broccoli, leek, peanuts
- Mepiquat: paprika spice, chilies fresh and dried
- Propamocarb: beans with pods (esp. green beans), broccoli, brussels’ sprout, cucumber, leek, peas w/o pods
- Prothioconazole: brussels’ sprout
- Pymetrozine: cucumber, beans with pods (esp. green beans)
- Spinosad: eggs
- Triadimenol: bovine fat

Annex IX: Substances moved from the working document to into the EU MACP

- **4-CPA (PO) (2026 EU MACP)**
- **Aclonifen (PO-carrots) (2023 EU MACP)**
- **Ametoctradin (PO) (2019 EU MACP)**
- **Azadirachtin (PO) (2026 EU MACP)**
- **Benzalkonium chloride (PO, AO) (2026 EU MACP)**
- **Chlormequat (AO – milk, liver) (2024 EU MACP)**
- **Chlorates (PO, AO) (2026 EU MACP)**
- **Clopyralid (PO) (2024 EU MACP)**
- **Copper compounds (PO & AO) (2024 EU MACP)**
- **Cyantraniliprole (PO) (2022 EU MACP)**
- **Cyazofamid (PO) (2019 EU MACP)**
- **Cyflufenamid (PO) (2020 EU MACP)**
- **Cyflumetofen (PO) (2025 EU MACP)**
- **Didecyldimethylammonium chloride (PO, AO) (2026 EU MACP)**
- **Emamectin benzoate B1a, expressed as emamectin (PO) (2019 EU MACP)**
- **Etoxazole (PO) (2019 EU MACP)**
- **Fenpyrazamine (PO) (2020 EU MACP)**
- **Fluopicolide (PO) (2018 EU MACP)**
- **Flupyradifurone (PO) (2024 EU MACP)**
- **Fluxapyroxad (PO) (2019 EU MACP)**
- **Fosetyl-Al (PO) (2021 EU MACP)**
- **Glufosinate ammonium (PO & AO) (2021 EU MACP)**
- **Glyphosate[7] (PO & AO) (2019 EU MACP)**
- **Isofetamid (PO) (2026 EU MACP)**
- **Maleic hydrazide (PO) (2023 EU MACP)**
- **Mefentrifluconazole (AO) (2026 EU MACP)**
- **Mefentrifluconazole (PO) (2026 EU MACP)**
- **Mepiquat (AO – milk, liver) (2024 EU MACP)**
- **Metamitron (PO) (2026 EU MACP)**
- **Metrafenone (PO) (2019 EU MACP)**
- **Nicotine (PO – lettuces, apples, potatoes, onions, table grapes, tomatoes) (2024 EU MACP)**
- **Oxathiapiprolin (PO) (2026 EU MACP)**
- **Pendimethalin (AO) (2021 EU MACP)**
- **Prochloraz (PO) (2021 EU MACP)**
- **Proquinazid (PO) (2020 EU MACP)**
- **Prosulfocarb (PO) (2018 EU MACP)**
- **Prothioconazole (PO) (2018 EU MACP)**
- **Pyrethrins (PO) (2026 EU MACP)**
- **Pyridalil (PO) (2021 EU MACP)**
- **Spinetoram (PO) (2021 EU MACP)**
- **Spirotetramat (PO) (2019 EU MACP)**
- **Sulfoxaflor (PO) (2022 EU MACP)**
- **Tricyclazole (PO) (2020 EU MACP)**
- **Triflumizole (PO) (2024 EU MACP)**

[7] Introduced for Products of Animal Origin. Analytical coverage of full RD:
2015 (survey on 84 labs/25MSs): 23% of labs, 48% of MSs
2016 (survey on 81 labs/25MSs): 24% of labs, 48% of MSs
3.74% findings (2.04% MRL exceedances) EFSA 2016 report (294 samples)
Relevant for ruminant kidney, liver and honey. To be checked whether relevant for cows' milk, animal muscle and fat.

- **Trimethyl-sulfonium cation (PO) (2026 EU MACP)**
- **Trinexapac (PO) (2026 EU MACP)**
- **Zoxamide (PO) (2024 EU MACP)**

Evaluation for substances recommended by EURL for adding to the EU MACP (products of plant origin, October 2024):

Benzalkonium Chloride – in Annex VII of the WD
Method: MRM/SRM
Toxicity: There is no specific information available; this substance is a mixture of quaternary ammonium compounds and not a single active substance.

Information on monitoring data:
0.58% findings (0.04% MRL exceedances) EFSA 2020
0.65% findings (0.08% MRL exceedances) EFSA 2021
0.60% findings (0.04% MRL exceedances) EFSA 2022

Information on analytical coverage:
32% labs and 57% MS analysed full RD in 2021
33% labs and 50% MS analysed full RD in 2022
No information is available for 2023.

Chlorates – in Annex VII of the WD
Method: SRM
Toxicity: No specific information available.

Information on monitoring data:
6.52% findings (2.95% MRL exceedances) EFSA 2020
11.18% findings (0.63% MRL exceedances) EFSA 2021
9.64% findings (0.90% MRL exceedances) EFSA 2022

Information on analytical coverage:
42% labs and 68% MS analysed full RD in 2021
43% labs and 70% MS analysed full RD in 2022
44% labs and 78% MS analysed full RD in 2023

Didecyldimethylammonium chloride - in Annex VII of the WD
Method: MRM/SRM
Toxicity: No specific information available, ECHA lists this substance, and it is used as a disinfectant and insecticide.

Information on monitoring data:
0.23% findings (0.03% MRL exceedances) EFSA 2020
0.53% findings (0.02% MRL exceedances) EFSA 2021
0.48% findings (0.02% MRL exceedances) EFSA 2022

Information on analytical coverage:
33% labs and 57% MS analysed full RD in 2021
33% labs and 54% MS analysed full RD in 2022
No information is available for 2023.

Oxathiapiprolin - in Annex II of the WD
Method: MRM
Priority of analysis: 1B
Toxicity:
ADI:0.14 mg/kg bw/day
ARfD: No specific ARfD value available

Information on monitoring data:
0.01% findings (0.00% MRL exceedances) EFSA 2020
0.03% findings (0.01% MRL exceedances) EFSA 2021
0.05% findings (0.00% MRL exceedances) EFSA 2022

Information on analytical coverage:
38% labs and 61% MS analysed full RD in 2021
42% labs and 70% MS analysed full RD in 2022
46% labs and 78% MS analysed full RD in 2023

Annex X: List of Metabolites not included in residue definitions for enforcement but for monitoring which could be useful for risk assessment purposes or for future re-evaluations of MRLs and residue definitions (proposal by EU RL)

IM-2-1
Bupirimate-desethyl
Ethirimol-desethyl
Clethodim sulfoxide
Clethodim sulfone
Cycloxydim-sulfoxide
Cycloxydim-sulfone
Diazinon-Pyrimidinol (2-Isopropyl-6-methyl-4-pyrimidinol)
Difenoconazole alcohol (CGA205375)
Dimethoate-O-desmethyl
Fluopyram-Benzamide
Imazalil met. FK411 = R014821
Metribuzin-desamino-diketo (DADK-Metribuzin)
Pirimicarb Desmethyl
Propamocarb-N-oxide;
Propamocarb-N-desmethyl
"Trifuoroacetic acid
Data on TFA refer to all types of commodities of plant origin (not only FV) (N=2230 samples analysed)"
Azoxystrobin met. R401553 (M28)
Azoxystrobin acid
Chlorpyrifos-methyl desmethyl
Cyprodinil met. CGA304075
Fludioxonil met. CGA 192155
Prochloraz met. BTS40438
Pyraclostrobin-desmethoxy
Pyrimethanil-4-hydroxy
Pyriproxyfen-4-hydroxy
Spinetoram-J-N-formyl
Spinetoram-J-N-desmethyl
Spirotetramat-enol-glucoside
Spirotetramat-ketohydroxy
Hydroxy-Tebuconazole
Thiabendazole-5-hydroxy
DTC-eBIC;
DTC-ETU,
DTC-EU
DTC-pBIC;
DTC-PTU,
DTC-4-methylimidazoline