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Reasoned opinion on the joint review of maximum residue levels (MRLs) for fosetyl, disodium phosphonate and potassium phosphonates according to Articles 12 and 43 of Regulation (EC) No 396/2005

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Abstract

EFSA received from the European Commission a mandate to provide its reasoned opinion on the joint review of maximum residue levels (MRLs) for fosetyl and phosphonates in or on food and feed according to Article 43 of Regulation (EC) No 396/2005. According to Article 12 of Regulation (EC) No 396/2005, EFSA has reviewed the maximum residue levels (MRLs) currently established at European level for the pesticide active substances potassium and disodium phosphonates. As fosetyl, potassium phosphonates and disodium phosphonates degrade to phosphonic acid, it was considered appropriate to jointly review the residues of these three active substances. To assess the occurrence of fosetyl, potassium phosphonates and disodium phosphonate residues in plants, processed commodities, rotational crops and livestock, EFSA considered the conclusions derived in the framework of Regulation (EC) No 1107/2009, the MRLs established by the Codex Alimentarius Commission as well as the European authorisations reported by Member States (including the supporting residues data) and the monitoring data from official control. Based on the assessment of the available data, MRL proposals were derived and a consumer risk assessment was carried out. Although no apparent risk to consumers was identified, some information required by the regulatory framework was missing. Hence, the consumer risk assessment is considered indicative only and some MRL proposals derived by EFSA still require further consideration by risk managers.

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Summary

Fosetyl was included in Annex I to Directive 91/414/EEC on 1 May 2007 by Commission Directive 2006/64/CE and has been renewed under Regulation (EC) No 1107/2009, in accordance with Commission Implementing Regulation (EU) No 540/2011, as amended by Commission Implementing Regulation (EU) No 541/2011.

Potassium phosphonates was approved on 1 October 2013 by means of Commission Implementing Regulation (EU) No 369/2013 in accordance with Regulation (EC) No 1107/2009 as implemented by Commission Implementing Regulations (EU) No 540/2011 and 541/2011.

Disodium phosphonate was approved on 1 February 2014 by means of Commission Implementing Regulation (EU) No 832/2013 in accordance with Regulation (EC) No 1107/2009 as implemented by Commission Implementing Regulations (EU) No 540/2011 and 541/2011.

As potassium phosphonates and disodium phosphonate were approved after the entry into force of Regulation (EC) No 396/2005 on 2 September 2008, the European Food Safety Authority (EFSA) is required to provide a reasoned opinion on the review of the existing maximum residue levels (MRLs) for these active substances in compliance with Article 12(1) of the aforementioned regulation.

As fosetyl was approved before the entry into force of Regulation (EC) No 396/2005 on 2 September 2008, EFSA was required to provide a reasoned opinion on the review of the existing MRLs for that active substance in compliance with Article 12(2) of the aforementioned regulation.

For the active substance fosetyl, EFSA has already issued in 2012 a reasoned opinion on the existing MRLs but the recommendations from this opinion were not legally implemented.

As the basis for the MRL review, on 17 January 2020, EFSA initiated the collection of data for **potassium phosphonates and disodium phosphonate**. In a first step, Member States (MSs) and the UK were invited to submit by 17 February 2020 uses currently authorised for products containing fosetyl, potassium phosphonates and disodium phosphonates and registered in third countries as products other than plant protection products as well as their national Good Agricultural Practices (GAPs) and the GAPs in non-EU countries for which import tolerances (IT) are authorised in a standardised way, in the format of specific GAP forms, allowing the designated rapporteur Member State (RMS) France to identify the critical GAPs in the format of a specific GAP overview file. Subsequently, MSs and the UK were requested to provide residue data supporting the critical GAPs, within a period of 1 month, by 13 May 2020. On the basis of all the data submitted by MSs and by the EU Reference Laboratories for Pesticides Residues (EURLs), EFSA asked the RMS to complete the Pesticide Residues Overview File (PROFile) and to prepare a supporting evaluation report. The PROFile and the supporting evaluation reports, together with Pesticide Residues Intake Model (PRIMo) calculations and updated GAP overview files were provided by the RMS to EFSA on 10 July and on 17 August 2020, for disodium and potassium phosphonates, respectively. Subsequently, EFSA performed the completeness check of these documents with the RMS. The outcome of this exercise including the clarifications provided by the RMS, if any, was compiled in the completeness check report.

As fosetyl, potassium phosphonates and disodium phosphonate degrade to phosphonic acid, on 14 April 2020, EFSA received a mandate from the European Commission to deliver, in accordance with Articles 12 and 43 of Regulation (EC) No 396/2005, a reasoned opinion on the joint review of MRLs for fosetyl and phosphonates.

To address the request from the European Commission, on 8 May 2020 EFSA initiated a consultation with MSs and the UK for **fosetyl** to verify that the GAPs reported in the former MRL review were still authorised in their respective countries and to notify EFSA about additional critical GAPs that were authorised after the completion of the MRL review for fosetyl by 1 July 2020. Subsequently, EFSA performed the completeness check of the additional data received. The outcome of this exercise including the clarifications provided by MSs and the UK, if any, was compiled in the completeness check report.

Based on the information provided by the RMS, MSs, the UK and the EURLs, and taking into account the conclusions derived by EFSA in the framework of Regulation (EC) No 1107/2009 and the MRLs established by the Codex Alimentarius Commission, EFSA prepared in April 2021 a draft reasoned opinion, which was circulated to MSs and EURLs for consultation via a written procedure. Comments received by 14 June 2021 were considered during the finalisation of this reasoned opinion. The following conclusions are derived.

Based on the metabolism studies conducted with fosetyl-Al in primary and rotational crops, the metabolism of fosetyl-Al, disodium and potassium phosphonates in plants was concluded to be similar in all crops and for all kinds of treatment. The standard processing conditions of pasteurisation,

baking/brewing and boiling and sterilisation are not expected to modify the nature of residues in processed commodities.

According to the present mandate, EFSA is requested to derive MRLs and to carry out the risk assessment based on the residue definition for enforcement and risk assessment for all plants set as 'phosphonic acid and its salts expressed as phosphonic acid'. However, since significant residue levels of fosetyl compared to the residue levels of phosphonic acid were also found in the supervised residue trials for several crops (blackberries, tomatoes and kales), EFSA proposed to apply the residue definition for risk assessment as 'sum of fosetyl, phosphonic acid and their salts, expressed as phosphonic acid' for all crops and uses reported for fosetyl. The residue definition for risk assessment set as 'phosphonic acid and its salts expressed as phosphonic acid' remains valid for all the uses reported for potassium and disodium phosphonates.

For enforcement purposes, phosphonic acid is considered a sufficient marker for all authorised uses of fosetyl, potassium and disodium phosphonates.

Analytical methods for the enforcement of the proposed residue definition at the limit of quantification (LOQ) of 0.1 mg/kg in all four main plant matrices and at the LOQ of 20 mg/kg in hops, herbal infusions and spices are available; validation details for herbal infusions and spices are nonetheless still desirable to support the authorised uses of fosetyl on herbal infusions from flowers and on spices (seed and fruits) and the use of potassium phosphonates on herbal infusions from leaves and herbs. According to the EURLs, LOQs of 0.1 mg/kg (in high water and acidic matrices) and 0.2 mg/kg (in high fat and dry/high starch content matrices) are achievable during routine analyses.

Considering that the derived MRLs should cover not only residues of phosphonic acid from the authorised uses of fosetyl and disodium and potassium phosphonates, but also residues from other products of agricultural relevance (e.g. fertilisers) and the existing codex maximum residue limits (CXLs), MRLs were derived comparing the residues originating from these three active substances, the existing CXLs and the monitoring data available. All commodities included in the Annex I to Regulation (EC) No 396/2005 were considered in the assessment, including the commodities for which no GAPs were notified. Nevertheless, a risk management decision should still be taken on whether MRLs should be proposed for commodities for which no GAPs are authorised or the authorised uses are not supported by data and on the period of their applicability.

Overall the available data are considered sufficient to derive (tentative) MRL proposals as well as risk assessment values for all commodities under evaluation, except for rose hips, mulberries, jambuls, American persimmon, guavas, breadfruits, durians, soursops, bamboo shoots, palm hearts, mosses and lichens, algae and prokaryotes organisms, oil palm kernels, oil palm fruits, kapok, herbal infusions (dry roots), cocoa beans, carobs, spices (bark, buds, flower stigma, aril) and sugar cane, where no monitoring data nor residue trials are available, no extrapolation is possible and therefore MRLs and risk assessment values could not be derived. The MRLs derived are expected to cover phosphonic acid residues from rotational crops.

It is underlined that the MRLs derived from the monitoring data on chamomile, tea, coffee beans, spices (roots and rhizome) are lower than the proposed LOQ of the available method for enforcement in complex matrices. Therefore, these MRLs should be considered tentative only and should be confirmed by an analytical method validated at a lower LOQ.

Fosetyl and potassium phosphonates are authorised for use on several crops that might be fed to livestock. Calculation of the livestock dietary burden was performed combining the residues originating from these two active substances and the monitoring data. The dietary burdens calculated for all groups of livestock were found to exceed the trigger value of 0.1 mg/kg dry matter (DM). Behaviour of residues was therefore assessed in all commodities of animal origin.

The metabolism of fosetyl-Al residues was investigated in lactating goats only. Metabolism studies with potassium phosphonates were not available. However, based on the simple nature of the molecule and the extensive metabolism shown in the goat metabolism studies, additional studies were considered not necessary. Based on the available study, EFSA concludes that phosphonic acid can be considered as the most relevant component of the residues in commodities of animal origin for both enforcement and risk assessment. An analytical method using high-performance liquid chromatography coupled to tandem mass spectrometry (HPLC–MS/MS) was fully validated for the determination of phosphonic acid in milk with a LOQ of 0.01 mg/kg and in all animal tissues and eggs, with a LOQ of 0.05 mg/kg. According to the EURLs, LOQs of 0.05 and 0.2 mg/kg are achievable in milk and fat, respectively while it is assumed that an LOQ of 0.5 mg/kg should be achievable in liver, kidney and muscle. An analytical method based on liquid chromatography coupled to tandem mass spectrometry

(LC–MS/MS) was sufficiently validated for the determination of phosphonic acid in honey at the LOQ of 0.05 mg/kg.

Livestock feeding studies on poultry and dairy cows were used to derive MRL and risk assessment values in milk, eggs and tissues. Since extrapolation from ruminants to pigs is acceptable, results of the livestock feeding study on ruminants were relied upon to derive the MRL and risk assessment values in pigs. As done for the plant commodities, MRLs derived from the livestock feeding studies were compared with the existing CXLs and with the monitoring data and the highest value was selected. It is underlined that all the MRLs derived from the feeding studies are higher compared to the residue levels of phosphonic acid from the monitoring data in milk, eggs and tissues. Therefore, for all livestock commodities, the MRLs are based on the livestock feeding studies. Nevertheless, considering that potatoes were the main contributor to the livestock exposure and the processing factors for potatoes process waste and dried pulp used to calculate the dietary burdens were not fully supported by data, the derived MRLs for livestock should be considered tentative only. For honey, the MRL was derived on the basis of the existing monitoring data.

A comprehensive consumer risk assessment was performed combining information from supervised residue trials with these three active substances and the monitoring data. The existing CXLs were also considered. For those commodities where data were insufficient to derive a MRL, EFSA considered the existing EU MRL recalculated as phosphonic acid as an indicative calculation.

EFSA considered for the risk assessment the currently applicable acceptable daily intake (ADI) of 2.25 mg/kg body weight (bw) per day for phosphonic acid. The outcome of the chronic risk assessment based on the ADI proposed by the peer review of 1 mg/kg bw per day for phosphonic acid, which has not yet been endorsed by risk managers, was also reported. An acute reference dose (ARfD) was not deemed necessary for phosphonic acid and therefore an acute risk assessment was not performed.

When considering the currently applicable ADI of 2.25 mg/kg bw per day, the highest chronic exposure was calculated for Dutch toddler, representing 36% of the ADI.

When considering the ADI of 1 mg/kg bw per day proposed by the peer review which has not yet been endorsed by risk managers, the highest chronic exposure was calculated for Dutch toddler, representing 80% of the ADI.

In both scenarios, the main contributors to the consumer exposure were apples, potatoes and wheat for which MRLs and risk assessment values were derived from the authorised uses as plant protection products.

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Background

Regulation (EC) No 396/2005[1] (hereinafter referred to as 'the Regulation') establishes the rules governing the setting and the review of pesticide maximum residue levels (MRLs) at European level. Article 12(1) of that Regulation stipulates that the European Food Safety Authority (EFSA) shall provide, within 12 months from the date of the inclusion or non-inclusion of an active substance in Annex I to Directive 91/414/EEC[2] a reasoned opinion on the review of the existing MRLs for that active substance.

Article 12(2) of Regulation 396/2005 stipulates that EFSA shall provide by 1 September 2009 a reasoned opinion on the review of the existing MRLs for all active substances included in Annex I to Directive 91/414/EEC2 before 2 September 2008.

Fosetyl was included in Annex I to Council Directive 91/414/EEC on 1 May 2007 by means of Commission Directive 2006/64/CE[3] and has been deemed to be approved under Regulation (EC) No 1107/2009[4], in accordance with Commission Implementing Regulation (EU) No 540/2011[5], as amended by Commission Implementing Regulation (EU) No 541/2011[6]. Therefore, EFSA initiated the review of all existing MRLs for that active substance. Fosetyl was then evaluated for renewal of approval in the framework of Commission Regulation (EC) No 1107/2009 and EFSA published its conclusion on the peer review of the pesticide risk assessment of the active substance **fosetyl** (EFSA, 2018e) and concluded on a lower acceptable daily intake (ADI) of 1 mg/kg body weight (bw) per day.

Potassium phosphonates was approved on 1 October 2013 by means of Commission Implementing Regulation (EU) No 369/2013[7] in accordance with Regulation (EC) No 1107/2009 as amended by Commission Implementing Regulations (EU) No 540/2011.

Disodium phosphonate was approved on 1 February 2014 by means of Commission Implementing Regulation (EU) No 832/2013[8] in accordance with Regulation (EC) No 1107/2009 as amended by Commission Implementing Regulations (EU) No 540/2011.

By way of background information, in the framework of Directive 91/414/EEC **potassium and disodium phosphonates** were evaluated by France, designated as rapporteur Member State (RMS). Subsequently, peer reviews on the initial evaluations of the RMS were conducted by EFSA, leading to the conclusions as set out in the EFSA scientific outputs (EFSA, 2012b, 2013).

After the approval of these active substances, EFSA published several outputs on the modifications of the existing MRLs, including the assessment of all existing MRLs for fosetyl in compliance with Article 12(2) of Regulation (EC) No 396/2005 (EFSA, 2009, 2012a,c, 2015, 2018b,f, 2019a, 2020a) and a statement on the dietary risk assessment for proposed temporary maximum residue levels (t-MRLs) for fosetyl-Al in certain crops (EFSA, 2014).

As fosetyl, potassium phosphonates and disodium phosphonate degrade to phosphonic acid, it was considered appropriate to jointly review the residues of these three active substances. Moreover, besides their use as active substances in plant protection products, phosphonates are also ingredients to other products of agricultural relevance (e.g. fertilisers, plant strengtheners, manure, soil amendments). It can be reasonably assumed that treatment of plants with such products could lead to

[1] Regulation (EC) No 396/2005 of the European Parliament and of the Council of 23 February 2005 on maximum residue levels of pesticides in or on food and feed of plant and animal origin and amending Council Directive 91/414/EEC. OJ L 70, 16.3.2005, p. 1–16.

[2] Council Directive 91/414/EEC of 15 July 1991 concerning the placing of plant protection products on the market. OJ L 230, 19.8.1991, p. 1–32. Repealed by Regulation (EC) No 1107/2009.

[3] Commission Directive 2006/64/CE of 18 July 2006 amending Council Directive 91/414/EEC to include clopyralid, cyprodinil, fosetyl and trinexapac as active substances. OJ L 206, 27.7.2006, p. 107–111.

[4] Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market and repealing Council Directives 79/117/EEC and 91/414/EEC. OJ L 309, 24.11.2009, p. 1–50.

[5] Commission Implementing Regulation (EU) No 540/2011 of 25 May 2011 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards the list of approved active substances. OJ L 153, 11.6.2011, p. 1–186.

[6] Commission Implementing Regulation (EU) No 541/2011 of 1 June 2011 amending Implementing Regulation (EU) No 540/2011 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards the list of approved active substances OJ L 153, 11.6.2011, p. 187–188.

[7] Commission Implementing Regulation (EU) No 369/2013 of 22 April 2013 approving the active substance potassium phosphonates, in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market, and amending the Annex to Commission Implementing Regulation (EU) No 540/2011. OJ L 111, 23.4.2013, p. 39–42.

[8] Commission Implementing Regulation (EU) No 832/2013 of 30 August 2013 approving the active substance disodium phosphonate, in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market, and amending the Annex to Implementing Regulation (EU) No 540/2011. OJ L 233, 31.8.2013, p. 3–6.

the detection of phosphonic acid residues in pertinent agricultural commodities. Therefore, EFSA) received a mandate from the European Commission to deliver, in accordance with Articles 12 and 43 of Regulation (EC) No 396/2005, a reasoned opinion on the joint review of MRLs for fosetyl and phosphonates.

As the basis for the MRL review for **potassium and disodium phosphonates**, on 17 January 2020 EFSA initiated the collection of data for these active substances. In a first step, Member States (MSs) and the UK[9] were invited to submit by 17 February 2020 uses currently authorised for products containing fosetyl, potassium phosphonates and disodium phosphonates and registered in third countries as products other than plant protection products as well as their Good Agricultural Practices (GAPs) that are authorised nationally and the GAPs in non-EU countries for which import tolerances (IT) are authorised, in a standardised way, in the format of specific GAP forms. In the framework of this consultation 20 MSs provided feedback on their national authorisations of **potassium phosphonates** and 14 MSs provided feedback on their national authorisations of **disodium phosphonate**. Based on the GAP data submitted, the designated RMS France was asked to identify the critical GAPs to be further considered in the assessment, in the format of specific GAP overview files. Subsequently, in a second step, MSs and the UK were requested to provide residue data supporting the critical GAPs by 13 May 2020.

On the basis of all the data on **potassium and disodium phosphonates** submitted by MSs and the EU Reference Laboratories for Pesticides Residues (EURLs), EFSA asked France to complete the PROFiles and to prepare supporting evaluation reports. The PROFiles and the supporting evaluation reports, together with the Pesticide Residues Intake Model (PRIMo) calculations and an updated GAP overview file, were submitted to EFSA on 10 July and on 17 August 2020, for disodium and potassium phosphonates, respectively. Subsequently, EFSA performed the completeness check of these documents with the RMS. The outcome of this exercise including the clarifications provided by the RMS, if any, was compiled in the completeness check reports.

To address the request from the European Commission received in April 2020, on 8 May 2020 EFSA initiated a consultation with MSs and the UK for **fosetyl** to verify that the GAPs reported in the former MRL review were still authorised in their respective countries and to notify EFSA about additional critical GAPs that were authorised after the completion of the MRL review for fosetyl by 1 July 2020. Subsequently, EFSA performed the completeness check of the additional data received. The outcome of this exercise including the clarifications provided by MSs and the UK, if any, was compiled in the completeness check report.

Considering all the available information and taking into account the MRLs established by the Codex Alimentarius Commission (CAC) (i.e. codex maximum residue limit; CXLs), EFSA prepared in April 2021 a draft reasoned opinion, which was circulated to MSs and EURLs for commenting via a written procedure. All comments received by 14 June 2021 were considered by EFSA during the finalisation of the reasoned opinion.

The **evaluation reports** submitted by the RMS (France, 2020a,b,c), taking into account also the information provided by MSs and the UK during the collection of data, the evaluation reports submitted by the MSs during the consultation on fosetyl (Belgium, 2020; Bulgaria, 2020; Czech Republic, 2020; Finland, 2020; Germany, 2020; Greece, 2020; Italy, 2020a,b,c; Netherlands, 2020; Portugal, 2020; Spain, 2020) and the **EURLs report on analytical methods** (EURLs, 2020) are considered as main supporting documents to this reasoned opinion and, thus, made publicly available.

In addition, further supporting documents to this reasoned opinion are the **completeness check reports** (EFSA, 2021a,b,c) and the **Member States consultation report** (EFSA, 2021d). These reports are developed to address all issues raised in the course of the review, from the initial completeness check to the reasoned opinion. Furthermore, the exposure calculations for all crops reported in the framework of this review performed using the EFSA Pesticide Residues Intake Model (**PRIMo**) and the **PROFiles** as well as the **GAP overview files** listing all authorised uses are key supporting documents and made publicly available as background documents to this reasoned opinion. A screenshot of the report sheet of the PRIMo is presented in Appendix C.

[9] The United Kingdom withdrew from EU on 1 February 2020. In accordance with the Agreement on the Withdrawal of the United Kingdom from the EU, and with the established transition period, the EU requirements on data reporting also apply to the United Kingdom data collected until 31 December 2020.

Terms of Reference

According to Article 12 of Regulation (EC) No 396/2005, EFSA shall provide a reasoned opinion on:

- the inclusion of the active substance in Annex IV to the Regulation, when appropriate;
- the necessity of setting new MRLs for the active substance or deleting/modifying existing MRLs set out in Annex II or III of the Regulation;
- the inclusion of the recommended MRLs in Annex II or III to the Regulation;
- the setting of specific processing factors as referred to in Article 20(2) of the Regulation.

According to Article 43 of Regulation (EC) No 396/2005, in this reasoned opinion, EFSA shall:

- review the residues that occur in or on food and feed due to authorised uses of plant protection products containing the active substances fosetyl, disodium phosphonate and potassium phosphonates;
- verify with MSs validity of GAPs of fosetyl reported in the latest Article 12 review and, if available, request GAP details and residue data supporting new critical uses;
- consider uses currently authorised for products containing fosetyl, potassium phosphonates and disodium phosphonates and registered in third countries as products other than plant protection products;
- examine whether it is appropriate to include phosphoric acid in the assessment;
- derive one set of MRLs taking into account a multitude of residue sources, if necessary, supplementing data supplied by the MSs with the information on background levels and uptake from soil;
- carry out the risk assessment and derive MRLs based on the residue definitions for enforcement and risk assessment for all plant and animal commodities set as 'phosphonic acid and its salts expressed as phosphonic acid;
- for the chronic risk assessment, use the currently applicable ADI of 2.25 mg/kg bw per day derived for phosphonic acid;
- indicate the outcome of the chronic risk assessment based on the ADI proposed by the peer review of 1 mg/kg bw per day for phosphonic acid which has not yet been endorsed by risk managers.

The active substance and its use pattern

Fosetyl is the ISO common name for ethyl hydrogen phosphonate (IUPAC). In formulated plant protection products, the variant fosetyl aluminium (fosetyl-Al: aluminium tris-*O*-ethylphosphonate) is used.

The International Organization for Standardization does not require a common name for **disodium phosphonate** (IUPAC).

The International Organisation for Standardisation does not require common names for **potassium phosphonates**: potassium hydrogen phosphonate and dipotassium phosphonate (IUPAC).

The chemical structure of these active substances and their main metabolites are reported in Appendix F.

The EU MRLs for these active substances referring to Fosetyl-Al (sum of fosetyl, phosphonic acid and their salts, expressed as fosetyl) are established in Annexes IIIA of Regulation (EC) No 396/2005. Codex maximum residue limits (CXLs) for fosetyl were also established by the Codex Alimentarius Commission (CAC). An overview of the MRL changes that occurred since the entry into force of the Regulation mentioned above is provided below (Table 1).

Table 1: Overview of the MRL changes since the entry into force of Regulation (EC) No 396/2005

Procedure	Legal implementation	Remarks
Implementation of CAC 2018	Commission Regulation (EU) 2019/552[1]	CXLs for coconuts, strawberries, azarole, kaki, cucumbers, hops, courgettes and lettuces were legally implemented considering the EFSA position (EFSA, 2018d).
MRL application	Commission Regulation (EU) 2019/552[1]	Uses of potassium phosphonates on blackberries, raspberries, blueberries, currants, gooseberries, elderberries (EFSA, 2018f).
MRL application	Regulation (EU) 2018/832[2]	Uses of potassium phosphonates on tree nuts except coconuts, pome fruits and peaches; uses of fosetyl-A on peaches, potatoes (EFSA, 2018b)
MRL application	Regulation (EU) 2016/1003[3]	Uses of fosetyl on blackberries, raspberries, celeriacs and Florence fennels (EFSA, 2015). The use on raspberries was not evaluated by EFSA. MRL for blackberries was extrapolated to raspberries by risk managers during the legal implementation.
Temporary MRL extension	Regulation (EU) 2016/75[4]	Prolongation of temporary MRLs established in 991/2014
Temporary MRL proposal	Regulation (EU) No 991/2014[5]	Temporary MRLs in almonds, cashews, hazelnuts, macadamia, pistachios, walnuts, stone fruits, cane fruits, blueberries, currants, gooseberries, figs, kumquats, persimmons, passion fruits, papaya, pomegranate, garlic, beans with and without pods, peas with and without pods, asparagus. Based on EFSA statement issued under Article 43 of Regulation 396/2005 (EFSA, 2014).
MRL application	Regulation (EU) No 737/2014[6]	Uses of fosetyl-Al on kiwi, spices (fruits and seeds). MRL derived for spices (fruits and seeds) was extrapolated to all other spices by risk managers during the legal implementation. As no uses were reported for other spices such extrapolation was not considered in the MRL review. Use on potatoes was also assessed but not supported by sufficient data (EFSA, 2012c)
MRL application	Regulation (EU) No 459/2010[7]	Use of fosetyl-Al on radishes (EFSA, 2009)
MRL application	Draft Regulation SANTE/ 10518/2021[8] not yet legally implemented	Uses of potassium phosphonates on potatoes and wheat (EFSA, 2019a).
MRL application	Draft Regulation SANTE/ 10518/2021[8] not yet legally implemented	Uses of potassium phosphonates on tree nuts, pomegranates, herbs and edible flowers, raspberries, blackberries, blueberries, gooseberries and currants (EFSA, 2020a)
MRL application	Draft Regulation SANTE/ 10518/2021[8] not yet legally implemented	Uses of potassium phosphonates on flowering brassica, Chinese cabbages, kales and spinaches (EFSA, 2020b)
MRL application	Draft Regulation SANTE/ 10518/2021[8] not yet legally implemented	Uses of potassium phosphonates on garlic, shallots, wine grapes, avocados, table olives, olives for oil production, horseradishes (EFSA, 2020c)
MRL application	Draft Regulation SANTE/ 10518/2021[8] not yet legally implemented	Setting of an import tolerance for potassium phosphonates in blueberries (EFSA, 2021e)
MRL application	Not yet legally implemented	Uses of potassium phosphonates on lemons, limes, mandarins and on herbal infusions from leaves and herbs (EFSA, 2021f)

MRL: maximum residue level; CXL: Codex maximum residue limit.

1: Commission Regulation (EU) 2019/552 of 4 April 2019 amending Annexes II and III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for azoxystrobin, bicyclopyrone, chlormequat, cyprodinil, difenoconazole, fenpropimorph, fenpyroximate, fluopyram, fosetyl, isoprothiolane, isopyrazam, oxamyl, prothioconazole, spinetoram, trifloxystrobin and triflumezopyrim in or on certain products. OJ L 96, 5.4.2019, p. 6–49.

2: Commission Regulation (EU) 2018/832 of 5 June 2018 amending Annexes II, III and V to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for cyantraniliprole, cymoxanil, deltamethrin,

difenoconazole, fenamidone, flubendiamide, fluopicolide, folpet, fosetyl, mandestrobin, mepiquat, metazachlor, propamocarb, propargite, pyrimethanil, sulfoxaflor and trifloxystrobin in or on certain products. OJ L 140, 6.6.2018, p. 38–86.
3: Commission Regulation (EU) 2016/1003 of 17 June 2016 amending Annexes II and III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for abamectin, acequinocyl, acetamiprid, benzovindiflupyr, bromoxynil, fludioxonil, fluopicolide, fosetyl, mepiquat, proquinazid, propamocarb, prohexadione and tebuconazole in or on certain products. OJ L 167, 24.6.2016, p. 46–103.
4: Commission Regulation (EU) 2016/75 of 21 January 2016 amending Annex III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for fosetyl in or on certain products. OJ L 16, 23.1.2016, p. 8–20.
5: Commission Regulation (EU) No 991/2014 of 19 September 2014 amending Annex III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for fosetyl in or on certain products. OJ L 279, 23.9.2014, p. 1–16.
6: Commission Regulation (EU) No 737/2014 of 24 June 2014 amending Annexes II and III to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for 2-phenylphenol, chlormequat, cyflufenamid, cyfluthrin, dicamba, fluopicolide, flutriafol, fosetyl, indoxacarb, isoprothiolane, mandipropamid, metaldehyde, metconazole, phosmet, picloram, propyzamide, pyriproxyfen, saflufenacil, spinosad and trifloxystrobin in or on certain products. OJ L 202, 10.7.2014, p. 1–63.
7: Commission Regulation (EU) No 459/2010 of 27 May 2010 amending Annexes II, III and IV to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for certain pesticides in or on certain products. OJ L 129, 28.5.2010, p. 3–49.
8: Draft Commission Regulation SANTE/10518/2021 amending Annexes II, III and IV to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for acibenzolar-S-methyl, aqueous extract from the germinated seeds of sweet *Lupinus albus*, azoxystrobin, clopyralid, cyflufenamid, fludioxonil, fluopyram, fosetyl, metazachlor, oxathiapiprolin, tebufenozide and thiabendazole in or on certain products, voted at the Standing Committee on Plants, Animals, Food and Feed Section Phytopharmaceuticals – Residues held on 14–15 June 2021. The regulation is not yet published in the Official Journal of the European Union.

For the purpose of this MRL review, all the uses of **potassium** and **disodium phosphonates** currently authorised within the EU and in third countries as submitted by the MSs during the GAP collection, have been reported by the RMS in the GAP overview files. The critical GAPs identified in the GAP overview files were then summarised in the PROFiles and considered in the assessment. For fosetyl, all uses as confirmed by MSs during the consultation on the authorised uses, were summarised in the PROFile and considered in the assessment. The details of the authorised critical GAPs for fosetyl, potassium and disodium phosphonates are given in Appendix A.

Assessment

EFSA has based its assessment on the following documents:

- the PROFiles submitted by the RMS;
- the evaluation reports accompanying the PROFiles for disodium and potassium phosphonates (France, 2020b,c);
- the evaluation reports submitted during the data call for fosetyl (Belgium, 2020; Bulgaria, 2020; Czech Republic, 2020, Finland, 2020, France, 2020a; Germany, 2020; Greece, 2020; Italy, 2020a,b,c; Netherlands, 2020; Portugal, 2020; Spain, 2020)
- the renewal assessment report (RAR) on fosetyl prepared under Commission Regulation (EU) No 1141/2010 as amended by Commission Implementing Regulation (EU) No 380/2013 (France, 2018a);
- the conclusions on the peer review of the pesticide risk assessment of potassium phosphonates, disodium phosphonates and fosetyl (EFSA 2012b, 2013, 2018e);
- the peer review report of the pesticide risk assessment of fosetyl (EFSA, 2018g);
- the review report on fosetyl (European Commission, 2012);
- the DAR on the active substance potassium phosphite prepared by the rapporteur Member State France in the framework of Directive 91/414/EEC (France, 2005);
- the DAR and its addenda on the active substance disodium phosphonate prepared by the rapporteur Member State France in the framework of Directive 91/414/EEC (France 2009, 2013);
- the Joint Meeting on Pesticide residues (JMPR) Evaluation report (FAO, 2017a,b);
- the previous reasoned opinions (EFSA, 2009, 2012c, 2015, 2018b,f, 2019a, 2020a,b,c, 2021e,f).

The assessment is performed in accordance with the legal provisions of the uniform principles for evaluation and authorisation of plant protection products as set out in Commission Regulation (EU)

No 546/2011[10] and the currently applicable guidance documents relevant for the consumer risk assessment of pesticide residues (European Commission, 1997a–g, 2000, 2010a,b, 2017; OECD, 2011, 2013).

More detailed information on the available data and on the conclusions derived by EFSA can be retrieved from the list of end points reported in Appendix B.

1. Residues in plants

1.1. Nature of residues and methods of analysis in plants

1.1.1. Nature of residues in primary crops

The metabolism of **fosetyl-Al** in primary crops was investigated upon foliar application on fruit crops (citrus, apples, tomatoes), and on apples and vine leaves, as well as by dipping followed by a spray treatment on pineapples using ^{14}C fosetyl-Al and was assessed in the framework of the peer review for the renewal (EFSA, 2018e). Most of the radioactive residues remained on the surface of the fruit or leaves and penetration and translocation to the untreated parts of the plants was limited. The major degradation pathway of fosetyl-Al in fruit crops was shown to be the hydrolytic cleavage of the ethyl ester moiety of fosetyl yielding the formation of ethanol and phosphonic acid as the main identified metabolites of the residues in all crops. Ethanol was subsequently metabolised and incorporated into natural constituents of the plants (D-glucose, cellulose, lignin, starch, fatty acids). Although the metabolic pattern of fosetyl-Al was investigated in fruit crops only, the experts were of the opinion that due to the elementary nature of fosetyl-Al, it is expected that the metabolic pattern should be similar in all crops categories and mode of application. Therefore, the peer review concluded that general residue definitions for monitoring and risk assessment can be derived.

No metabolism studies on **potassium phosphonates** are available. Nevertheless, during the peer review it was concluded that, given the elementary nature of potassium phosphonates and according to available data from public literature, the main metabolite of potassium phosphonates in plants is phosphonic acid (EFSA, 2012b).

The metabolism of **disodium phosphonate** in the fruit crop group (tomatoes) was investigated after soaking the roots of tomato plantlets in a phosphonic acid solution containing 3 mmol/L tritiated phosphonate ($^{3}HNa_2PO_3$), for 2 min to 2 h (France, 2009). The study was assessed in the framework of the peer review (EFSA, 2013). In addition to this, studies from public scientific literature were also submitted. Overall, the results of the studies indicated that phosphonate is rapidly absorbed, vertically translocated into different plants parts and accumulated in sink organs like fruits or roots. The peer review concluded that, given the elementary nature of disodium phosphonate, only transformation into phosphonic acid is expected in plants.

Based on the available studies and considering the elementary nature of the active substances under assessment, the metabolic pathway of fosetyl, disodium and potassium phosphonates is expected to be similar in all crops, with phosphonic acid being the main compound present in the treated crops.

1.1.2. Nature of residues in rotational crops

Fosetyl-Al, disodium phosphonates and potassium phosphonates are authorised on crops that may be grown in rotation. Fosetyl-Al and its metabolite ethanol exhibited very low persistence in soil (DT_{90}: 0.04–0.2 days and DT_{90}: 0.28–0.58 days, respectively). During the peer review of potassium phosphonates, studies investigating the rate of degradation in soil of potassium and disodium phosphonates were not available. Nevertheless, it was qualitatively demonstrated that disodium and potassium phosphonates are mainly converted to phosphonic acid in the soil (EFSA, 2012b, 2013). According to the data assessed during the peer review for the renewal of the approval of fosetyl-Al, phosphonic acid, the common metabolite of the three active substances under assessment, showed moderate to high persistence (DT_{90}: 91 to > 1,000 days) (EFSA, 2018e). Therefore further investigation on the nature and magnitude of residues in rotational crops is required.

Since fosetyl-Al was shown to degrade in soil to its metabolite, phosphonic acid, no metabolism study has been performed with fosetyl-Al and a confined rotational crop study with unlabelled phosphonic acid

[10] Commission Regulation (EU) No 546/2011 of 10 June 2011 implementing Regulation (EC) No 1107/2009 of the European Parliament and of the Council as regards uniform principles for evaluation and authorisation of plant protection products. OJ L 155, 11.6.2011, p. 127–175.

was assessed during the peer review for the renewal of approval of fosetyl to investigate the potential uptake of phosphonic acid residues by the rotational crops (EFSA, 2018e; France, 2018a). Phosphonic acid was applied at a concentration of 4.9 mg a.s./kg onto bare soil; this would correspond to a concentration of 14.7 kg/ha[11] of phosphonic acid considering 20 cm soil depth. Leafy crops (lettuces), roots crops (radishes) and cereals (barley grain and straw) were planted 30 days after treatment (DAT). An additional experiment was made with radish sown 6 months after treatment of the soil. In the soil, no significant decline of phosphonic acid is observed during the ageing period of one month following treatment. This study can be considered as valid as under aerobic conditions, the soil degradation of fosetyl-Al appears to proceed exclusively through the hydrolysis of the ethyl ester bond with the formation of phosphonic acid and ethanol which is subsequently degraded into CO_2 followed by incorporation in the soil organic matter as bound residues. Phosphonic acid was therefore identified as the main metabolite of the residues in rotational crops following plant uptake from soil and the peer review agreed to set the same residue definition as for primary crops (EFSA, 2018e).

It is noted that the submitted metabolism study is highly underdosed compared to the maximum total amount of fosetyl-Al (up to 80 kg/ha fosetyl corresponding to 60 kg phosphonic acid equivalents/ha[12]) which can be applied during a growing season considering the EU authorised uses (see Appendix A). However and despite this shortcoming, a different metabolic pattern of fosetyl-Al in rotational crops is not expected and a new confined rotational crops metabolism study adequately dosed considering the EU authorised uses is not deemed necessary.

No study on nature of residue in rotational crops is available for **disodium** and **potassium phosphonates**. Nevertheless, as highlighted for primary crops, considering the elementary nature of the active substances under assessment, the metabolic pathway of fosetyl, disodium and potassium phosphonates is expected to be similar also in rotational crops, with phosphonic acid being the main compound present in the treated soil and in the rotated crops.

1.1.3. Nature of residues in processed commodities

A study investigating the nature of residues in processed commodities was assessed in the framework of the peer review for the renewal of the approval of fosetyl-Al (EFSA, 2018e; France, 2018a). The hydrolysis of respectively **fosetyl-Al** and **phosphonic acid** was investigated using non-radiolabelled test substances and simulating representative hydrolytic conditions for pasteurisation (20 min at 90°C, pH 4), boiling/brewing/baking (60 min at 100°C, pH 5) and sterilisation (20 min at 120°C, pH 6). Fosetyl-Al and its metabolite phosphonic acid were found to be stable to hydrolysis under standard conditions of pasteurisation, baking/brewing/boiling and sterilisation (EFSA, 2018e; France, 2018a).

No standard hydrolysis studies are available on **disodium** and **potassium phosphonates**. During the peer review of disodium phosphonates, a case was made that the sole expected degradation pathway would be oxidation, which is known to be a microbial-mediated degradation process irrelevant to food processing under heat or extreme pH conditions. Hence, the only expected behaviour of phosphonates under hydrolysis conditions simulating industrial or household processing would be a change in the conversion rate to phosphonic acid (EFSA, 2013). Given the nature of these active substances, considering that they are converted to phosphonic acid and the studies available in the framework of the peer review for the renewal of fosetyl, it is concluded that the nature of the residues in processed commodities is sufficiently elucidated and no additional studies are required.

1.1.4. Methods of analysis in plants

In the framework of the review of the existing MRLs for fosetyl according to Article 12 of Regulation (EC) No 396/2005, an HPLC–MS/MS method was provided, which was validated for the determination of fosetyl-Al and phosphonic acid with a limit of quantification (LOQ) of 0.01 mg fosetyl-Al/kg and 0.1 mg phosphonic acid/kg in high water content (lettuce and cucumber), high oil content (avocado), acidic commodities (oranges, grapes) and dry/high starch commodities (wheat). Under the same framework an analytical method using gas chromatography with flame photometric detector

[11] The dose rate of application of 14.7 kg phosphonic acid/ha was calculated based on the soil concentration of phosphonic acid (4.9 mg/kg soil) that was applied on bare soil, provided soil ploughing at a depth of 20 cm and considering a soil density of 1.5 kg/L.

[12] MW fosetyl-Al: 354.104 g/mol. AW Al: 26.982 g/mol. MW phosphonic acid: 82 g/mol. MW of fosetyl (without aluminium): 354.104–26.982 = 327.122 g/mol. 1 equivalent of fosetyl-Al corresponds to 3 equivalents of fosetyl: 327.122/3 = 109.041 g/mol and 1 equivalent of fosetyl corresponds to 1 equivalent of phosphonic acid. The factor of 0.75 (82/109.041) for the conversion of fosetyl to phosphonic acid equivalents can be derived.

(GC-FPD) was considered sufficiently validated for the determination of fosetyl-Al and phosphonic acid in hops with an LOQ of 2 mg fosetyl-Al/kg and 20 mg phosphonic acid/kg (EFSA, 2012a).

In the context of the renewal of the approval of the active substance fosetyl under Regulation (EC) No 1107/2009, various methods based on liquid chromatography with tandem mass spectrometry (LC–MS/MS) were proposed for enforcement of fosetyl and phosphonic acid in the different matrices. The proposed methods determine fosetyl and phosphonic acid individually, with limits of quantification (LOQs) expressed as fosetyl-aluminium and phosphonic acid, respectively. The quick method for the analysis of numerous highly polar pesticides in foods of plant origin (Quick Polar Pesticides Method – QuPPe) with LC–MS/MS can be used for the determination of fosetyl in all commodity groups with a LOQ of 0.01 mg/kg expressed as fosetyl aluminium and with LOQs for phosphonic acid of 0.1 mg/kg in high water, dry/high starch and acidic commodities and of 0.5 mg/kg in high oil content commodities; however, no independent laboratory validation (ILV) is available (EFSA, 2018e).

Disodium and potassium phosphonates cannot be distinguished analytically. Both substances are determined as phosphonate anion and expressed as phosphonic acid.

Within the context of the peer review of disodium phosphonates, a hyphenated analytical method based on high-performance liquid chromatography (HPLC) coupled to tandem mass spectrometry (MS/MS) was validated for the determination of phosphonate (expressed as phosphonic acid) in high acid content (grape), high water content (apple), high oil content (oilseed rape) and dry/high starch commodities (wheat grain), with an LOQ of 0.5, 1, 2 and 7.5 mg/kg for high acid, high water, high oil and dry/high starch commodities, respectively (EFSA, 2013; France, 2013).

In the framework of the peer review of potassium phosphonate, an HPLC–MS/MS method for the determination of phosphonate (expressed as phosphonic acid) was validated in high acid content (wine grapes), high water content (lettuce), high oil content (rapeseed) and dry/high starch commodities (barley grain), with an LOQ of 0.5 mg/kg for the four matrix groups. In addition, the method was validated in fresh pomace and wine (processed commodities), with the same LOQ. The ILV was available for high acid and high water content commodities; but since the principle of the method is the same for the four matrix groups, the ILV was deemed acceptable for the other two (EFSA, 2012b).

According to the information provided by the EURLs, during routine analysis phosphonates (expressed as phosphonic acid) can be enforced with an LOQ of 0.1 mg/kg in high water content and high acid content commodities and with an LOQ of 0.2 mg/kg in high oil content and dry/high starch commodities by means of a single residue method (QuPPe), using LC–MS/MS (EURLs, 2020).

Hence based on all analytical methods available it is concluded that fosetyl can be enforced in food of plant origin with an LOQ of 0.01 mg/kg in high water content, high oil content, acidic and dry/high starch commodities and with an LOQ of 2 mg/kg in hops while phosphonic acid can be enforced in food of plant origin with an LOQ of 0.1 mg/kg in high water content, high oil content, acidic and dry/high starch commodities and with an LOQ of 20 mg/kg in hops. Analytical methods for the determination of fosetyl-Al and phosphonic acid in herbal infusions and spices are not available. These matrices are considered difficult to analyse and thus specific validation data should be provided. However, since a GC-FPD method was validated in hops, a matrix also difficult to analyse, EFSA considers this method also applicable for the determination of fosetyl-Al and phosphonic acid in herbal infusions and spices with the same LOQ as in hops, i.e. 2 mg fosetyl-Al/kg and 20 mg phosphonic acid/kg. Validation details for herbal infusions and spices are nonetheless still desirable to support the authorised uses of fosetyl on herbal infusions from flowers and on spices (seed and fruits) and the uses of potassium phosphonates on herbal infusions from leaves and herbs.

1.1.5. Stability of residues in plants

The storage stability of the **sum of fosetyl, phosphonic acid and their salts expressed as phosphonic acid** was investigated in the framework of the peer review for the renewal of the approval of fosetyl (EFSA, 2018e) and these tests demonstrated acceptable storage stability in high water content (cucumbers, cabbages, lettuces, tomatoes), in high acid content (grapes, oranges) and in high starch content (potatoes) matrices for up to 25 months and in high oil content commodities (avocados) for up to 29 months. In the same framework, the storage stability of **phosphonic acid** was also investigated. In high water content, high acid content, high oil content matrices, dry/high starch content commodities, the available studies demonstrated acceptable storage stability for phosphonic acid for a period of 24–25 months when stored at −18 to −20°C (EFSA, 2018e; France, 2018a).

The storage stability of **phosphonic acid** in high acid content (grape) commodities was investigated in the framework of the peer review of disodium phosphonate (EFSA, 2013; France, 2013). Residues were demonstrated to be stable for 12 months when stored at –20°C. Within the context of the peer review of potassium phosphonates, the storage stability of phosphonic acid was studied in high water content (potato, cucumber and cabbage) and high acid content (grape) commodities. Phosphonate residues were found to be stable for 25 months when stored at –18°C in both, high water and high acid content commodities.

It is noted that no specific study is available for the storage stability in complex matrices. However, as storage stability was investigated and demonstrated in the four main plant matrices, the most limiting storage stability conditions demonstrated for general matrices are assumed to be applicable to complex matrices as well.

1.1.6. Proposed residue definitions

The metabolism of fosetyl-Al, disodium and potassium phosphonates is expected to be similar in all crops and for all types of application. The metabolism in rotational crops is similar to the metabolism observed in primary crops and the processing is not expected to modify the nature of residues.

In the framework of the renewal of the approval of fosetyl-Al, the residue definition for monitoring and risk assessment was set as the 'sum of fosetyl, phosphonic acid and their salts, expressed as phosphonic acid' (EFSA, 2018e). In the framework of the peer review of disodium and potassium phosphonates, the residue definition was proposed as phosphonic acid and its salts expressed as phosphonic acid (EFSA, 2012b, 2013).

According to the present mandate, EFSA is requested to derive MRLs and to carry out the risk assessment based on the residue definition for enforcement and risk assessment for all plants set as 'phosphonic acid and its salts expressed as phosphonic acid'. However and since significant residue levels of fosetyl compared to the residue levels of phosphonic acid were also found in the supervised residue trials for several crops (blackberries, tomatoes and kales), EFSA proposed to apply the residue definition for risk assessment as 'sum of fosetyl, phosphonic acid and their salts, expressed as phosphonic acid' in line with the conclusion of the peer review for the renewal of fosetyl for all categories of crops and uses reported for fosetyl. For blackberries, tomatoes and kales, a conversion factor for monitoring to risk assessment was derived based on the available trials analysing fosetyl and phosphonic acid residues, individually. For all the other uses on fosetyl, and as can be seen from the residue trials, fosetyl occurred at negligible levels compared to phosphonic acid in the crops at harvest (either at or below the LOQ of the method or residues accounting for less than 15% of the phosphonic acid residues), and a conversion factor for risk assessment of 1 was derived. It is highlighted that in case of any future authorisation for fosetyl, the residues should be analysed for fosetyl and phosphonic acid residues to comply with the proposed residue definition for risk assessment. The residue definition for risk assessment set as 'phosphonic acid and its salts expressed as phosphonic acid' remains valid for residues resulting from all the uses on potassium and disodium phosphonates.

For enforcement purposes, phosphonic acid is considered a sufficient marker for all authorised uses of fosetyl, potassium and disodium phosphonates.

Analytical methods for the enforcement of the proposed residue definition at the LOQ of 0.1 mg/kg in all four main plant matrices and at the LOQ of 20 mg/kg in hops, herbal infusions and spices are available (EFSA, 2012b); validation details for herbal infusions and species are nonetheless still desirable to support the authorised uses of fosetyl on herbal infusions from flowers and on spices (seed and fruits) and the uses of potassium phosphonates on herbal infusions from leaves and herbs. According to the EURLs, LOQs of 0.1 mg/kg (in high water and acidic matrices) and 0.2 mg/kg (in high fat and dry/high starch content matrices) are achievable in routine analyses (EURLs, 2020).

It is underlined that the MRLs derived from the monitoring data on chamomile, tea, coffee beans, spices (roots and rhizome) are lower than the validated LOQ of the available method for enforcement in complex matrices (see Appendix B.1.2.6). Therefore an analytical method validated at a lower LOQ is still required to confirm these MRLs.

In line with the terms of reference of the mandate, EFSA verified whether it was appropriate to include phosphoric acid in the assessment. It is acknowledged that phosphoric acid (which is converted to phosphate) might be released by fertilisers; however considering that:

- Phosphoric acid is a precursor to phosphates, but not to phosphonic acid and its salts.
- Based on metabolism studies on fosetyl and scientific publications on potassium phosphonates and disodium phosphonates, the main compound expected from the use of these three active substances will be phosphonic acid which is not expected to be converted to phosphoric acid.

The use of plant protection products or fertilisers containing fosetyl, potassium or disodium phosphonates is not expected to result in phosphoric acid. Moreover enforcement methods allowing to analyse for phosphonic and phosphoric acid separately are available.

Consequently, EFSA concluded that it is not appropriate to include phosphoric acid in the assessment.

1.2. Magnitude of residues in plants

1.2.1. Magnitude of residues in primary crops

To assess the magnitude of **fosetyl** residues resulting from the reported GAPs, EFSA considered all residue trials reported by the Member States during the data call launched in the framework of this article 43 assessment (Belgium, 2020; Bulgaria, 2020; Czech Republic, 2020, Finland, 2020, France, 2020a; Germany, 2020; Greece, 2020; Italy, 2020a,b,c; Netherlands, 2020; Portugal, 2020; Spain, 2020) as well as the residue trials evaluated in the framework of previous MRL applications, including the MRL review of fosetyl under Article 12 (EFSA, 2009, 2012a,c, 2015; Germany, 2015). Storage conditions for some of the residue trials considered in this framework were not reported (6 out of the 11 trials available to support the northern outdoor GAP on wine grapes; 8 out of the 16 trials available to support the southern outdoor GAP on tomatoes; 8 out of the 16 trials available to support the northern outdoor GAP for salad plants and 9 out of the 18 trials available to support the southern outdoor GAP on salad plants). Nevertheless, considering that storage stability in the main four matrices was demonstrated for up to 25 months and the results from these trials are in the same range as the residue values supported by acceptable storage stability data, decline of residues during storage of the trial samples is not expected and additional information on the storage conditions is only desirable.

The number of residue trials and extrapolations were evaluated in accordance with the European guidelines on comparability, extrapolation, group tolerances and data requirements for setting MRLs (European Commission, 2017).

Residue trials are not available or not sufficient to support the authorisations on chestnuts, sweet peppers/bell peppers, leeks, dry peas and herbal infusions from flowers. Therefore, MRL and risk assessment values could not be derived for these crops and the following data gaps were identified:

- Chestnuts: four trials compliant with the southern outdoor GAP are required;
- Sweet peppers/bell peppers: eight trials compliant with the southern outdoor GAP and eight trials compliant with the indoor GAP are required;
- Leeks: four trials compliant with the southern outdoor GAP are required;
- Peas, dry: eight trials compliant with the northern outdoor GAP are required;
- Herbal infusions from flowers: three additional trials on any representative of the subgroup of herbal infusions from flowers and compliant with the northern outdoor GAP are required.

For all other crops, available residue trials are sufficient to derive (tentative) MRL and risk assessment values, taking note of the following considerations:

- Citrus fruits (grapefruit, oranges, lemons, limes, mandarins): residue trials supporting the indoor (post-harvest) use were all performed on mandarins. According to the extrapolation rules, four additional residue trials on oranges are in principle required to support the indoor (post-harvest) use. However considering that the residue levels in oranges are expected to be lower compared to mandarins and the southern European Union (SEU) outdoor GAP is by far more critical, these trials can be considered as desirable only;
- Table grapes: although MRL and risk assessment values can be derived from the southern outdoor GAP, four trials compliant with the northern outdoor GAP are still required;
- Blackberries: although a tentative MRL can be derived from the northern outdoor GAP, one trial compliant with the northern outdoor GAP is still required;
- Raspberries (red and yellow): although MRL and risk assessment values can be derived from the indoor GAP, four trials compliant with the northern outdoor GAP are still required;
- Cucumbers, gherkins and courgettes: Trials supporting the northern outdoor GAP overdosed (performed at 4.5 kg/ha instead of 3.2 kg/ha). Nevertheless, considering that the indoor GAP is clearly more critical, no additional trials are required;
- Melons (with extrapolation to pumpkins, watermelons): Although tentative MRL and risk assessment values can be derived from the southern outdoor data, two additional trials compliant with the southern outdoor GAP and eight trials compliant with the northern outdoor GAP are required;

- Baby leaf crops (including brassica species): Trials supporting the southern outdoor GAP were performed according to a more critical GAP (4 × 2.4 instead of 2 × 1.87 kg/ha). Nevertheless, considering that the indoor GAP is clearly more critical, no additional trials are required;
- Witloof/Belgian endives: trials supporting the indoor GAP on this crop were all overdosed (performed at 2 × 60 g a.s./hL instead of 1 × 12.4 g a.s./hL). Nevertheless, since the northern outdoor GAP is clearly more critical, additional indoor trials are not required;
- Herbs and edible flowers: although MRL and risk assessment values can be derived from the indoor GAP, two additional trials compliant with the northern outdoor GAP are still required;
- Asparagus: Considering that the application is done by drenching after seedling, residues are not expected in the consumable parts. Nevertheless, at least two trials compliant with the indoor GAP (drenching) are required to demonstrate that residues will remain below the LOQ. Mean whilst an MRL of 0.1* mg/kg is derived on a tentative basis.

All the requested residue trials should be conducted in accordance with the proposed residue definitions for monitoring and risk assessment for fosetyl (see Section 1.1.6).

To assess the magnitude residues resulting from the use of **potassium phosphonates** according to the reported GAPs, EFSA considered all residue trials reported by the RMS in its evaluation report (France, 2020c) as well as the residue trials evaluated in the framework of previous MRL applications (EFSA, 2018b,f, 2019a, 2020a,b,c, 2021f). All residue trial samples considered in this framework were stored in compliance with the conditions for which storage stability of residues was demonstrated. Decline of residues during storage of the trial samples is therefore not expected.

The number of residue trials and extrapolations were evaluated in accordance with the European guidelines on comparability, extrapolation, group tolerances and data requirements for setting MRLs (European Commission, 2017).

Residue trials are not available or not sufficient to support the authorisations on apricots, cherries, plums, cranberries, rose hips, mulberries, azaroles, kaki, cucurbits with edible and inedible peel, cresses, land cresses, red mustards and baby leaf crops, witloof. Therefore, MRL and risk assessment values could not be derived for these crops and the following data gaps were identified:

- Apricots: eight residue trials compliant with the southern outdoor GAP;
- Cherries: four residue trials compliant with the southern outdoor GAP;
- Plums: eight residue trials compliant with the southern outdoor GAP;
- Cranberries, rose hips, mulberries, azaroles: two additional trials compliant with the southern outdoor GAP and four residue trials compliant with indoor GAP;
- Kaki: two additional trials compliant with the southern outdoor GAP;
- Cucurbits with edible peel: eight residue trials compliant with the northern outdoor GAP, eight residue trials compliant with the southern outdoor GAP and eight residue trials compliant with the indoor GAP;
- Cucurbits with inedible peel: eight residue trials compliant with the southern outdoor GAP and eight residue trials compliant with the indoor GAP;
- Cresses, land cresses, red mustards and baby leaf crops: four residue trials compliant with the northern outdoor GAP and four residue trials compliant with the southern outdoor GAP;
- Witloof: four residue trials compliant with the northern outdoor GAP and four residue trials compliant with the southern outdoor GAP.

For all other crops, available residue trials are sufficient to derive (tentative) MRL and risk assessment values, taking note of the following considerations:

- Grapefruits and oranges: Although tentative MRL and risk assessment values can be derived from southern trials performed with three instead of two applications, eight trials on oranges and/or grapefruits compliant with the southern outdoor GAP are still required;
- Pome fruits: Although tentative MRL and risk assessment values can be derived from the reduced data set supporting the southern outdoor GAP, four additional trials compliant with the southern outdoor GAP are still required;
- Strawberries: Although MRL and risk assessment values can be derived from the indoor data, eight trials compliant with the southern outdoor GAP are still required;
- Dewberries: Although MRL and risk assessment values can be derived from the southern data, four trials compliant with the indoor GAP are still required;

- Currants, blueberries, gooseberries: Although MRL and risk assessment values can be derived from the northern and indoor data, two additional trials compliant with the southern outdoor GAP are still required;
- Elderberries: Although MRL and risk assessment values can be derived from the northern data, two additional trials compliant with the southern outdoor GAP and four trials compliant with the indoor GAP are still required;
- Pineapples: Although tentative MRL and risk assessment values can be derived from overdosed southern trials, four trials compliant with the southern outdoor GAP are still required;
- Onions: Although tentative MRL and risk assessment values can be derived from the reduced data set supporting the northern outdoor GAP, four additional trials compliant with the northern outdoor GAP are still required;
- Tomatoes and aubergines: A reduced number of trials performed according to a more critical GAP is available to support the southern outdoor use. Nevertheless, considering that the indoor GAP is clearly more critical, no additional trials are required to support the southern outdoor GAP;
- Sweet peppers: Although MRL and risk assessment values can be derived from the indoor data, eight trials compliant with the southern outdoor GAP are still required;
- Lettuces: although tentative MRL and risk assessment values can be derived from the reduced number of trials supporting the indoor GAP, four additional trials compliant with the indoor GAP and one additional trial compliant with the northern outdoor GAP, are still required;
- Escaroles and Roman rocket: although MRL and risk assessment values can be derived from the northern data, four trials compliant with the southern outdoor GAP are still required.

To assess the magnitude residues resulting from the use of **disodium phosphonate** according to the reported GAPs, EFSA considered all residue trials reported by the RMS in its evaluation report (France, 2020b) as well as the residue trials evaluated in the framework of the peer review (France, 2009; EFSA, 2013). All residue trial samples considered in this framework were stored in compliance with the conditions for which storage stability of residues was demonstrated. Decline of residues during storage of the trial samples is therefore not expected.

The number of residue trials and extrapolations were evaluated in accordance with the European guidelines on comparability, extrapolation, group tolerances and data requirements for setting MRLs (European Commission, 2017).

For all crops under evaluation (table and wine grapes, and horseradishes), available residue trials are sufficient to derive MRL and risk assessment values.

1.2.2. Residue levels of phosphonic acid from other sources

In order to cover the residues of phosphonic acid from other sources in line with the terms of reference of the mandate, EFSA extracted the monitoring data for phosphonic acid obtained from the 2015–2018 EU MS control programmes. It is noted that samples were available from a limited number of reporting countries – 11 including UK. Samples from both conventional and organic farming were available for 164 unprocessed plant commodities. Surveillance and enforcement samples (i.e. samples strategies ST10A, ST20A and ST30A; EFSA, 2018c) from EU, third countries and unknown origin were retained in the assessment. Enforcement samples (where a suspect sampling or targeted strategy was applied) were not disregarded based on the assumption that they may also be placed on the EU market.

Overall, 20,724 individual analytical results reported as (a) fosetyl-Al – sum of fosetyl, phosphonic acid and their salts, expressed as fosetyl (recalculated in this assessment as phosphonic acid[11]), and (b) phosphonic acid, were retained in the assessment. To comply with the proposed residue definition, results reported as fosetyl only (phosphonic acid was not measured) were disregarded. Residues at or above the LOQs of the reporting laboratory were observed in a total of 5,132 samples of plant commodities, which represents the 25% of the analysed samples retained in this assessment. Out of these 5,132 samples, 103 (2%) were reported by MSs as exceeding the current MRL and 41 (0.8%) as non-compliant, i.e. samples exceeding the MRL after taking the measurement uncertainty into account. A detailed summary of the relevant monitoring data considered in the assessment is available in Annex A. This table is limited to the commodities for which the MRL is based on the monitoring data and include the calculation of different percentiles (90th, 95th, 97.5th, 99th), the average and highest reported value for each commodity.

As per point 6.7.2 of Commission Regulation (EU) No 283/2013[13], when MRLs may be proposed on the basis on monitoring data, the proposal shall cover the 95th percentile (P95) of the data population at the 95% confidence interval (CI95).[14] To satisfy this requirement, a minimum of 59 residue results are required per food commodity (FAO, 2016). However, Commission Regulation (EU) No 283/2013 does not specify whether reported results below the LOQ of the reporting laboratory should be considered in the calculation. Since the aim of this assessment is to derive MRLs covering the residues originating from all possible sources, it was deemed appropriate to also include in the calculation of P95 and CI95 monitoring samples with residue results below LOQ, as they may also be placed on the market. These samples were included in the calculation by imputing the LOQ of the reporting laboratory (upper bound scenario).

Therefore, when monitoring data were used to derive MRL proposals, the following rules were applied:

For those commodities meeting the requirement of a minimum of 59 samples, the CI95 approach was applied (noting the above considerations for results below LOQ) for MRL proposal and risk assessment values. For those for which the CI95 approach was not applicable, the highest reported value of the monitoring data (max MoD) was tentatively used for MRL proposals and risk assessment values.

1.2.3. Magnitude of residues in rotational crops

According to the confined rotational crops metabolism study evaluated in the framework of the peer review for the renewal of fosetyl, when phosphonic acid is applied to bare soil at a dose rate of 4.9 mg a.s./kg (equivalent to 14.7 kg phosphonic acid/ha), residues are taken up from the soil by the plant. Actually, based on the results of this study, residue concentrations of phosphonic acid accounted for 0.35 and 0.8 mg eq/kg in radish tops and roots, respectively, 0.76 mg eq/kg in lettuce leaves and 0.14 and 0.42 mg eq/kg in barley grain and straw, respectively at 30-day plant-back interval (PBI). Residues were not analysed at longer PBI but phosphonic acid residues in radish tops and roots planted 6 months after soil treatment were recovered at a level below 0.1 mg/kg.

Rotational crops field trials were provided and assessed in the framework of the peer review for the renewal of the approval of fosetyl (EFSA, 2018e; France, 2018a). These field trials were conducted on lettuces, carrots and cereals (winter wheat and barley) following treatment of lettuces as a target crop with fosetyl at a total dose rate of 2.3 kg a.s./ha (corresponding to 1.73 kg phosphonic acid equivalents/ha) at PBI of 30 days. Within 7 days after the last application, the primary crop lettuce was destroyed and the remaining plant parts were incorporated into the soil. Residues of fosetyl and phosphonic acid were shown to be below the LOQ of the method in all rotational crops edible parts at the 30-day PBI, except in wheat grain (0.21 mg/kg for phosphonic acid). The sample storage conditions of these field trials were covered by acceptable storage stability data for phosphonic acid. Studies investigating the magnitude of residues in rotational crops are not available for potassium and disodium phosphonates.

It should, however, be highlighted that these rotational crops field trials conducted with fosetyl were under dosed compared to the critical GAPs that are currently authorised for fosetyl (up to 80 kg/ha fosetyl corresponding to 60 kg phosphonic acid equivalents/ha), potassium phosphonates (up to 13 kg/ha corresponding to 8.5 kg phosphonic acid equivalents/ha) and disodium phosphonates (up to 4 kg/ha corresponding to 2.6 kg phosphonic acid equivalents/ha) and the magnitude of residues of fosetyl and phosphonic acid was determined at the 30-day PBI only and not at later PBIs. No firm conclusion can therefore be drawn on the actual residue levels of fosetyl and phosphonic acid in rotational crops and on the most appropriated risk mitigation measures since these studies do not cover the maximum dose rates of application of the authorised GAPs and are also not expected to cover the possible accumulation of phosphonic acid residues following successive years of application as this compound is considered as highly persistent.

Therefore additional rotational crops field trials performed at a dose rate covering the maximum dose rates of application and the possible accumulation of phosphonic acid (max PEC_{soil} for phosphonic acid) considering the GAPs that are currently authorised for fosetyl, potassium phosphonates and disodium phosphonate are in principle required. Nevertheless in the framework of this assessment, monitoring data are also considered to derive MRL proposals covering all sources of phosphonic acid

[13] Commission Regulation (EU) No 283/2013 of 1 March 2013 setting out the data requirements for active substances, in accordance with Regulation (EC) No 1107/2009 of the European Parliament and of the Council concerning the placing of plant protection products on the market.

[14] This is referred as CI95 approach in this assessment.

and their residues uptake from the soil. These data are expected to cover also the possible uptake of phosphonic acid in succeeding crops resulting from the use of fosetyl, potassium and disodium phosphonates in compliance with the authorised GAPs and from the use of other products of agricultural relevance (e.g. fertilisers, plant strengthens, manure, soil amendments). Therefore additional rotational crops field studies are only desirable.

1.2.4. Magnitude of residues in processed commodities

The effect of industrial processing and/or household preparation was assessed in studies evaluated in the framework of the peer review for the renewal of **fosetyl** (on oranges, apples and grapes) (EFSA, 2018e, France, 2018a) and in the framework of the former MRL review of fosetyl (melons and pineapples) (EFSA, 2012a), during the peer review of **disodium phosphonate** (on wine grapes) (France, 2009; EFSA, 2013), during the peer review of **potassium phosphonates** (wine grapes) (EFSA, 2012b), in the present MRL review for **potassium phosphonates** (citrus fruits, table and wine grapes and tomatoes) (France, 2020c) and in the framework of previous assessments on potassium phosphonates (apples, pears, avocados, potatoes, wheat and olives for oil production) (EFSA, 2018b,f, 2019a, 2020a,b,c, 2021e,f). An overview of all available processing studies is available in Appendix B.1.2.5. Robust processing factors (fully supported by data) could be derived for oranges/mandarins peeled, oranges (wet pomace, juice, marmalade), apples (wet pomace, juice, puree), grapes (red/white wine, juice) and melons peeled. For all other processed commodities only tentative processing factors could be derived since number of studies was not sufficient and/or the analytical method used in the study was not sufficiently validated (see Appendix B.1.2.5 for further details). Considering that the tentative processing factors for potatoes process waste and dried pulp were used to calculate the dietary burdens and potatoes were the main contributor to the livestock exposure (see Appendix B.2), additional processing studies on these processed commodities performed with a method sufficiently validated are still required to confirm the calculated dietary burdens and the derived MRLs for livestock.

1.2.5. Proposed MRLs

The proposed MRLs should cover not only residues of phosphonic acid from the authorised uses of fosetyl and disodium and potassium phosphonates, but also residues from other products of agricultural relevance and the existing CXLs. All commodities included in the Annex I to Regulation (EC) No 396/2005 were considered in the assessment, including the commodities for which no GAPs were notified. The proposed MRLs and the rationale behind the proposals are detailed in Appendix B.1.2.6.

The MRL proposals followed the rules as detailed below.

Crops on which GAPs are supported by residue trials, CXLs are established and monitoring data are available: the MRL derivable from the supervised residue trials using the OECD calculator and in accordance with the standard classes to be used for the setting of MRLs (SANCO 10634/2010 Rev.0), the existing CXLs and the residue level calculated from monitoring data according to the CI95 approach (or the highest value observed in monitoring when the number of samples was below 59) were compared and the highest value was selected as proposed MRL. This approach is based on the assumption that the three substances under consideration are not used together on the same crop.

It is underlined that only for asparagus and fennel the MRL proposal is driven by monitoring data, taking note of the following considerations:

- Asparagus: to support the authorised use for fosetyl on this crop, an MRL at the LOQ was tentatively derived based on the assumption that no residues are expected according to the conditions of use, to be confirmed by at least two residue trials (see Section 1.2.1). As the results of the monitoring data were found to be higher than the LOQ, the MRL proposal was finally based on the monitoring data. Nevertheless, additional residue trials compliant with the authorised use for fosetyl on this crop are still required to confirm the MRL proposal;
- Fennel: the MRL proposal for this crop (8 mg/kg) is based on the highest reported value (7.8 mg/kg) from a population of 56 samples. Moreover the highest reported value corresponds to a non-compliant sample. Therefore, further considerations by risk managers is required on whether an MRL of 1.5 mg/kg as derivable from the trials available for the use of fosetyl on this crop should be considered instead.

Moreover for pineapples, Brussels sprouts, head cabbage and kohlrabies, although the maximum reported value from the monitoring data was higher than the MRL derived from the trials, when the

CI95 approach was applied the resulting value was lower than the MRL derived from GAP. Therefore the MRL was finally derived from GAP supporting trials.

Crops for which no GAPs are authorised, or the authorised GAPs are not supported by data, no CXLs are established, and monitoring data were available: the MRL was derived from the available monitoring data following the rules as described in Section 1.2.2, taking note of the following considerations:

- Cherries, plums, cranberries, leeks and peas dry: the authorised uses for fosetyl and potassium phosphonates on these crops were not supported by data. Although a tentative MRL could be derived from the available monitoring data, residue trials compliant with the authorised uses for these crops are still required;
- Herbal infusions from flowers: the authorised use for fosetyl on these crops was not supported by data. Although a tentative MRL could be derived extrapolating the available monitoring data on chamomile to the whole group, residue trials compliant with the authorised use for these crops are still required;
- Parsnips and parsley roots: the CI95 approach could not be applied for these crops (less than 59 samples were available). Although a tentative MRL could be derived based on the highest residue from the monitoring data, it is highlighted that this value corresponds to a non-compliant sample;
- Rhubarb, rye and tea: the highest reported LOQ was higher than the highest reported measured value. Although a MRL could be derived for these commodities applying the CI95 approach, it is underlined that the derived MRL is driven by the highest reported LOQs (> 0.2 mg/kg);
- Dates, grape leaves, linseeds, barley and oats: all results from the monitoring data were below the LOQ. Nevertheless, it is underlined that the reported LOQ was higher than the LOQ for enforcement considered in this review (0.1 mg/kg).

Crops for which no GAPs are authorised, no CXLs are established and monitoring data are not available: when possible tentative MRLs were proposed by extrapolation of the monitoring data available for a similar crop. The following extrapolations were proposed, considering a similar morphology and the robustness of the monitoring data available:

- arrowroots (extrapolation from sweet potatoes),
- beans without pods (extrapolation from peas, without pods),
- lentils fresh (extrapolation from peas, with pods),
- cardoons (extrapolation from celeries),
- lupins (extrapolation from beans, dry),
- poppy seeds, mustard seeds, cotton seeds, safflower seeds, borage seeds, Gold of pleasure seeds, hemp seeds, castor beans (extrapolation from sunflower seeds),
- sorghum (extrapolation from maize),
- spices (roots and rhizome) (extrapolation from ginger),
- sugar beet root (extrapolation from carrots).

Overall the available data are considered sufficient to derive (tentative) MRL proposals as well as risk assessment values for all commodities under evaluation, except for rose hips, mulberries, jambuls, American persimmon, guavas, breadfruits, durians, soursops, bamboo shoots, palm hearts, mosses and lichens, algae and prokaryotes organisms, oil palm kernels, oil palm fruits, kapok, herbal infusions (dry roots), cocoa beans, carobs, spices (bark, buds, flower stigma, aril) and sugar cane, where no monitoring data nor residue trials are available, no extrapolation is possible and therefore MRLs and risk assessment values could not be derived. The MRLs derived are expected to cover residue from rotational crops.

It is underlined that the MRLs derived from the monitoring data on chamomile, tea, coffee beans, spices (roots and rhizome) are lower than the proposed LOQ of the available method for enforcement in complex matrices (see Section 1.1.4). Therefore, these MRLs should be considered tentative only and should be confirmed by an analytical method validated at a lower LOQ.

Tentative MRLs were also derived for feed crops (cereal straw) in view of the future need to set MRLs in feed items.

2. Residues in livestock

Fosetyl, and potassium phosphonates are authorised for use on several crops that might be fed to livestock. Disodium phosphonate is authorised on table/wine grapes and on horseradishes that are not considered as feed commodities in Europe. Considering that livestock may be exposed to residues originating not only from the use of fosetyl and potassium phosphonates, but also from other sources the calculation of the livestock dietary burden was performed combining the residues originating from these two active substances and the monitoring data. The selection of the input values followed the same rules as for the MRL proposals derived in Section 1.2.5. The risk assessment input values derived from the supervised residue trials were compared and the highest residue values were selected for the exposure calculation. This approach is based on the assumption that both compounds are not used simultaneously on the same crop. For the crops for which there are no authorised uses on fosetyl and potassium phosphonates and for dry peas, for which the use of fosetyl was not supported by data (see Section 1.2.1), input values were derived from the available monitoring data. Finally, for the crops for which there are no authorised uses on fosetyl and potassium phosphonates and monitoring data are not available, the following extrapolations were proposed:

- cotton seed and safflower seed: data were extrapolated from the monitoring data on sunflower seed (more robust data set);
- sorghum grain: data were extrapolated from the monitoring data on maize grain;
- sugar beet roots: data were extrapolated from carrots;
- cowpea seeds and lupin seeds, dry: data were extrapolated from beans, dry.

The detailed input values for this calculation are summarised in Appendix D.1. It is underlined that no information on the levels of phosphonic acid in forages are available. Nevertheless, this is not expected to have a significant impact on the calculations considering that the MRL derived for livestock based on the livestock feeding studies are higher than the residues observed in livestock during monitoring (see Appendix B.2.2.2).

The calculations were performed for different groups of livestock according to OECD guidance (OECD, 2013), which has now also been agreed upon at European level. The dietary burdens calculated for all groups of livestock were found to exceed the trigger value of 0.1 mg/kg DM. Behaviour of residues was therefore assessed in all commodities of animal origin.

2.1. Nature of residues and methods of analysis in livestock

The metabolism of fosetyl-Al residues was investigated in lactating goats and assessed in the framework of the peer review for the renewal of the approval of fosetyl (EFSA, 2018e).

Fosetyl-Al was extensively degraded into phosphonic acid and ethanol and was never recovered in milk and tissues. Residues of fosetyl-Al and ethanol were found in the stomach contents and in urine only. Ethanol was then further excreted as CO_2 or reincorporated into natural products such as carbohydrates, glycogen, saponifiable fatty acids and lipids and amino acids. These studies were highly underdosed compared to the calculated dietary burden (ca. 0.2N rate). Nevertheless, it can reasonably be assumed that a different metabolic pathway is not expected in ruminant matrices from a new study adequately dosed in view of the very simple structure of the parent molecule. These available studies can therefore be considered as acceptable.

No metabolism study on hens was available. However, based on the simple nature of the molecule and the extensive metabolism shown in the goat metabolism studies, a study investigating the metabolism of fosetyl-Al and phosphonic acid in poultry was considered not necessary (EFSA, 2018e).

No livestock metabolism study was available for potassium phosphonates. Nevertheless, considering the results of the metabolism study performed with fosetyl on ruminants and the simple nature of phosphonic acid, no additional study is required.

EFSA concludes that the metabolism of fosetyl-Al, potassium and disodium phosphonates in livestock is adequately elucidated, and phosphonic acid can be considered as the most relevant component of the residues in commodities of animal origin for both enforcement and risk assessment.

An analytical method using HPLC–MS/MS was fully validated for the determination of phosphonic acid with a LOQ of 0.01 mg/kg in milk, and 0.05 mg/kg in animal tissues and eggs (EFSA, 2018e). The peer review of fosetyl (EFSA, 2018g) noted that the extraction efficiency was missing, but it was not requested as data gap. In terms of extraction efficiency, the same data requirements as for the peer review of fosetyl apply here and thus the same conclusion of the peer review applies to this assessment. According to the EURLs LOQs of 0.05 and 0.2 mg/kg are achievable in milk and fat, respectively while it is assumed that an LOQ of 0.5 mg/kg should be achievable in liver, kidney and muscle (EURL, 2020). An analytical method based on LC–MS/MS for honey was made available in the RAR (France, 2018a), with a LOQ of 0.05 mg (phosphonic acid)/kg. Although ILV and extraction efficiency were not available, the peer review concluded that according to the data requirements applicable, the method was sufficiently validated (EFSA, 2018g). The same conclusion is applied in this assessment.

Storage stability data on phosphonic acid in animal matrices were not submitted.

2.2. Magnitude of residues in livestock

In the framework of the peer review for the renewal of the approval of fosetyl, poultry and ruminants feeding studies were provided (EFSA, 2018e, France 2018a). The laying hens were dosed for 28 consecutive days with phosphonic acid at dosing levels of 0.95, 3.703 and 11.387 mg/kg bw per day. Residues of fosetyl-Al and phosphonic acid were found to be below the LOQ of the method for both compounds (0.5 mg/kg) in eggs, muscle, liver and fat at all dose levels.

Lactating cows were also dosed for 28 consecutive days with phosphonic acid at dosing levels of 0.327, 0.982 and 3.273 mg/kg bw per day. This cow feeding study cannot be considered as acceptable to determine the magnitude of phosphonic acid in milk and tissues as it is significantly underdosed compared to the calculated dietary burden.

An additional feeding study performed on dairy cows was evaluated in the framework of an MRL application for potassium phosphonates (France, 2018b; EFSA, 2019a). In this study, cows were dosed for 28 consecutive days with potassium phosphonates at levels corresponding to 11, 22 and 66 mg phosphonic acid equivalents/kg bw per day. Residues of phosphonic acid were quantified in milk, fat, liver and kidney at all dosing levels. In muscle the residues were below the LOQ (0.5 mg/kg) at the lowest dosing level only. The dietary burden calculated in the current assessment falls within the dose ranges of this new feeding study.

The studies performed respectively on poultry and dairy cows were used to derive MRL and risk assessment values in milk, eggs and tissues. Since extrapolation from ruminants to pigs is acceptable, results of the livestock feeding study on ruminants were relied upon to derive the MRL and risk assessment values in pigs. In the study on dairy cows, samples of tissues/milk were analysed for phosphonic acid within 30 days and storage stability data are therefore not triggered. No information on the storage conditions of the samples from the hens feeding studies is available. However, the peer review for the renewal of fosetyl concluded that, based on the elementary nature of the residues it is considered unlikely that significant degradation occurred (EFSA, 2018e). Therefore, storage stability studies are not required.

As done for the plant commodities, MRLs derived from the livestock feeding studies were compared with the existing CXLs and with the monitoring data and the highest value was selected (see Appendix B.2.2.2).

It is underlined that all the MRLs derived from the feeding studies are higher compared to the residue levels of phosphonic acid from the monitoring data in milk, eggs and tissues. Therefore, for all livestock commodities, the MRLs are based on the livestock feeding studies. Nevertheless, considering that potatoes were the main contributor of the livestock exposure (see Appendix B.2) and the processing factors for potatoes process waste and dried pulp used to calculate the dietary burdens were not fully supported by data, the derived MRLs for livestock should be considered tentative only. For honey, the MRL was derived on the basis of the existing monitoring data (see Appendix B.2.2.2 and Annex A).

3. Consumer risk assessment considering all sources of phosphonic acid and including the existing CXLs

Considering that consumers may be exposed to residues originating from the uses of fosetyl, disodium and potassium phosphonates as plant protection products, but also from other sources (e.g. fertilisers, plant strengtheners, manure, soil amendments) a comprehensive consumer risk assessment was performed combining the residues originating from these three active substances and the monitoring data. Moreover, the use of fosetyl was previously also assessed by the JMPR (FAO, 2017a,b). The CXLs, resulting from this assessment by JMPR and adopted by the CAC, are now international recommendations that need to be considered by European risk managers when establishing MRLs. To facilitate consideration of these CXLs by risk managers, the consumer exposure was calculated including the existing CXLs as well. It is underlined that, although the residue definition for enforcement established by the JMPR includes fosetyl as well, the CXLs can still be considered comparable with the derived EU MRLs, since according to the available trials in most of the commodities fosetyl was found at negligible level compared to phosphonic acid. The selection of the input values for the plant commodities followed the same rules as for the MRL proposals derived in Section 1.2.5 and as detailed below:

Crops on which GAPs are authorised and sufficiently supported by residue trials and/or CXLs are established and monitoring data are available: the risk assessment input values derived from the supervised residue trials and by the JMPR were compared and the highest residue values were selected for the exposure calculation, except for asparagus for which both MRL proposal and risk assessment input value were driven by monitoring data. It is noted that although the MRL proposal for fennel was derived from the monitoring data, the STMR considered for risk assessment was based on the authorised use for fosetyl which lead to an higher STMR. This approach is based on the assumption that the three substances under consideration are not used together on the same crop.

Crops for which no GAPs are authorised or the authorised GAPs are not supported by data, no CXLs are established and monitoring data were available: the calculated mean from the monitoring data was used as input value for risk assessment in line with the approach followed in the annual report on pesticide residues.

Crops for which no GAPs are authorised, no CXLs are established and monitoring data are not available: the following extrapolations were proposed, considering a similar morphology and the robustness of the monitoring data available: arrowroots (extrapolation from sweet potatoes), beans without pods (extrapolation from peas, without pods), lentils fresh (extrapolation from peas, with pods), cardoons (extrapolation from celeries), lupins (extrapolation from beans, dry), poppy seeds, mustard seeds, cotton seeds, safflower seeds, borage seeds, Gold of pleasure seeds, hemp seeds, castor beans (extrapolation from sunflower seeds), sorghum (extrapolation from maize), spices (roots and rhizome) (extrapolation from ginger), sugar beet root (extrapolation from carrots).

Crops for which GAPs are authorised but not supported by residue trials, no CXLs are established, no monitoring data are available and no extrapolation was possible: EFSA considered the existing MRL recalculated as phosphonic acid, for an indicative calculation.

For **animal commodities**, EFSA considered the input values as derived from the available livestock feeding studies as they are higher compared to the residue levels of phosphonic acid from the monitoring data in milk, eggs and tissues and the median from the available monitoring data on honey.

All input values included in the exposure calculations refer to the residues in the raw agricultural commodities and are summarised in Appendix D.2.

EFSA considered for the risk assessment the currently applicable ADI of 2.25 mg/kg bw per day for phosphonic acid (European Commission, 2012). Moreover, during the peer review for the renewal of the approval of fosetyl, a revised ADI of 1 mg/kg bw per day has been derived by EFSA and considered applicable also to phosphonic acid (EFSA, 2018e). Although the revised ADI has not yet been endorsed by risk managers, the outcome of the chronic risk assessment based on this reference value was also reported. An acute reference dose (ARfD) was not deemed necessary for phosphonic acid and therefore an acute risk assessment was not performed.

It is underlined that the database available to set reference values for phosphonic acid is incomplete, i.e. it does not include reproductive toxicity studies. Considering that phosphonic acid is a major metabolite of fosetyl in rat (approx. 73% of the administered dose recovered in urine) and that for fosetyl a complete data package including reproductive toxicity studies is available, EFSA has recently considered more appropriate to use the reference values of the parent for this metabolite, i.e. ADI of 1 mg/kg bw per day instead of the ADI of 2.25 mg/kg bw per day as previously proposed for phosphonic acid in 2012. An ARfD was deemed unnecessary. The same approach has been followed by JMPR (FAO, 2017a,b).

Chronic exposure calculations for all crops considered in the framework of this review were performed using revision 3.1 of the EFSA PRIMo (EFSA, 2018a, 2019b).

When considering the currently applicable ADI of 2.25 mg/kg bw per day, the highest chronic exposure was calculated for Dutch toddler, representing 36% of the ADI.

When considering the ADI of 1 mg/kg bw per day proposed by the peer review which has not yet been endorsed by risk managers, the highest chronic exposure was calculated for Dutch toddler, representing 80% of the ADI.

In both scenarios, the main contributors to the consumer exposure were apples, potatoes and wheat for which MRLs and risk assessment values were derived from the authorised uses as plant protection products.

Although major uncertainties remain due to the data gaps identified in the previous sections, this indicative exposure calculation did not indicate a risk to consumer's health.

Conclusions

Based on the metabolism studies conducted with fosetyl-Al in primary and rotational crops, the metabolism of fosetyl-Al, disodium and potassium phosphonates in plants was concluded to be similar in all crops and for all kinds of treatment. The standard processing conditions of pasteurisation, baking/brewing and boiling and sterilisation are not expected to modify the nature of residues in processed commodities.

According to the present mandate, EFSA is requested to derive MRLs and to carry out the risk assessment based on the residue definition for enforcement and risk assessment for all plants set as 'phosphonic acid and its salts expressed as phosphonic acid'. However, since significant residue levels of fosetyl compared to the residue levels of phosphonic acid were also found in the supervised residue trials for several crops (blackberries, tomatoes and kales), EFSA proposed to apply the residue definition for risk assessment as 'sum of fosetyl, phosphonic acid and their salts, expressed as phosphonic acid' for all crops and uses reported for fosetyl. The residue definition for risk assessment set as 'phosphonic acid and its salts expressed as phosphonic acid' remains valid for all the uses reported for potassium and disodium phosphonates.

For enforcement purposes, phosphonic acid is considered a sufficient marker for all authorised uses of fosetyl, potassium and disodium phosphonates.

Analytical methods for the enforcement of the proposed residue definition at the LOQ of 0.1 mg/kg in all four main plant matrices and at the LOQ of 20 mg/kg in hops, herbal infusions and spices are available; validation details for herbal infusions and spices are nonetheless still desirable to support the authorised uses of fosetyl on herbal infusions from flowers and on spices (seed and fruits) and the use of potassium phosphonates on herbal infusions from leaves and herbs. According to the EURLs, LOQs of 0.1 mg/kg (in high water and acidic matrices) and 0.2 mg/kg (in high fat and dry/high starch content matrices) are achievable during routine analyses.

Considering that the derived MRLs should cover not only residues of phosphonic acid from the authorised uses of fosetyl and disodium and potassium phosphonates, but also residues from other products of agricultural relevance (e.g. fertilisers) and the existing CXLs, MRLs were derived comparing the residues originating from these three active substances, the existing CXLs and the monitoring data available. All commodities included in the Annex I to Regulation (EC) No 396/2005 were considered in the assessment, including the commodities for which no GAPs were notified. Nevertheless, a risk management decision should still be taken on whether MRLs should be proposed for commodities for which no GAPs are authorised or the authorised uses are not supported by data and on the period of their applicability.

Overall the available data are considered sufficient to derive (tentative) MRL proposals as well as risk assessment values for all commodities under evaluation, except for rose hips, mulberries, jambuls, American persimmon, guavas, breadfruits, durians, soursops, bamboo shoots, palm hearts, mosses and lichens, algae and prokaryotes organisms, oil palm kernels, oil palm fruits, kapok, herbal infusions (dry roots), cocoa beans, carobs, spices (bark, buds, flower stigma, aril) and sugar cane, where no monitoring data nor residue trials are available, no extrapolation is possible and therefore MRLs and risk assessment values could not be derived. The MRLs derived are expected to cover phosphonic acid residues from rotational crops.

It is underlined that the MRLs derived from the monitoring data on chamomile, tea, coffee beans, spices (roots and rhizome) are lower than the proposed LOQ of the available method for enforcement in complex matrices. Therefore these MRLs should be considered tentative only and should be confirmed by an analytical method validated at a lower LOQ.

Fosetyl and potassium phosphonates are authorised for use on several crops that might be fed to livestock. Calculation of the livestock dietary burden was performed combining the residues originating from these two active substances and the monitoring data. The dietary burdens calculated for all groups of livestock were found to exceed the trigger value of 0.1 mg/kg dry matter (DM). Behaviour of residues was therefore assessed in all commodities of animal origin.

The metabolism of fosetyl-Al residues was investigated in lactating goats only. Metabolism studies with potassium phosphonates were not available. However, based on the simple nature of the molecule and the extensive metabolism shown in the goat metabolism studies, additional studies were considered not necessary. Based on the available study, EFSA concludes that phosphonic acid can be considered as the most relevant component of the residues in commodities of animal origin for both enforcement and risk assessment. An analytical method using HPLC–MS/MS was fully validated for the determination of phosphonic acid in milk with a LOQ of 0.01 mg/kg and in all animal tissues and eggs, with a LOQ of 0.05 mg/kg. According to the EURLs, LOQs of 0.05 and 0.2 mg/kg are achievable in milk and fat, respectively, while it is assumed that an LOQ of 0.5 mg/kg should be achievable in liver, kidney and muscle. An analytical method based on LC–MS/MS was sufficiently validated for the determination of phosphonic acid in honey at the LOQ of 0.05 mg/kg.

Livestock feeding studies on poultry and dairy cows were used to derive MRL and risk assessment values in milk, eggs and tissues. Since extrapolation from ruminants to pigs is acceptable, results of the livestock feeding study on ruminants were relied upon to derive the MRL and risk assessment values in pigs. As done for the plant commodities, MRLs derived from the livestock feeding studies were compared with the existing CXLs and with the monitoring data and the highest value was selected. It is underlined that all the MRLs derived from the feeding studies are higher compared to the residue levels of phosphonic acid from the monitoring data in milk, eggs and tissues. Therefore for all livestock commodities, the MRLs are based on the livestock feeding studies. Nevertheless, considering that potatoes were the main contributor to the livestock exposure and the processing factors for potatoes process waste and dried pulp used to calculate the dietary burdens were not fully supported by data, the derived MRLs for livestock should be considered tentative only. For honey, the MRL was derived on the basis of the existing monitoring data.

A comprehensive consumer risk assessment was performed combining information from supervised residue trials with these three active substances and the available monitoring data. The existing CXLs were also considered. For those commodities where data were insufficient to derive a MRL, EFSA considered the existing EU MRL recalculated as phosphonic acid for an indicative calculation.

EFSA considered for the risk assessment the currently applicable ADI of 2.25 mg/kg bw per day for phosphonic acid. The outcome of the chronic risk assessment based on the ADI proposed by the peer review of 1 mg/kg bw per day for phosphonic acid, which has not yet been endorsed by risk managers, was also reported. An ARfD was not deemed necessary for phosphonic acid and therefore an acute risk assessment was not performed.

When considering the currently applicable ADI of 2.25 mg/kg bw per day, the highest chronic exposure was calculated for Dutch toddler, representing 36% of the ADI.

When considering the ADI of 1 mg/kg bw per day proposed by the peer review which has not yet been endorsed by risk managers, the highest chronic exposure was calculated for Dutch toddler, representing 80% of the ADI.

In both scenarios, the main contributors to the consumer exposure were apples, potatoes and wheat for which MRLs and risk assessment values were derived from the authorised uses as plant protection products.

Recommendations

MRL recommendations were derived in compliance with the approach as outlined in the reasoned opinion. All MRL values listed as 'Recommended' in the table are sufficiently supported by data and are therefore proposed for inclusion in Annex II to the Regulation. The remaining MRL values listed in the table are not recommended for inclusion in Annex II because they require further consideration by risk managers (see Table 2 footnotes for details). In particular, some tentative MRLs and/or existing EU MRLs need to be confirmed by the following data:

1) Additional residue trials supporting the most critical GAPs for **potassium phosphonates** on oranges and grapefruits, apples, pears, cherries, plums, cranberries, rose hips, mulberries and pineapples;
2) Additional residue trials supporting the most critical GAPs for **fosetyl** on cucurbits with inedible peel, asparagus, leeks, dry peas, herbal infusions from flowers;
3) Additional monitoring data on dates, figs, kumquats, carambola, jambolan, lychee, passion fruits, prickly pear, star apples, America persimmon, papaya, cherimoya, guava, bread fruit, durian, soursop, cassava, yams, arrowroots, Jerusalem artichokes, parsnips, parsley roots, salsify, swedes, turnips, okra, vine leaves, watercress, beans (fresh, without pods), fresh lentils, cardoons, celery, fennel, bamboo shoots, palm hearts, mosses and lichens, algae and prokaryotes organisms, dry lentils, dry peas, dry lupins, oilseeds, oil palm kernel, oil palm fruits, kapok, barley, maize, common millet, oat, sorghum, coffee beans, herbal infusions

(from flowers, roots), cocoa beans, carobs, spices (bark, roots and rhizome, buds, flower stigma, aril), sugar beet roots and sugar cane;
4) Analytical methods for the enforcement in difficult matrices (tea, coffee beans, carobs, herbal infusions from flowers and spices from roots and rhizome) validated at a lower LOQ;
5) Additional processing studies on potatoes process waste and dried pulp.

It is highlighted, however, that some of the MRLs derived result from a CXL, or from a GAP in one climatic zone only or from one of the active substances under assessment, whereas other GAPs reported by MSs were not fully supported by data. EFSA therefore identified the following data gaps which are not expected to impact on the validity of the MRLs derived but which might have an impact on national authorisations:

- Additional residue trials supporting the authorised uses of **fosetyl** on chestnuts, table grapes, raspberries, sweet peppers/bell peppers, fresh herbs;
- Additional residue trials supporting the authorised uses of **potassium phosphonates** on apricots, strawberries, dewberries, elderberries, azaroles, kaki, onions, sweet peppers, cucurbits with edible and inedible peel, escaroles, roman rocket, cresses, land cresses, red mustards and baby leaf crops, witloof.

If the above reported data gaps are not addressed in the future, Member States are recommended to withdraw or modify the relevant authorisations at national level.

EFSA also underlines that, according to the information provided by the EURLs, the analytical standard for phosphonic acid and the isotopically labelled internal standard (ILIS) phosphonic acid-$^{18}O_3$ are commercially available.

Minor deficiencies were also identified in the assessment but these deficiencies are not expected to impact either on the validity of the MRLs derived or on the national authorisations. The following data are therefore considered desirable but not essential:

- Storage conditions for some of the residue trials on wine grapes, tomatoes and salad plants;
- Additional rotational crops field studies covering the accumulation of phosphonic acid in the soil;
- Validation details for the analytical methods for the enforcement in herbal infusions and spices supporting the authorised uses of fosetyl on herbal infusions from flowers, spices (seed and fruits) and the use of potassium phosphonates in herbal infusions from leaves and herbs.

Table 2: Summary table

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	**Comment**
Enforcement residue definition (existing): fosetyl-Al (sum of fosetyl, phosphonic acid and their salts, expressed as fosetyl) **Enforcement residue definition 1 (proposed):** phosphonic acid and its salts expressed as phosphonic acid					
110010	Grapefruit	75	–	100	Further consideration needed[(a)] data gap #1
110020	Oranges	75	20	100	Further consideration needed[(b)] data gap #1
110030	Lemons	75	–	100	Recommended[(c)]
110040	Limes	75	–	100	Recommended[(c)]
110050	Mandarins	75	50	100	Recommended[(d)]
120010	Almonds	500	400	1,000	Recommended[(e)]
120020	Brazil nuts	500	400	400	Recommended[(e)]
120030	Cashew nuts	500	400	400	Recommended[(e)]
120040	Chestnuts	500	400	1,000	Recommended[(f)]
120050	Coconuts	500	400	400	Recommended[(g)]
120060	Hazelnuts	500	400	1,000	Recommended[(e)]
120070	Macadamia	500	400	400	Recommended[(h)]
120080	Pecans	500	400	400	Recommended[(e)]
120090	Pine nuts	500	400	400	Recommended[(h)]

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
120100	Pistachios	500	400	1,000	Recommended(h)
120110	Walnuts	500	400	1,000	Recommended(e)
130010	Apples	150	50	70	Further consideration needed(b) data gap #1
130020	Pears	150	50	70	Further consideration needed(b) data gap #1
130030	Quinces	150	50	70	Recommended(d)
130040	Medlar	150	50	70	Recommended(d)
130050	Loquat	150	50	70	Recommended(i)
140010	Apricots	2.0*	–	60	Recommended(j)
140020	Cherries	2.0*	–	2	Further consideration needed(k) data gap #1
140030	Peaches	50	–	60	Recommended(l)
140040	Plums	2.0*	–	1	Further consideration needed(k) data gap #1
151010	Table grapes	100	60	100	Recommended(m)
151020	Wine grapes	100	60	150	Recommended(m)
152000	Strawberries	100	70	70	Recommended(n)
153010	Blackberries	300	–	200	Recommended(c)
153020	Dewberries	2.0*	–	80	Recommended(o)
153030	Raspberries	300	–	200	Recommended(c)
154010	Blueberries	80	–	150	Recommended(p)
154020	Cranberries	2.0*	–	0.1*	Further consideration needed(q) data gap #1
154030	Currants (red, black and white)	80	–	150	Recommended(p)
154040	Gooseberries	80	–	150	Recommended(p)
154050	Rose hips	2.0*	–	1.5	Further consideration needed(r) data gap #1
154060	Mulberries	2.0*	–	1.5	Further consideration needed(r) data gap #1
154070	Azarole (Mediterranean medlar)	50	50	50	Recommended(s)
154080	Elderberries	80	–	60	Recommended(o)
161010	Dates	2.0*	–	0.15	Further consideration needed(t) data gap #3
161020	Figs	2.0*	–	0.3	Further consideration needed(u) data gap #3
161030	Table olives	2.0*	–	80	Recommended(o)
161040	Kumquats	2.0*	–	3	Further consideration needed(u) data gap #3
161050	Carambola	2.0*	–	0.7	Further consideration needed(u) data gap #3
161060	Persimmon	50	50	50	Recommended(v)
161070	Jambolan (java plum)	2.0*	–	1.5	Further consideration needed(w) data gap #3
162010	Kiwi	150	–	100	Recommended(x)
162020	Lychee (Litchi)	2.0*	–	0.3	Further consideration needed(u) data gap #3
162030	Passion fruit	2.0*	–	20	Further consideration needed(u) data gap #3
162040	Prickly pear (cactus fruit)	2.0*	–	0.1*	Further consideration needed(t) data gap #3
162050	Star apple	2.0*	–	0.1*	Further consideration needed(t) data gap #3
162060	American persimmon (Virginia kaki)	2.0*	–	1.5	Further consideration needed(w) data gap #3
163010	Avocados	50	20	50	Recommended(d)
163020	Bananas	2.0*	–	0.3	Further consideration needed(y)
163030	Mangoes	2.0*	–	1.5	Further consideration needed(y)
163040	Papaya	2.0*	–	3	Further consideration needed(u) data gap #3
163050	Pomegranate	2.0*	–	70	Recommended(p)
163060	Cherimoya	2.0*	–	0.1*	Further consideration needed(t) data gap #3
163070	Guava	2.0*	–	1.5	Further consideration needed(w) data gap #3

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
163080	Pineapples	50	–	20	Further consideration needed[a] data gap #1
163090	Bread fruit	2.0*	–	1.5	Further consideration needed[w] data gap #3
163100	Durian	2.0*	–	1.5	Further consideration needed[w] data gap #3
163110	Soursop (guanabana)	2.0*	–	1.5	Further consideration needed[w] data gap #3
211000	Potatoes	40	–	150	Recommended[c]
212010	Cassava	2.0*	–	0.1*	Further consideration needed[t] data gap #3
212020	Sweet potatoes	2.0*	–	0.3	Further consideration needed[y]
212030	Yams	2.0*	–	0.1*	Further consideration needed[t] data gap #3
212040	Arrowroot	2.0*	–	0.3	Further consideration needed[z] data gap #3
213010	Beetroot	2.0*	–	2	Further consideration needed[y]
213020	Carrots	2.0*	–	1	Further consideration needed[y]
213030	Celeriac	8	–	6	Recommended[x]
213040	Horseradish	2.0*	–	150	Recommended[aa]
213050	Jerusalem artichokes	2.0*	–	0.1*	Further consideration needed[t] data gap #3
213060	Parsnips	2.0*	–	6	Further consideration needed[bb] data gap #3
213070	Parsley root	2.0*	–	4	Further consideration needed[bb] data gap #3
213080	Radishes	25	–	40	Recommended[c]
213090	Salsify	2.0*	–	0.1*	Further consideration needed[t] data gap #3
213100	Swedes	2.0*	–	0.1*	Further consideration needed[t] data gap #3
213110	Turnips	2.0*	–	0.1*	Further consideration needed[t] data gap #3
220010	Garlic	2.0*	–	20	Recommended[p]
220020	Onions	50	–	40	Recommended[l]
220030	Shallots	2.0*	–	20	Recommended[p]
220040	Spring onions	30	–	6	Further consideration needed[y]
231010	Tomatoes	100	8	70	Recommended[d]
231020	Peppers	130	7	70	Recommended[f]
231030	Aubergines (egg plants)	100	–	70	Recommended[c]
231040	Okra, lady’s fingers	2.0*	–	1	Further consideration needed[u] data gap #3
232010	Cucumbers	80	60	80	Recommended[cc]
232020	Gherkins	75	–	80	Recommended[j]
232030	Courgettes	100	70	80	Recommended[cc]
233010	Melons	75	60	60	Further consideration needed[dd] data gap #2
233020	Pumpkins	75	–	60	Further consideration needed[ee] data gap #2
233030	Watermelons	75	–	60	Further consideration needed[ee] data gap #2
234000	Sweet corn	5	–	1.5	Further consideration needed[y]
241010	Broccoli	10	–	50	Recommended[c]
241020	Cauliflower	10	–	50	Recommended[c]
242010	Brussels sprouts	10	–	2	Recommended[ff]
242020	Head cabbage	10	–	2	Recommended[ff]
243010	Chinese cabbage	10	–	20	Recommended[c]
243020	Kale	10	–	20	Recommended[c]
244000	Kohlrabi	10	–	5	Recommended[ff]
251010	Lamb’s lettuce	75	–	150	Recommended[l]

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
251020	Lettuce	300	200	200	Recommended[gg]
251030	Scarole (broad-leaf endive)	75	–	150	Recommended[l]
251040	Cress	75	–	150	Recommended[j]
251050	Land cress	75	–	150	Recommended[j]
251060	Rocket, Rucola	75	–	150	Recommended[l]
251070	Red mustard	75	–	150	Recommended[hh]
251080	Leaves and sprouts of Brassica spp.	75	–	150	Recommended[hh]
252010	Spinach	75	20	200	Recommended[d]
252020	Purslane	2.0*	–	100	Recommended[p]
252030	Beet leaves (chard)	15	–	70	Recommended[x]
253000	Vine leaves (grape leaves)	2.0*	–	0.15	Further consideration needed[t] data gap #3
254000	Water cress	2.0*	–	0.1*	Further consideration needed[t] data gap #3
255000	Witloof	75	–	150	Recommended[j]
256010	Chervil	75	–	300	Recommended[c]
256020	Chives	75	–	300	Recommended[c]
256030	Celery leaves	75	–	300	Recommended[c]
256040	Parsley	75	–	300	Recommended[c]
256050	Sage	75	–	300	Recommended[c]
256060	Rosemary	75	–	300	Recommended[c]
256070	Thyme	75	–	300	Recommended[c]
256080	Basil	75	–	300	Recommended[c]
256090	Bay leaves (laurel)	75	–	300	Recommended[c]
256100	Tarragon	75	–	300	Recommended[c]
260010	Beans (fresh, with pods)	2.0*	–	1.5	Further consideration needed[y]
260020	Beans (fresh, without pods)	2.0*	–	0.2	Further consideration needed[z] data gap #3
260030	Peas (fresh, with pods)	2.0*	–	1.5	Further consideration needed[y]
260040	Peas (fresh, without pods)	2.0*	–	0.2	Further consideration needed[y]
260050	Lentils (fresh)	2.0*	–	1.5	Further consideration needed[z] data gap #3
270010	Asparagus	2.0*	–	0.7	Further consideration needed[ii] data gap #2
270020	Cardoons	2.0*	–	0.1*	Further consideration needed[z] data gap #3
270030	Celery	2.0*	–	0.1*	Further consideration needed[t] data gap #3
270040	Fennel	2.0*	–	8	Further consideration needed[jj] data gap #3
270050	Globe artichokes	50	–	100	Recommended[x]
270060	Leek	30	–	0.8	Further consideration needed[kk] data gap #2
270070	Rhubarb	2.0*	–	0.3	Further consideration needed[ll]
270080	Bamboo shoots	2.0*	–	1.5	Further consideration needed[w] data gap #3
270090	Palm hearts	2.0*	–	1.5	Further consideration needed[w] data gap #3
280010	Cultivated fungi	2.0*	–	0.3	Further consideration needed[y]
280020	Wild fungi	2.0*	–	1.5	Further consideration needed[y]
280990	Mosses and lichens	2.0*	–	1.5	Further consideration needed[w] data gap #3
290000	Algae and prokaryotes organisms	2.0*	–	1.5	Further consideration needed[w] data gap #3
300010	Beans	2.0*	–	3	Further consideration needed[y]

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
300020	Lentils	2.0*	–	3	Further consideration needed(u) data gap #3
300030	Peas	2.0*	–	4	Further consideration needed(mm) data gaps #2,3
300040	Lupins/lupini beans	2.0*	–	3	Further consideration needed(z) data gap #3
401010	Linseeds	2.0*	–	0.3	Further consideration needed(t) data gap #3
401020	Peanuts/groundnuts	2.0*	–	3	Further consideration needed(u) data gap #3
401030	Poppy seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401040	Sesame seeds	2.0*	–	0.5	Further consideration needed(u) data gap #3
401050	Sunflower seeds	2.0*	–	1.5	Further consideration needed(u) data gap #3
401060	Rapeseeds/canola seeds	2.0*	–	0.1*	Further consideration needed(t) data gap #3
401070	Soya beans	2.0*	–	1	Further consideration needed(u) data gap #3
401080	Mustard seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401090	Cotton seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401100	Pumpkin seeds	2.0*	–	0.8	Further consideration needed(u) data gap #3
401110	Safflower seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401120	Borage seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401130	Gold of pleasure seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401140	Hemp seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401150	Castor beans	2.0*	–	1.5	Further consideration needed(z) data gap #3
402010	Olives for oil production	2.0*	–	80	Recommended(o)
402020	Oil palm kernels	2.0*	–	1.5	Further consideration needed(w) data gap #3
402030	Oil palm fruits	2.0*	–	1.5	Further consideration needed(w) data gap #3
402040	Kapok	2.0*	–	1.5	Further consideration needed(w) data gap #3
500010	Barley	2.0*	–	0.15	Further consideration needed(t) data gap #3
500020	Buckwheat and other pseudo-cereals	2.0*	–	2	Further consideration needed(y)
500030	Maize/corn	2.0*	–	0.1*	Further consideration needed(t) data gap #3
500040	Common millet/proso millet	2.0*	–	0.1*	Further consideration needed(t) data gap #3
500050	Oat	2.0*	–	0.15	Further consideration needed(t) data gap #3
500060	Rice	2.0*	–	3	Further consideration needed(y)
500070	Rye	2.0*	–	0.3	Further consideration needed(ll)
500080	Sorghum	2.0*	–	0.1*	Further consideration needed(z) data gap #3
500090	Wheat grains	2.0*	–	80	Recommended(p)
610000	Tea (dried leaves of *Camellia sinensis*)	5.0*	–	0.3	Further consideration needed(ll) data gap #4
620000	Coffee beans	5.0*	–	0.3	Further consideration needed(t) data gaps #3,4
631000	Herbal infusions (dried, flowers)	500	–	1.5	Further consideration needed(mm) data gaps #2,3,4
632010	Strawberry leaves	500	–	1,500	Recommended(o)
632020	Rooibos	500	–	1,500	Recommended(p)
632030	Mate/maté	500	–	1,500	Recommended(p)
633000	Herbal infusions (dried, roots)	500	–	400	Further consideration needed(w) data gap #3
640000	Cocoa beans	2.0*	–	1.5	Further consideration needed(w) data gaps #3,4
650000	Carobs/Saint John's bread	2.0*	–	1.5	Further consideration needed(w) data gaps #3,4

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
700000	Hops	1,500	1,500	1,500	Recommended(nn)
810010	Anise/aniseed	400	–	300	Recommended(oo)
810020	Black caraway/black cumin	400	–	300	Recommended(x)
810030	Celery	400	–	300	Recommended(oo)
810040	Coriander	400	–	300	Recommended(oo)
810050	Cumin	400	–	300	Recommended(oo)
810060	Dill	400	–	300	Recommended(oo)
810070	Fennel seed	400	–	300	Recommended(x)
810080	Fenugreek	400	–	300	Recommended(oo)
810090	Nutmeg	400	–	300	Recommended(x)
820010	Allspice/pimento	400	–	300	Recommended(oo)
820020	Sichuan pepper	400	–	300	Recommended(oo)
820030	Caraway	400	–	300	Recommended(x)
820040	Cardamom	400	–	300	Recommended(oo)
820050	Juniper berry	400	–	300	Recommended(oo)
820060	Peppercorn (black, green and white)	400	–	300	Recommended(x)
820070	Vanilla	400	–	300	Recommended(oo)
820080	Tamarind	400	–	300	Recommended(oo)
830000	Spices (bark)	400	–	300	Further consideration needed(w) data gap #3
840000	Spices (roots and rhizome)	400	–	3	Further consideration needed(u) data gaps #3,4
850000	Spices (buds)	400	–	300	Further consideration needed(w) data gap #3
860000	Spices (flower stigma)	400	–	300	Further consideration needed(w) data gap #3
870000	Spices (aril)	400	–	300	Further consideration needed(w) data gap #3
900010	Sugar beet roots	2.0*	–	1	Further consideration needed(z) data gap #3
900020	Sugar canes	2.0*	–	1.5	Further consideration needed(w) data gap #3
900030	Chicory roots	75	–	70	Recommended(oo)
Enforcement residue definition (existing): fosetyl-Al (sum of fosetyl, phosphonic acid and their salts, expressed as fosetyl) **Enforcement residue definition 2 (proposed):** phosphonic acid					
1011010	Swine meat	0.5*	0.15	0.5	Further consideration needed(pp) data gap #5
1011020	Swine fat (free of lean meat)	0.5*	0.2	1.5	Further consideration needed(pp) data gap #5
1011030	Swine liver	0.5	0.5	0.5	Further consideration needed(pp) data gap #5
1011040	Swine kidney	0.5	0.5	4	Further consideration needed(pp) data gap #5
1012010	Bovine meat	0.5*	0.15	0.6	Further consideration needed(pp) data gap #5
1012020	Bovine fat	0.5*	0.2	2	Further consideration needed(pp) data gap #5
1012030	Bovine liver	0.5	0.5	0.9	Further consideration needed(pp) data gap #5
1012040	Bovine kidney	0.5	0.5	7	Further consideration needed(pp) data gap #5
1013010	Sheep meat	0.5*	0.15	0.6	Further consideration needed(pp) data gap #5

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
1013020	Sheep fat	0.5*	0.2	2	Further consideration needed[qq] data gap #5
1013030	Sheep liver	0.5	0.5	0.9	Further consideration needed[pp] data gap #5
1013040	Sheep kidney	0.5	0.5	7	Further consideration needed[pp] data gap #5
1014010	Goat meat	0.5*	0.15	0.6	Further consideration needed[pp] data gap #5
1014020	Goat fat	0.5*	0.2	2	Further consideration needed[pp] data gap #5
1014030	Goat liver	0.5	0.5	0.9	Further consideration needed[pp] data gap #5
1014040	Goat kidney	0.5	0.5	7	Further consideration needed[pp] data gap #5
1015010	Horse meat	0.5*	0.15	0.6	Further consideration needed[pp] data gap #5
1015020	Horse fat	0.5*	0.2	2	Further consideration needed[pp] data gap #5
1015030	Horse liver	0.5	0.5	0.9	Further consideration needed[pp] data gap #5
1015040	Horse kidney	0.5	0.5	7	Further consideration needed[pp] data gap #5
1016010	Poultry meat	0.5*	0.5	0.5	Further consideration needed[rr] data gap #5
1016020	Poultry fat	0.5*	–	0.5	Further consideration needed[ss] data gap #5
1016030	Poultry liver	0.5*	–	0.5	Further consideration needed[rr] data gap #5
1020010	Cattle milk	0.1	0.1	0.4	Further consideration needed[qq] data gap #5
1020020	Sheep milk	0.1	0.1	0.4	Further consideration needed[pp] data gap #5
1020030	Goat milk	0.1	0.1	0.4	Further consideration needed[qq] data gap #5
1020040	Horse milk	0.1	0.1	0.4	Further consideration needed[pp] data gap #5
1030000	Birds' eggs	0.1*	–	0.5	Further consideration needed[ss] data gap #5
1040000	Honey	0.5*	–	0.3	Further consideration needed[y]

MRL: maximum residue level; CXL: codex maximum residue limit.
*: Indicates that the MRL is set at the limit of quantification.
(a): Tentative MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
(b): Tentative MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(c): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
(d): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(e): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. Monitoring data and existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.

(f): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. Monitoring data and existing CXL are covered by the proposed MRL. GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(g): MRL derived from the existing CXL. No risk to consumers identified. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate.
(h): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The existing CXL is covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. Monitoring data are not available.
(i): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for fosetyl and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. Monitoring data are not available.
(j): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
(k): MRL derived from available MoD using CI95 approach. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
(l): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
(m): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. GAPs evaluated at EU level for fosetyl and for disodium phosphonate, the monitoring data and the existing CXL are covered by the proposed MRL.
(n): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(o): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. Monitoring data are not available.
(p): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
(q): Tentative MRL derived from available monitoring data, all reported results < LOQ of reporting lab. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
(r): No MRL can be derived and the existing EU MRL recalculated as phosphonic acid was considered in the risk assessment for an indicative calculation. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. No monitoring data available.
(s): MRL derived from the existing CXL. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No monitoring data available.
(t): Tentative MRL derived from available monitoring data, all reported results < LOQ of reporting lab. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(u): MRL derived from available monitoring data, tentative approach based on the highest reported value. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(v): MRL derived from the existing CXL. No risk to consumers identified. Monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.
(w): No MRL can be derived and the existing EU MRL recalculated as phosphonic acid was considered in the risk assessment for an indicative calculation. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
(x): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
(y): MRL derived from available monitoring data using CI95 approach. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(z): Monitoring data are not available. Tentative MRL extrapolated from monitoring data on a similar crop. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(aa): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for disodium phosphonate and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl. No CXL exists.

(bb): MRL derived from available MoD, tentative approach based on the highest reported value corresponding to **non-compliant** sample. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(cc): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The monitoring data and the existing CXL are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(dd): Tentative MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The monitoring data and the existing CXL are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(ee): Tentative MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
(ff): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
(gg): MRL derived from the existing CXL. No risk to consumers identified. GAPs evaluated at EU level for fosetyl and potassium phosphonates and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(hh): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists. Monitoring data are not available.
(ii): MRL derived from available monitoring data using CI95 approach. No risk to consumers identified. The GAP evaluated at EU level for fosetyl lead to a lower tentative MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
(jj): MRL derived from available monitoring data, tentative approach based on the highest reported value corresponding to **non-compliant** sample. No risk to consumers identified. The GAP evaluated at EU level for fosetyl lead to a lower MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Further considerations by risk managers is required on whether an MRL of 1.5 mg/kg as derivable from the trials available for the use of fosetyl on this crop should be considered instead.
(kk): MRL derived from available monitoring data using CI95 approach. No risk to consumers identified. The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
(ll): MRL derived from available monitoring data using CI95 approach (**CI95 driven by an LOQ which is higher than the maximum reported measured value**). No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(mm): MRL derived from available monitoring data, tentative approach based on the highest reported value. No risk to consumers identified. The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
(nn): MRL derived from the existing CXL. No risk to consumers identified. GAPs evaluated at EU level for fosetyl and monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate.
(oo): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
(pp): Tentative MRL derived from feeding studies. No risk to consumers identified. Existing CXL covered by the proposed MRL. No monitoring data available.
(qq): Tentative MRL derived from feeding studies. No risk to consumers identified. Existing CXL and available monitoring data covered by the proposed MRL.
(rr): Tentative MRL derived from feeding studies. No risk to consumers identified. No monitoring data available. No CXL exists.
(ss): Tentative MRL derived from feeding studies. No risk to consumers identified. Available monitoring data covered by the proposed MRL. No CXL exists.

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Abbreviations

a.i.	active ingredient
a.s.	active substance
ADI	acceptable daily intake
ARfD	acute reference dose
BBCH	growth stages of mono- and dicotyledonous plants
bw	body weight
CAC	Codex Alimentarius Commission
CCPR	Codex Committee on Pesticide Residues
CF	conversion factor for enforcement residue definition to risk assessment residue definition
CS	capsule suspension

CV	coefficient of variation (relative standard deviation)
CXL	codex maximum residue limit
DALA	days after last application
DAR	draft assessment report
DAT	days after treatment
DB	dietary burden
DM	dry matter
DT_{90}	period required for 90% dissipation (define method of estimation)
dw	dry weight
ECD	electron capture detector
EDI	estimated daily intake
EMA	European Medicines Agency (former EMEA)
EMS	evaluating Member State
eq	residue expressed as a.s. equivalent
EURLs	European Union Reference Laboratories for Pesticide Residues (former CRLs)
FAO	Food and Agriculture Organization of the United Nations
GAP	Good Agricultural Practice
GC-FPD	gas chromatography with flame photometric detector
HPLC–MS/MS	high-performance liquid chromatography with tandem mass spectrometry
HR	highest residue
IEDI	international estimated daily intake
IESTI	international estimated short-term intake
ILIS	isotopically labelled internal standard
ILV	independent laboratory validation
InChiKey	International Chemical Identifier Key
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
JMPR	Joint Meeting of the FAO Panel of Experts on Pesticide Residues in Food and the Environment and the WHO Expert Group on Pesticide Residues (Joint Meeting on Pesticide Residues)
LC–MS/MS	liquid chromatography with tandem mass spectrometry
LOQ	limit of quantification
Mo	monitoring
MRL	maximum residue level
MS	Member States
MoD	Monitoring data
MW	molecular weight
NEDI	national estimated daily intake
NESTI	national estimated short-term intake
NTMDI	national theoretical maximum daily intake
OECD	Organisation for Economic Co-operation and Development
PBI	plant-back interval
PF	processing factor
PHI	preharvest interval
PRIMo	(EFSA) Pesticide Residues Intake Model
PROFile	(EFSA) Pesticide Residues Overview File
QuEChERS	Quick, Easy, Cheap, Effective, Rugged, and Safe (analytical method)
RA	risk assessment
RAC	raw agricultural commodity
RD	residue definition
RMS	rapporteur Member State
SANCO	Directorate-General for Health and Consumers
SC	suspension concentrate
SEU	southern European Union
SMILES	simplified molecular-input line-entry system
SL	soluble concentrate
STMR	supervised trials median residue

TRR	total radioactive residue
UV	ultraviolet (detector)
WG	water-dispersible granule
WHO	World Health Organization
WP	wettable powder

Appendix A – Summary of authorised uses considered for the review of MRLs

A.1. Authorised outdoor uses in northern EU – Fosetyl

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Outdoor uses in northern EU – Fosetyl														
Apples	HU, SI, PL	F	PHYTCC VENTIN ERWIAM	WG	800 g/kg	Foliar treatment – spraying	55–85	3		–	–	3.6 kg a.i./ha	28	Other method of treatment: Drench 4 g a.s./ tree
Pears	HU, SI	F	PHYTCC VENTIN ERWIAM	WG	800 g/kg	Foliar treatment – spraying	55–85	3		–	–	3.6 kg a.i./ha	28	
Quinces	FR	F	ERWIAM	WG	800 g/kg	Foliar treatment – spraying	59–75	3	4	–	–	3 kg a.i./ha	28	
Medlars	FR	F		WG	800 g/kg	Foliar treatment – spraying	55–85	3		–	–	3 kg a.i./ha	28	
Loquats	FR	F		WG	800 g/kg	Foliar treatment – spraying	55–85	3		–	–	3 kg a.i./ha	28	
Table grapes	DE	F	*Plasmopara vitriol*	WG	622 g/L	Foliar treatment – spraying	53–79	2	10–14			0.47–1.86 kg a.i./ha	28	
Wine grapes	CZ	F	Plasvi	WG	500 g/kg	Foliar treatment – spraying	61–75	3	10	–	–	1.5 kg a.i./ha	28	

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Strawberries	NL	F	PHYTCC PHYTFR	WG	800 g/kg	Soil treatment – general (see also comment field)	7–87	3		–	–	6 kg a.i./ha	14	Treatment between rows
Blackberries	DE	F	*Peronospora sparsa*, downy mildew	WG		Foliar treatment – spraying	60–85	2	10	–	–	1.62 kg a.i./ha	14	
Raspberries	FI	F	*Peronospora* spp.	WG	800 g/kg	Foliar treatment – spraying		3	7	–	–	0.96 kg a.i./ha	14	Finnish authorisation refers to 'arctic bramble' instead of 'raspberries'.
Onions	RO	F		WG	800 g/kg	Foliar treatment – spraying	41–47	3	10	–	–	1.5 kg a.i./ha	7	
Cucumbers	DK, SE, SK, FR	F	PSPECU PHYTSP	WG	800 g/kg	Foliar treatment – spraying	11–87	4	7	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 3 days
Gherkins	DK, SE, SK, FR	F		WG	800 g/kg	Foliar treatment – spraying	11–87	4	7	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 3 days

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Courgettes	DK, SE, SK	F		WG	800 g/kg	Foliar treatment – spraying	11–87	4	7	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 3 days
Melons	DK	F	PSPECU	WG	800 g/kg	Foliar treatment – spraying	11–85	2	8	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./.ha PHI = 14 days
Pumpkins	DK	F	PSPECU	WG	800 g/kg	Foliar treatment – spraying	11–85	2	8	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 14 days
Watermelons	DK	F	PSPECU	WG	800 g/kg	Foliar treatment – spraying	11–85	2	8	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./.ha PHI = 14 days
Lamb’s lettuces	DK, FI, SE	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Lettuces	DK, FI, SE	F	BREMLA	WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	Other methods of treatment: Soil drench treatment on plant bed at 80 kg a.s./ha; PHI 14 days Drip irrigation 0.56 kg a.s./m^3

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Escaroles	DK, FI, SE	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Cresses	DK, FI, SE	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Land cresses	DK, FI, SE	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Roman rocket	DK, FI, SE	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Red mustards	DK, FI, SE	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Baby leaf crops	DK, FI, SE	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Spinaches	UK	F	PEROFS	SL	310 g/L	Foliar treatment – spraying	12–49	3	7	–	–	0.775 kg a.i./ha	14	
Chards	UK	F		SL	310 g/L	Foliar treatment – spraying	12–49	3	7	–	–	0.775 kg a.i./ha	14	
Witloofs/ Belgian endives	BE	F		WG	800 g/kg	Foliar treatment (see also comment field)		1				120 kg a.i./ha	21	Prior to the forcing of the roots, the chicory plants on the field may also receive 2 foliar

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
														applications at the a maximum rate of 4 kg a.i./ ha (see GAP chicory roots)
Chervil	DE	F	*Peronospora*	WG	746 g/kg	Foliar treatment – spraying	Upon pest appearance	2	10–14 days	0.28–1.12 kg a.s./hL	200–800	2.24 kg a.i./ha	21	
Chives	DE	F	*Peronospora*	WG	746 g/kg	Foliar treatment – spraying	Upon pest appearance	2	10–14 days	0.28–1.12 kg a.s./hL	200–800	2.24 kg a.i./ha	21	
Celery leaves	DE	F	*Peronospora*	WG	746 g/kg	Foliar treatment – spraying	Upon pest appearance	2	10–14 days	0.28–1.12 kg a.s./hL	200–800	2.24 kg a.i./ha	21	
Parsley	DE	F	*Peronospora*	WG	746 g/kg	Foliar treatment – spraying	Upon pest appearance	2	10–14 days	0.28–1.12 kg a.s./hL	200–800	2.24 kg a.i./ha	21	
Sage	DE	F	*Peronospora*	WG	746 g/kg	Foliar treatment – spraying	Upon pest appearance	2	10–14 days	0.28–1.12 kg a.s./hL	200–800	2.24 kg a.i./ha	21	
Rosemary	DE	F	*Peronospora*	WG	746 g/kg	Foliar treatment – spraying	Upon pest appearance	2	10–14 days	0.28–1.12 kg a.s./hL	200–800	2.24 kg a.i./ha	21	
Thyme	DE	F	*Peronospora*	WG	746 g/kg	Foliar treatment – spraying	Upon pest appearance	2	10–14 days	0.28–1.12 kg a.s./hL	200–800	2.24 kg a.i./ha	21	
Basil	DE	F	*Peronospora*	WG	746 g/kg	Foliar treatment – spraying	Upon pest appearance	2	10–14 days	0.28–1.12 kg a.s./hL	200–800	2.24 kg a.i./ha	21	

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Laurel	DE	F	*Peronospora*	WG	746 g/kg	Foliar treatment – spraying	Upon pest appearance	2	10–14 days	0.28–1.12 kg a.s./hL	200–800	2.24 kg a.i./ha	21	
Tarragon	DE	F	*Peronospora*	WG	746 g/kg	Foliar treatment – spraying	Upon pest appearance	2	10–14 days	0.28–1.12 kg a.s./hL	200–800	2.24 kg a.i./ha	21	
Peas (dry)	NL	F		WG	800 g/kg	Seed treatment – general (see also comment field)	0–0	1–1		–	–	0.32 kg a.i./100 kg	n.a.	
Herbal infusions from flowers	DE	F		WG	746 g/kg	Foliar treatment – spraying	51	2	10	–	–	2.24 kg a.i./ha	7	
Hops	DE, SI, FR	F	PSPEHU	WG	800 g/kg	Foliar treatment – spraying	20–80	8	7	–	–	8 kg a.i./ha	14	
Seed spices	DE	F	*Peronospora* spp.	WG	746 g/kg	Foliar treatment – spraying	59–65	2	10	–	–	2.238 kg a.i./ha	50	Anise, black caraway, celery, coriander, cumin, dill, fennel
Fruit spices	DE	F	*Peronospora* spp.	WG	746 g/kg	Foliar treatment – spraying	59–65	2	10	–	–	2.238 kg a.i./ha	50	Caraway, cardamom (for use of seeds and/or berries as spices)
Chicory roots	FR, BE	F	PHYTSP	WG	800 g/kg	Foliar treatment – spraying	35–47	2	14	–	–	4 kg a.i./ha	15	

MS: Member State; a.s.: active substance; WG: water-dispersible granule; a.i.: active ingredient; SL: soluble concentrate.
(a): Outdoor or field use (F), greenhouse application (G) or indoor application (I).
(b): CropLife International Technical Monograph no 2, 7th Edition. Revised March 2017. Catalogue of pesticide formulation types and international coding system. Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including, where relevant, information on season at time of application.
(c): PHI: minimum preharvest interval.

A.2. Authorised outdoor uses in southern EU – Fosetyl

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Outdoor uses in southern EU – Fosetyl														
Grapefruits	ES, IT	F	*Phytophthora*	WG	800 g/kg	Foliar treatment – spraying	38–81	3		–	–	4.8 kg a.i./ha	14	1st application: April–May/2° application: July–August/ 3th application: October–December
Oranges	ES, IT	F	*Phytophthora*	WG	800 g/kg	Foliar treatment – spraying	38–81	3		–	–	4.8 kg a.i./ha	14	1st application: April–May/2° application: July–August/ 3th application: October–December
Lemons	ES, IT	F	*Phytophthora*	WG	800 g/kg	Foliar treatment – spraying	38–81	3		–	–	4.8 kg a.i./ha	14	1st application: April–May/2° application: July–August/ 3th application: October–December

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application			Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Limes	ES, IT	F	*Phytophthora*	WG	800 g/kg	Foliar treatment – spraying	38–81	3		–	–	4.8 kg a.i./ha	14	1st application: April–May/2° application: July–August/3th application: October–December
Mandarins	ES, IT	F	*Phytophthora*	WG	800 g/kg	Foliar treatment – spraying	38–81	3		–	–	4.8 kg a.i./ha	14	1st application: April–May/2° application: July–August/3th application: October–December
Chestnuts	PT	F	*Phytophthora cinnamomi*	WG	74.6% (w/w)	Foliar treatment – general (see also comment field)		4		–	–	1.87 kg a.i./ha	n.a.	In nurseries with plants from 4–6 leaves
Apples	ES	F	PHYTCCVENTINERWIAM	WP	800 g/kg	Foliar treatment – spraying	39–89	3		–	–	3.6 kg a.i./ha	15	1st appl.: April/2nd appl.:July
Pears	ES	F	PHYTCCVENTINERWIAM	WP	800 g/kg	Foliar treatment – spraying	39–89	3		–	–	3.6 kg a.i./ha	15	1st appl.: April/2nd appl.:July

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Quinces	ES	F	PHYTCCVENTINERWIAM	WP	800 g/kg	Foliar treatment – spraying	39–89	3		–	–	3.6 kg a.i./ha	15	1st appl.: April/2nd appl.:July
Medlars	ES	F	PHYTCCVENTINERWIAM	WP	800 g/kg	Foliar treatment – spraying	39–89	3		–	–	3.6 kg a.i./ha	15	1st appl.: April/2nd appl.:July
Loquats	ES	F	PHYTCCVENTINERWIAM	WP	800 g/kg	Foliar treatment – spraying	39–89	3		–	–	3.6 kg a.i./ha	15	1st appl.: April/2nd appl.:July
Apricots	ES	F		WG	800 g/kg	Foliar treatment – spraying	69–81	2		–	–	3 kg a.i./ha	28	
Peaches	ES	F		WG	800 g/kg	Foliar treatment – spraying	69–81	2		–	–	3 kg a.i./ha	28	
Table grapes	ES	F	Plasvi	WG	500 g/kg	Foliar treatment – spraying	7–81	7	7	–	–	2 kg a.i./ha	28	Other method of treatment: Dipping 0.2 kg a.s./hl
Wine grapes	ES	F	Plasvi	WG	500 g/kg	Foliar treatment – spraying	7–81	7	7	–	–	2 kg a.i./ha	28	Other method of treatment: Dipping 0.2 kg a.s./hl
Strawberries	EL, FR, IT	F	PHYTCCPHYTFR	WG	800 g/kg	Foliar treatment – spraying	7–87	3	10	–	–	4 kg a.i./ha	14	Other methods of treatment: Dipping 4 kg a.s./ha Drench treatment of plant

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Kiwi fruits	IT, PT	F	*Phytophthora*	WG	800 g/kg	Foliar treatment – spraying	69–81	2	100	–	–	4 kg a.i./ha	40	In addition for diseased plants 1 sprinkle/month at the base of the plant with 1–2 litres/plant at rate 5 kg 'Aliette'/hl
Avocados	ES	F	PHYTSPERWIAM	WG	800 g/kg	Foliar treatment – spraying	31 to	3	14	–	–	4.8 kg a.i./ha	14	
Potatoes	ES, IT	F	PHYTINALTESO	WG	298 g/kg	Foliar treatment – spraying	11–69	3–4	10	–	–	1.4 kg a.i./ha	20	
Onions	EL	F		WG	666.6 g/kg	Foliar treatment – spraying	41–47	3	10	–	–	1.5 kg a.i./ha	7	
Tomatoes	EL	F	PHYTINALTESO	WG	800 g/kg	Foliar treatment – spraying	10–81	4		–	–	2 kg a.i./ha	3	Other method of treatment: (drench in nursery 2 × 0.93 g/m^2, followed by drip irrigation 2 × 0.93 kg a.s./ha)

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application			Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Sweet peppers	IT	F	PSYPSP, PYTHSP	SL	310 g/kg	Local treatment – general (see also comment field)	20–95	1–2		–	–	0.93 kg a.i./ha	3	
Aubergines	EL	F	PHYTINALTESO	WG	800 g/kg	Foliar treatment – spraying	81	5	7	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 3 days
Cucumbers	EL, FR, IT	F	PSPECUPHYTSP	WG	800 g/kg	Foliar treatment – spraying	11–87	4	7	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 3 days
Gherkins	EL, FR	F		WG	800 g/kg	Foliar treatment – spraying	11–87	4	7	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 3 days
Courgettes	EL, FR	F		WG	800 g/kg	Foliar treatment – spraying	11–87	4	7	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 3 days
Melons	FR	F	PSPECU	WG	800 g/kg	Foliar treatment – spraying	11–85	2	8	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 14 days

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Pumpkins	FR	F	PSPECU	WG	800 g/kg	Foliar treatment – spraying	11–85	2	8	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 14 days
Watermelons	FR	F	PSPECU	WG	800 g/kg	Foliar treatment – spraying	11–85	2	8	–	–	3.2 kg a.i./ha	3	Other method of treatment: Drip irrigation: 0.93 kg a.s./ha PHI = 14 days
Broccoli	IT	F	PHYTSP, PYTHSP	SL	310 g/kg	Local treatment – drenching	0–10	1–2		–	–	0.93 kg a.i./ha	n.a.	
Cauliflowers	IT	F	PHYTSP, PYTHSP	SL	310 g/kg	Local treatment – drenching	0–10	1–2		–	–	0.93 kg a.i./ha	n.a.	
Lamb's lettuces	PT	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Lettuces	PT	F	BREMLA	WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	Other methods of treatment: Soil drench treatment on plant bed at 80 kg a.s./ha; PHI 14 days Drip irrigation 0.56 kg a.s./m^3
Escaroles	PT, BG	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Cresses	PT	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Land cresses	PT	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Roman rocket	PT	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Red mustards	PT	F		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Baby leaf crops	PT	F	Downy mildew; *Pythium*	WG	74.6% (w/w)	Foliar treatment – spraying		2	7	–	–	1.87 kg a.i./ha	14	
Spinaches	IT	F	PEROFS	SL	310 g/L	Foliar treatment – spraying	12–49	2	7	–	–	0.775 kg a.i./ha	14	
Globe artichokes	EL, IT, MT	F	BREMLA	WG	800 g/kg	Foliar treatment – spraying	14–45	4	10	–	–	1.6 kg a.i./ha	21	
Leeks	EL	F				Foliar treatment – spraying		4		–	–	2.4 kg a.i./ha	3	

MS: Member State; a.s.: active substance; WG: water-dispersible granule; a.i.: active ingredient; WP: wettable powder; SL: soluble concentrate.
(a): Outdoor or field use (F), greenhouse application (G) or indoor application (I).
(b): CropLife International Technical Monograph no 2, 7th Edition. Revised March 2017. Catalogue of pesticide formulation types and international coding system. Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including, where relevant, information on season at time of application.
(c): PHI: minimum preharvest interval.

A.3. Authorised indoor uses and post-harvest uses in EU – Fosetyl

Crop and/ orsituation	MS or country	F G or I[(a)]	Pests or Group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type [(b)]	Conc. a.s.	Method kind	Range ofgrowth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Indoor uses and post-harvest uses in EU – Fosetyl														
Grapefruits	ES	I	*Phytophthora* sp.	WG	800 g/ kg	Post-harvest treatment – drenching		1–1		–	–	0.32 kg a.i./ hL	n.a.	
Oranges	ES	I	*Phytophthora* sp.	WG	800 g/ kg	Post-harvest treatment – drenching		1–1		–	–	0.32 kg a.i./ hL	n.a.	
Lemons	ES	I	*Phytophthora* sp.	WG	800 g/ kg	Post-harvest treatment – drenching		1–1		–	–	0.32 kg a.i./ hL	n.a.	
Limes	ES	I	*Phytophthora* sp.	WG	800 g/ kg	Post-harvest treatment – drenching		1–1		–	–	0.32 kg a.i./ hL	n.a.	
Mandarins	ES	I	*Phytophthora* sp.	WG	800 g/ kg	Post-harvest treatment – drenching		1–1		–	–	0.32 kg a.i./ hL	n.a.	
Strawberries	EL, IT	I	PHYTCCPHYTFR	WG	800 g/ kg	Foliar treatment – spraying	7–87	3	10	–	–	4 kg a.i./ha	14	Other method of treatment: Dipping 4 kg a.s./ ha
Blackberries	DE, PT	I	*Peronospora sparsa*, downy mildew	WG		Foliar treatment – spraying	60–85	2	10	–	–	1.87 kg a.i./ ha	14	
Raspberries	PT	I	*Phytophthora* sp.	WG	74.6% (w/w)	Foliar treatment – spraying		2	15	–	–	1.87 kg a.i./ ha	14	

Crop and/ orsituation	MS or country	F G or I[(a)]	Pests or Group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type [(b)]	Conc. a.s.	Method kind	Range ofgrowth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Celeriacs	DE, BE	I	*Pythium* spp.			Local treatment – drenching		2	7	–	–	9.3 kg a.i./ha		Drench application at sowing/early post-emergence (indoor) before transplantation of the crop (outdoor)
Radishes	NL, DE, BE	I	*Peronospora* spp.	SL	530 g/L	Foliar treatment – spraying	0–12	1–2	7	–	–	0.775 kg a.i./ ha	14	
Tomatoes	EL, FR	I	PHYTINALTESO	WG	800 g/ kg	Foliar treatment – spraying	10–81	4		–	–	2 kg a.i./ha	3	Other methods of treatment: Soil treatment (drench in nursery) 2 × 9.3 kg a.s./ha; PHI = 3 days Drip irrigation 2 × 0.93 kg a.s./ha; PHI = 3 days
Sweet peppers	FI	I	*Phytophthora* sp.	SL	310 g/L	Local treatment – drenching		2		–	–	0.93 g a.i./m^2	3	0.93 g a.s./m^2 corresponding to 9.3 kg a.s./ ha
Aubergines	FR	I	PHYTINALTESO	WG	800 g/ kg	Foliar treatment – spraying	10–81	4		–	–	2 kg a.i./ha	3	Other methods of treatment: Soil treatment (drench in

Crop and/ orsituation	MS or country	F G or I[(a)]	Pests or Group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range ofgrowth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
														nursery) 2 × 9.3 kg a.s./ha; PHI = 3 days Drip irrigation 2 × 0.93 kg a.s./ha; PHI = 3 days
Cucumbers	DK, FI, SE, SK	I	PSPECUPHYTSP	WG	800 g/ kg	Foliar treatment – spraying	11–87	4	7	–	–	3.2 kg a.i./ha	3	Other methods of treatment: Soil treatment (drench in nursery) 0.93 g a.s./m^2; PHI = 3 days Drip irrigation 0.93 kg a.s./ ha; PHI = 3 days
Gherkins	DK, SE, SK	I		WG	800 g/ kg	Foliar treatment – spraying	11–87	4	7	–	–	3.2 kg a.i./ha	3	Other methods of treatment: Soil treatment (drench in nursery) 0.93 g a.s./m^2; PHI = 3 days Drip irrigation 0.93 kg a.s./ ha; PHI = 3 days
Courgettes	DK, FI, SE, SK	I		WG	800 g/ kg	Foliar treatment – spraying	11–87	4	7	–	–	3.2 kg a.i./ha	3	Other methods of treatment: Soil treatment (drench in

Crop and/ orsituation	MS or country	F G or I[(a)]	Pests or Group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range ofgrowth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
														nursery) 0.93 g a.s./m^2; PHI = 3 days Drip irrigation 0.93 kg a.s./ha; PHI = 3 days
Melons	DK, FR	I	PSPECU	WG	800 g/kg	Foliar treatment – spraying	11–85	2	8	–	–	3.2 kg a.i./ha	3	
Pumpkins	DK, FR	I	PSPECU	WG	800 g/kg	Foliar treatment – spraying	11–85	2	8	–	–	3.2 kg a.i./ha	3	
Watermelons	DK, FR	I	PSPECU	WG	800 g/kg	Foliar treatment – spraying	11–85	2	8	–	–	3.2 kg a.i./ha	3	
Broccoli	EL	I		WG	800 g/kg	Soil treatment – general (see also comment field)	0–13	1		–	–	80 kg a.i./ha	n.a.	The GAP consists in one drench application between sowing and transplanting
Cauliflowers	EL	I		WG	800 g/kg	Soil treatment – general (see also comment field)	0–13	1		–	–	80 kg a.i./ha	n.a.	The GAP consists in one drench application between sowing and transplanting

Crop and/ orsituation	MS or country	F G or I[(a)]	Pests or Group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type [(b)]	Conc. a.s.	Method kind	Range ofgrowth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Brussels sprouts	EL	I		WG	800 g/kg	Soil treatment – general (see also comment field)	0–13	1		–	–	80 kg a.i./ha	n.a.	The GAP consists in one drench application between sowing and transplanting
Head cabbages	EL	I		WG	800 g/kg	Soil treatment – general (see also comment field)	0–13	1		–	–	80 kg a.i./ha	n.a.	The GAP consists in one drench application between sowing and transplanting
Chinese cabbages	DE, UK, FR, BE	I		SL	310 g/L	Soil treatment – general (see also comment field)	0–13	1–2	7	–	–	9.3 kg a.i./ha	n.a.	The GAP consists in one drench application between sowing and transplanting
Kales	UK	I		WP	80% (w/w)	Soil treatment – general (see also comment field)	0–8	1–1		–	–	40 kg a.i./ha	n.a.	The GAP consists in one spray application between sowing and transplanting. Note seedlings are transplanted outdoors.

Crop and/ orsituation	MS or country	F G or I[(a)]	Pests or Group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type [(b)]	Conc. a.s.	Method kind	Range ofgrowth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Kohlrabies	DE, FR	I		SC	310 g/kg	Soil treatment – general (see also comment field)	0–13	1–2	7	–	–	9.3 kg a.i./ha	n.a.	The GAP consists in one drench application between sowing and transplanting
Lamb's lettuces	DK, FI, PT, SE	I		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Lettuces	DK, FI, PT, SE	I	BREMLA	WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	Other methods of treatment: Soil drench treatment on plant bed at 80 kg a.s./ha; PHI 14 days Drip irrigation 0.56 kg a.s./m^3
Escaroles	DK, FI, PT, SE	I		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Cresses	DK, FI, PT, SE	I		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Land cresses	DK, FI, PT, SE	I		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	

Crop and/ orsituation	MS or country	F G or I[(a)]	Pests or Group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range ofgrowth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Roman rocket	DK, FI, PT, SE	I		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Red mustards	DK, FI, PT, SE	I		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Baby leaf crops	DK, FI, PT, SE	I		WG	800 g/kg	Foliar treatment – spraying	14 to	4	8	–	–	2.4 kg a.i./ha	14	
Spinaches	BE	I	Downy mildew	SL	310 g/L	Foliar treatment – spraying		1		–	–	0.78 kg a.i./ha	21	
Witloofs	BE	I	Downy mildew	SL	310 g/L	Local treatment – dipping		1		–	–	12.4 g a.i./hL	21	Treatment via the fertilising solution at beginning of forcing. Another method consists of a local treatment on the root necks at 1 × 6.2 g a.s./m^2, PHI: 21 days.
Chervil	DE	I	*Pythium* ssp.	SL	530 g/L	Local treatment – drenching		1		–	–	9.3 kg a.i./ha	n.a.	After sowing or after planting
Chives	DE	I	*Pythium* ssp.	SL	530 g/L	Local treatment – drenching		1		–	–	9.3 kg a.i./ha	n.a.	After sowing or after planting

Crop and/ orsituation	MS or country	F G or I[(a)]	Pests or Group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range ofgrowth stages & season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Celery leaves	DE	I	*Pythium* ssp.	SL	530 g/L	Local treatment – drenching		1		–	–	9.3 kg a.i./ha	n.a.	After sowing or after planting
Parsley	DE	I	*Pythium* ssp.	SL	530 g/L	Local treatment – drenching		1		–	–	9.3 kg a.i./ha	n.a.	After sowing or after planting
Sage	DE	I	*Pythium* ssp.	SL	530 g/L	Local treatment – drenching		1		–	–	9.3 kg a.i./ha	n.a.	After sowing or after planting
Rosemary	DE	I	*Pythium* ssp.	SL	530 g/L	Local treatment – drenching		1		–	–	9.3 kg a.i./ha	n.a.	After sowing or after planting
Thyme	DE	I	*Pythium* ssp.	SL	530 g/L	Local treatment – drenching		1		–	–	9.3 kg a.i./ha	n.a.	After sowing or after planting
Basil	DE	I	*Pythium* ssp.	SL	530 g/L	Local treatment – drenching		1		–	–	9.3 kg a.i./ha	n.a.	After sowing or after planting
Laurel	DE	I	*Pythium* ssp.	SL	530 g/L	Local treatment – drenching		1		–	–	9.3 kg a.i./ha	n.a.	After sowing or after planting
Tarragon	DE	I	*Pythium* ssp.	SL	530 g/L	Local treatment – drenching		1		–	–	9.3 kg a.i./ha	n.a.	After sowing or after planting
Asparagus	DE	I	*Pythium* ssp.	SL	310 g/L	Local treatment – drenching		2	7	–	–	9.3 kg a.i./ha	n.a.	After seedling
Florence fennels	DE, BE	I	*Pythium* spp.			Local treatment – drenching		2	7	–	–	9.3 kg a.i./ha		Drench application at sowing/early

Crop and/ orsituation	MS or country	F G or I[(a)]	Pests or Group of pests controlled	Preparation: Type (b)	Preparation: Conc. a.s.	Application: Method kind	Application: Range ofgrowth stages & season[(c)]	Application: Number min–max	Application: Interval between application (min)	Application rate per treatment: a.s./hL min–max	Application rate per treatment: Water L/ha min–max	Application rate per treatment: Rate and unit	PHI (days)[(c)]	Remarks
														post-emergence (indoor) before transplantation of the crop (outdoor) – Young plantation, directly after sowing

MS: Member State; a.s.: active substance; WG: water-dispersible granule; a.i.: active ingredient; WP: wettable powder; SL: soluble concentrate; SC: suspension concentrate.
(a): Outdoor or field use (F), greenhouse application (G) or indoor application (I).
(b): CropLife International Technical Monograph no 2, 7th Edition. Revised March 2017. Catalogue of pesticide formulation types and international coding system. Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including, where relevant, information on season at time of application.
(c): PHI: minimum preharvest interval.

A.4. Import tolerance – Fosetyl

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation: Type[(b)]	Preparation: Conc. a.s.	Application: Method kind	Application: Range of growth stages and season[(c)]	Application: Number min–max	Application: Interval between application (min)	Application rate per treatment: a.s./hL min–max	Application rate per treatment: Water L/ha min–max	Application rate per treatment: Rate and unit	PHI (days)[(c)]	Remarks
Import tolerance – Fosetyl														
Pineapples	Latin American countries, FR	F				Foliar treatment – general (see also comment field)		4		–	–	3.6 kg a.i./ha	90	Dipping and spraying 1st application at planting with a rate of 12.5 kg a.i./ ha

MS: Member State; a.s.: active substance; a.i.: active ingredient.
(a): Outdoor or field use (F), greenhouse application (G) or indoor application (I).
(b): CropLife International Technical Monograph no 2, 7th Edition. Revised March 2017. Catalogue of pesticide formulation types and international coding system. Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including, where relevant, information on season at time of application.
(c): PHI: minimum preharvest interval.

A.5. Authorised outdoor uses in northern EU – potassium phosphonates

Crop and/ or situation	MS or country	F G or I[a]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[c]	Remarks
				Type[b]	Conc. a.s.	Method kind	Range of growth stages and season[c]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Outdoor uses in northern EU – Potassium phosphonates														
Apples	FR, BE, NL, SE, IE, HU, NL, CZ, UK, FI, DK, PL	F	Scab	SC	657 g/L	Foliar treatment – broadcast spraying	53–81	6	5	–	–	1,434 g a.i./ha	35	
Pears	FR, BE, NL, SE, IE, HU, NL, CZ, UK, FI, DK, PL	F	Scab	SC	657 g/L	Foliar treatment – broadcast spraying	53–81	6	5	–	–	1,434 g a.i./ha	35	
Quinces	FR, NL, HU, CZ	F	Scab	SL	755 g/L	Foliar treatment – general (see also comment field)	53–81	6	5	–	–	1,434 g a.i./ha	35	
Medlars	FR, NL, HU, CZ	F	Scab	SL	755 g/L	Foliar treatment – general (see also comment field)	53–81	6	5	–	–	1,434 g a.i./ha	35	
Loquats		F	Scab	SL	755 g/L		53–81	6	5	–	–		35	

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
	FR, NL, CZ					Foliar treatment – general (see also comment field)						1,434 g a.i./ha		
Table grapes	AT	F	*Plasmopara viticola*	SC	561 g/L	Foliar treatment – broadcast spraying	53–83	4	10	–	–	1,652 g a.i./ha	42	
Wine grapes	FR, NL, CZ	F	Mildew, Black rot, *Plasmopara viticola*, *Guignardia bidwellii*	SC	561 g/L	Foliar treatment – general (see also comment field)	15–83	4	12	–	–	2,244 g a.i./ha	42	
Blackberries	DE	F	Downy mildew (*Peronospora sparsa*)	SL	755 g/L	Foliar treatment – broadcast spraying	51–81	3	7	–	–	3,020 g a.i./ha	5	Application at the beginning of infestation and/or when first symptoms become visible.
Raspberries	DE	F	Red core of strawberry (*Phytophthora fragariae*)	SL	755 g/L	Foliar treatment – broadcast spraying	51–81	3	7	–	–	3,020 g a.i./ha	5	Application at the beginning of infestation and/or when first symptoms become visible.
Blueberries	DE	F	*Colletotrichum*	SL	755 g/L	Foliar treatment – broadcast spraying	59 to	3	7	–	–	3,020 g a.i./ha	14	Growth stage application: at beginning of infestation ad/or when first

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
														symptoms become visible.
Currants	DE	F	Leaf spot (*Drepanopeziza ribis*), *Cronartium ribicola*	SL	755 g/L	Foliar treatment – broadcast spraying	57 to	3	7	–	–	3,020 g a.i./ha	14	Growth stage application: at beginning of infestation ad/or when first symptoms become visible.
Gooseberries	DE	F	Leaf spot (*Drepanopeziza ribis*), *Cronartium ribicola*	SL	755 g/L	Foliar treatment – broadcast spraying	57 to	3	7	–	–	3,020 g a.i./ha	14	Growth stage application: at beginning of infestation ad/or when first symptoms become visible.
Elderberries	DE	F	*Colletotrichum*	SL	755 g/L	Foliar treatment – broadcast spraying	59 to	3	7	–	–	3,020 g a.i./ ha	14	Growth stage application: at beginning of infestation ad/or when first symptoms become visible.
Potatoes	BE	F	Late blight	SL	755 g/L	Foliar treatment – broadcast spraying	10 to	3	7	–	–	3,020 g a.i./ ha	7	
Horseradishes	AT	F	*Albugo candida*	SL	755 g/L	Foliar treatment –	41–46	4	10	–	–		60	

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./ hL min–max	Water L/ha min–max	Rate and unit		
						broadcast spraying						2,068 g a.i./ ha		
Radishes	DE	F	Peronosporaceae	SL	342 g/L	Foliar treatment – broadcast spraying	11–47	4	7	–	–	1,368 g a.i./ ha	14	Application in case of danger of infection and/or after warning service appeal.
Garlic	DE	F	Peronosporaceae	SL	342 g/L	Foliar treatment – broadcast spraying	11–48	4	7	–	–	1,368 g a.i./ ha	14	
Onions	DE	F	Peronosporaceae	SL	342 g/L	Foliar treatment – broadcast spraying	11–48	4	7	–	–	1,368 g a.i./ ha	14	Application in case of danger of infection and/or after warning service appeal.
Shallots	DE	F	Peronosporaceae	SL	342 g/L	Foliar treatment – broadcast spraying	11–48	4	7	–	–	1,368 g a.i./ ha	14	
Cucumbers	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		5	5	–	–	2,642.5 g a.i./ha	14	
Gherkins	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		5	5	–	–	2,642.5 g a.i./ha	14	

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./ hL min–max	Water L/ha min–max	Rate and unit		
Broccoli	DE	F	Peronosporaceae	SL	342 g/L	Foliar treatment – broadcast spraying	11–47	4	7	–	–	1,368 g a.i./ ha	7	228 g/ha potassium phosphonates equals 328 g/ha Fosetyl-Al
Cauliflowers	DE	F	Peronosporaceae	SL	342 g/L	Foliar treatment – broadcast spraying	11–47	4	7	–	–	1,368 g a.i./ ha	7	228 g/ha potassium phosphonates equals 328 g/ha Fosetyl-Al
Chinese cabbages	DE	F	Peronosporaceae	SL	342 g/L	Foliar treatment – broadcast spraying	11–47	4	7	–	–	1,368 g a.i./ ha	7	228 g/ha potassium phosphonates equals 328 g/ha Fosetyl-Al
Kales	DE	F	Peronosporaceae	SL	342 g/L	Foliar treatment – broadcast spraying	11–47	4	7	–	–	1,368 g a.i./ ha	7	228 g/ha potassium phosphonates equals 328 g/ha Fosetyl-Al
Lamb's lettuces	DE	F	Downy mildew of lettuce (*Bremia lactucae*), Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible
Lettuces	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible
Escaroles	DE	F	Downy mildew of lettuce (*Bremia*	SL	755 g/L	Foliar treatment –	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
			lactucae), Stimulation of natural defences of the plant			broadcast spraying								when first symptoms become visible
Cresses	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	7	–	–	2,642.5 g a.i./ ha	14	
Land cresses	FR	F	Stimulation of natural defences of the Plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	7	–	–	2,642.5 g a.i./ ha	14	
Roman rocket	DE	F	Downy mildew of lettuce (*Bremia* lactucae), Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible
Red mustards	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	7	–	–	2,642.5 g a.i./ ha	14	
Baby leaf crops	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	7	–	–	2,642.5 g a.i./ ha	14	

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./ hL min–max	Water L/ha min–max	Rate and unit		
Spinaches	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application in *Garland chrysanthemums/* tong ho at beginning of infestation and/or when first symptoms become visible
Purslanes	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible
Witloofs	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	4	–	–	2,642.5 g a.i./ ha	14	
Chervil	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible
Chives	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application			Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./ hL min–max	Water L/ha min–max	Rate and unit		
Celery leaves	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible
Parsley	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible
Sage	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible
Rosemary	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible
Thyme	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ ha	7	Application at beginning of infestation and/or when first symptoms become visible

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Basil	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ha	7	Application at beginning of infestation and/or when first symptoms become visible
Laurel	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ha	7	Application at beginning of infestation and/or when first symptoms become visible
Tarragon	DE	F	Downy mildew of lettuce (*Bremia lactucae*)	SL	755 g/L	Foliar treatment – broadcast spraying	15–49	2	7	–	–	3,020 g a.i./ha	7	Application at beginning of infestation and/or when first symptoms become visible
Wheat	BE, UK	F	*Septoria*	SL	755 g/L	Foliar treatment – broadcast spraying	25–59	2	14	–	–	3,020 g a.i./ha	n.a.	No need to set PHI. See growth stage at last application.

MS: Member State; a.s.: active substance; a.i.: active ingredient; SL: soluble concentrate; SC: suspension concentrate.
(a): Outdoor or field use (F), greenhouse application (G) or indoor application (I).
(b): CropLife International Technical Monograph no 2, 7th Edition. Revised March 2017. Catalogue of pesticide formulation types and international coding system. Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including, where relevant, information on season at time of application.
(c): PHI: minimum preharvest interval.

A.6. Authorised outdoor uses in southern EU – potassium phosphonates

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Outdoor uses in southern EU – potassium phosphonates														
Grapefruits	BG, ES, EL, FR	F	*Phytophthora* sp.	SL	790 g/L	Foliar treatment – broadcast spraying	40 to	2	20	–	–	6,912.5 g a.i./ha	15	
Oranges	BG, ES, EL, FR	F	*Phytophthora* sp.	SL	790 g/L	Foliar treatment – broadcast spraying	40 to	2	20	–	–	6,912.5 g a.i./ha	15	
Lemons	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	From 19	3	20	–	–	6,912.5 g a.i./ha	15	The reported MS is the MS acting as EMS in the framework of the MRL application where this use was assessed
Limes	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	From 19	3	20	–	–	6,912.5 g a.i./ha	15	The reported MS is the MS acting as EMS in the framework of the MRL application where this use was assessed
Mandarins	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	From 19	3	20	–	–	6,912.5 g a.i./ha	15	The reported MS is the MS acting as EMS in the framework of the MRL application where this use was assessed

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Almonds	EL	F	*Botryosphaeria dothidea* (BOTSDO)	SL	755 g/L	Foliar treatment – broadcast spraying	9–85	1–6	5	–	–	4,530 g a.i./ha	21	
Chestnuts	EL	F	*Phytophthora* spp. (PHYTSP), *Xanthomonas arboricola* pv. Juglandis (XANTJU), Antracnosis: Gnomonia leptostyla (GNOMLE) and Colletotrichum sp. (COLLSP), Alternaria spp. (ALTESP)	SL	755 g/L	Foliar treatment – broadcast spraying	9–85	1–6	5	–	–	4,530 g a.i./ha	21	5 day spray interval against Xanthomonas and Antracnosis: 4 applications at BBCH 09–69
Hazelnuts	EL	F	Phytophthora spp. (PHYTSP), *Xanthomonas arboricola* pv. Juglandis (XANTJU), Antracnosis: *Gnomonia leptostyla* (GNOMLE) and *Colletotrichum* sp. (COLLSP), *Alternaria* spp. (ALTESP)	SL	755 g/L	Foliar treatment – broadcast spraying	9–85	1–6	5	–	–	4,530 g a.i./ha	21	Against Phytophthora max 4 applications (in total 2 applications at BBCH 68-71 and 2 applications at BBCH 83–85)

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Pistachios	EL	F	*Alternaria* spp. (ALTESP)	SL	755 g/L	Foliar treatment – broadcast spraying	9–85	1–6	5	–	–	4,530 g a.i./ha	21	
Walnuts	EL	F	*Phytophthora* spp. (PHYTSP), *Xanthomonas arboricola* pv. Juglandis (XANTJU), Antracnosis: *Gnomonia leptostyla* (GNOMLE) and *Colletotrichum* sp. (COLLSP), *Alternaria* spp. (ALTESP)	SL	755 g/L	Foliar treatment – broadcast spraying	9–85	1–6	5	–	–	4,530 g a.i./ha	21	5 day spray interval against Xanthomonas and Antracnosis: 4 applications at BBCH 09–69
Apples	IT	F	Scab		660 g/L	Foliar treatment – broadcast spraying	9–81	1–6	7	–	–	1,980 g a.i./ha	28	For early pome fruit varieties, 28d PHI; for late pome fruit varieties, last application by mid of June
Pears	IT	F	Scab		660 g/L	Foliar treatment – broadcast spraying	9–81	1–6	7	–	–	1,980 g a.i./ha	28	For early pome fruit varieties, 28d PHI; for late pome fruit varieties, last application by mid of June

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Quinces	IT	F	Scab		660 g/L	Foliar treatment – broadcast spraying	9–81	1–6	7	–	–	1,980 g a.i./ha	28	For early pome fruit varieties, 28d PHI; for late pome fruit varieties, last application by mid of June
Medlars	IT	F	Scab		660 g/L	Foliar treatment – broadcast spraying	9–81	1–6	7	–	–	1,980 g a.i./ha	28	For early pome fruit varieties, 28d PHI; for late pome fruit varieties, last application by mid of June
Loquats	IT	F	Scab		660 g/L	Foliar treatment – broadcast spraying	9–81	1–6	7	–	–	1,980 g a.i./ha	28	For early pome fruit varieties, 28d PHI; for late pome fruit varieties, last application by mid of June
Apricots	EL	F		SC	255 g/L	Foliar treatment – broadcast spraying	91–81	3		–	–	765 g a.i./ha	15	Applications: 1st appl: Post harvest (BBCH 91–92); 2nd appl: Spring (BBCH 60-69); 3rd appl: Summer (before harvest up to PHI, BBCH 70-81)

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Cherries	EL	F		SC	255 g/L	Foliar treatment – broadcast spraying	91–81	3		–	–	765 g a.i./ha	15	Applications: 1st appl: Post harvest (BBCH 91-92) 2nd appl: Spring (BBCH 60-69) 3rd appl: Summer (before harvest up to PHI, BBCH 70-81)
Peaches	FR	F	*Phytophthora* spp.	SL	726 g/L	Foliar treatment – general (see also comment field)	32–91	3	14	–	–	2,904 g a.i./ha	14	
Plums	EL	F		SC	255 g/L	Foliar treatment – broadcast spraying	91–81	3		–	–	765 g a.i./ha	15	Applications: 1st appl: Post harvest (BBCH 91-92) 2nd appl: Spring (BBCH 60-69) 3rd appl: Summer (before harvest up to PHI, BBCH 70-81)
Table grapes	BG, EL, ES, FR	F	*Plasmopara viticola*, Mildew	SL	790 g/L	Foliar treatment – broadcast spraying	20 to	3		–	–	1,975 g a.i./ha	15	
Wine grapes	BG, EL, ES, FR	F	*Plasmopara viticola*, Mildew	SL	790 g/L	Foliar treatment – broadcast spraying	20 to	3		–	–	1,975 g a.i./ha	15	

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Strawberries	EL	F		SL	510 g/L	Foliar treatment – broadcast spraying	12–85	3	10	–	–	1,275 g a.i./ha	7	
Blackberries	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Dewberries	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Raspberries	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Blueberries	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Cranberries	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Currants	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Gooseberries	EL	F		SL	790 g/L	Foliar treatment –	33–69	3	10	–	–	1,975 g a.i./ha	7	

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
						broadcast spraying								
Rose hips	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Mulberries	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Azaroles	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Elderberries	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Table olives	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	20 to	3	10	–	–	1,975 g a.i./ha	15	
Kaki	EL	F		SL	755 g/L	Foliar treatment – broadcast spraying	53–87	4		–	–	3,016 g a.i./ha	7	
Avocados	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	59–85	3	10	–	–	2,962 g a.i./ha	15	

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Granate apples	EL	F		SL	755 g/L	Foliar treatment – broadcast spraying	61–75	3	14	–	–	1,800 g a.i./ha	70	
Pineapples	EL	F		SL	510 g/L	Foliar treatment – broadcast spraying	10–19	2	20	–	–	3,060 g a.i./ha	30	
Potatoes	FR	F	Late blight	SL	755 g/L	Foliar treatment – broadcast spraying	10 to	3	7	–	–	3,020 g a.i./ha	7	The reported MS is the MS acting as EMS in the framework of the MRL application where this use was assessed
Tomatoes	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	7	–	–	3,020 g a.i./ha	14	
Sweet peppers	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		3	7	–	–	2,642.5 g a.i./ha	14	Product LBG-01F34
Aubergines	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also		4		–	–	3,020 g a.i./ha	14	

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
						comment field)								
Cucumbers	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		5	5	–	–	2,642.5 g a.i./ha	14	
Gherkins	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		5	5	–	–	2,642.5 g a.i./ha	14	
Courgettes	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		5	5	–	–	2,642.5 g a.i./ha	14	
Melons	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		3	7	–	–	2,642.5 g a.i./ha	14	
Pumpkins	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		3	7	–	–	2,642.5 g a.i./ha	14	

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Watermelons	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		3	7	–	–	2,642.5 g a.i./ha	14	
Lettuces	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	12–49	3	10	–	–	1,975 g a.i./ha	15	
Escaroles	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	7	–	–	2,642.5 g a.i./ha	14	
Cresses	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	7	–	–	2,642.5 g a.i./ha	14	
Land cresses	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	7	–	–	2,642.5 g a.i./ha	14	
Roman rocket	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also		4	7	–	–	2,642.5 g a.i./ha	14	

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
						comment field)								
Red mustards	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	7	–	–	2,642.5 g a.i./ha	14	
Baby leaf crops	FR	F	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	7	–	–	2,642.5 g a.i./ha	14	
Olives for oil production	EL	F		SL	790 g/L	Foliar treatment – broadcast spraying	20 to	3	10	–	–	1,975 g a.i./ha	15	
Wheat	FR	F	*Septoria*	SL	755 g/L	Foliar treatment – broadcast spraying	25–59	2	23	–	–	3,020 g a.i./ha	n.a.	No need to set PHI. See growth stage at last application.

MS: Member State; a.s.: active substance; a.i.: active ingredient; SL: soluble concentrate; SC: suspension concentrate.
(a): Outdoor or field use (F), greenhouse application (G) or indoor application (I).
(b): CropLife International Technical Monograph no 2, 7th Edition. Revised March 2017. Catalogue of pesticide formulation types and international coding system. Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including, where relevant, information on season at time of application.
(c): PHI: minimum preharvest interval.

A.7. Authorised indoor uses and post-harvest uses in EU – potassium phosphonates

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Indoor and post-harvest uses in EU – potassium phosphonates														
Grapefruits	ES, FR	I	Anti-scalding, Storage rots (*Phytophthora* spp.)	SL	250 g/L	Post-harvest treatment – drenching	99	1		–	–	250 g a.i./hL	1	Concentration and rates expressed in phosphonic acid equiv. Applied by drenching for 30 s.
Oranges	BG, ES, FR	I	*Phytophthora* spp., Anti-scalding, Storage rots (*Phytophthora* spp.)	SL	250 g/L	Post-harvest treatment – drenching		1		–	–	250 g a.i./hL	1	Concentration and rates expressed in phosphonic acid equiv. Applied by drenching for 30 s.
Lemons	BG, ES, FR	I	Anti-scalding, Storage rots (*Phytophthora* spp.)	SL	250 g/L	Post-harvest treatment – drenching		1		–	–	250 g a.i./hL	1	Concentration and rates expressed in phosphonic acid equiv. Applied by drenching for 30 s.
Limes	ES, FR	I	Anti-scalding, Storage rots (*Phytophthora* spp.)	SL	250 g/L	Post-harvest treatment – drenching	99	1		–	–	250 g a.i./hL	1	Concentration and rates expressed in phosphonic acid equiv. Applied by drenching for 30 s.
Mandarins	BG, ES, FR	I	Anti-scalding, Storage rots (*Phytophthora* spp.)	SL	250 g/L	Post-harvest treatment – drenching		1		–	–	250 g a.i./hL	1	Concentration and rates expressed in phosphonic acid equiv. Applied by drenching for 30 s.

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Apples	BG, PT, ES	I	*Phytophthora*	SL	250 g/L	Post-harvest treatment – drenching		1		–	–	250 g a.i./hL	1	Concentration and rates expressed in phosphonic acid equiv. Applied by drenching for 30 s.
Pears	BG, PT, ES	I	*Phytophthora*	SL	250 g/L	Post-harvest treatment – drenching		1		–	–	250 g a.i./hL	1	'Concentration and rates expressed in phosphonic acid equiv. Applied by drenching for 30 s'.
Strawberries	EL	I		SL	510 g/L	Foliar treatment – broadcast spraying	12–85	3	10	–	–	1,275 g a.i./ha	7	Phosphonic acid equivalents
Blackberries	DE	I	Downy mildew (*Peronospora sparsa*)	SL	755 g/L	Foliar treatment – broadcast spraying	51–81	3	7	–	–	3,020 g a.i./ha	5	Application in case of danger of infection and/or after warning service appeal
Dewberries	EL	I		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Raspberries	DE	I	Red core of strawberry (*Phytophthora fragariae*)	SL	755 g/L	Foliar treatment – broadcast spraying	51–81	3	7	–	–	3,020 g a.i./ha	5	Application only with infestation reducing effect at the beginning of infestation and/or when first symptoms become visible
Blueberries	DE	I	*Colletotrichum* (*Colletotrichum* spp.)	SL	755 g/L	Foliar treatment – broadcast spraying	59 to	3	7	–	–	3,020 g a.i./ha	14	Growth stage application: at beginning of infestation ad/or when first symptoms become visible.
Cranberries	EL	I		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Currants	DE	I	Leaf spot (*Drepanopeziza ribis*)	SL	755 g/L	Foliar treatment – broadcast spraying	57 to	3	7	–	–	3,020 g a.i./ha	14	Growth stage application: at beginning of infestation ad/or when first symptoms become visible.
Gooseberries	DE	I	Leaf spot (*Drepanopeziza ribis*)	SL	755 g/L	Foliar treatment – broadcast spraying	57 to	3	7	–	–	3,020 g a.i./ha	14	Growth stage application: at beginning of infestation ad/or when first symptoms become visible.

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Rose hips	EL	I		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Mulberries	EL	I		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Azaroles	EL	I		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Elderberries	EL	I		SL	790 g/L	Foliar treatment – broadcast spraying	33–69	3	10	–	–	1,975 g a.i./ha	7	
Tomatoes	FR	I	*Phytophthora infestans*	SL	597 g/L	Foliar treatment – general (see also comment field)	11–70	5	7	–	–	2,090 g a.i./ha	14	Off-ground cultivation
Sweet peppers	EL	I		SL	790 g/L	Foliar treatment – broadcast spraying	12–89	3	10	–	–	1,975 g a.i./ha	15	1975 g/ha (790 g/L) potassium phosphonates = 1,275 g/ha (510 g/L) phosphonic acid equiv

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Aubergines	FR	I	*Phytophthora infestans*	SL	597 g/L	Foliar treatment – general (see also comment field)	11–70	5	7	–	–	2,090 g a.i./ha	14	Off-ground cultivation
Cucumbers	FR	I	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		5	5	–	–	2,642.5 g a.i./ha	14	
Gherkins	FR	I	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		5	5	–	–	2,642.5 g a.i./ha	14	
Courgettes	FR	I	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		5	5	–	–	2,642.5 g a.i./ha	14	
Melons	FR	I	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		3	7	–	–	2,642.5 g a.i./ha	14	

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Pumpkins	FR	I	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		3	7	–	–	2,642.5 g a.i./ha	14	
Watermelons	FR	I	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		3	7	–	–	2,642.5 g a.i./ha	14	
Lettuces	DE	I	Downy mildew (Peronosporaceae)	SL	342 g/L	Foliar treatment – broadcast spraying	11–47	4	7	–	–	1,368 g a.i./ha	10	Application in case of danger of infection and/or after warning service appeal.
Spinaches	DE	I	Peronosporaceae	SL	342 g/L	Foliar treatment – broadcast spraying	11–47	4	7	–	–	1,368 g a.i./ha	7	228 g/ha potassium phosphonates equals 328 g/ha Fosetyl-Al
Witloofs	FR	I	Stimulation of natural defences of the plant	SL	755 g/L	Foliar treatment – general (see also comment field)		4	4	–	–	2,642.5 g a.i./ha	14	

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Chervil	DE	I	Downy mildew Peronospora	SL	342 g/L	Foliar treatment – broadcast spraying	14–49	4	7	–	–	1,370 g a.i./ha	7	
Chives	DE	I	Downy mildew Peronospora	SL	342 g/L	Foliar treatment – broadcast spraying	14–49	4	7	–	–	1,370 g a.i./ha	7	
Celery leaves	DE	I	Downy mildew Peronospora	SL	342 g/L	Foliar treatment – broadcast spraying	14–49	4	7	–	–	1,370 g a.i./ha	7	
Parsley	DE	I	Downy mildew Peronospora	SL	342 g/L	Foliar treatment – broadcast spraying	14–49	4	7	–	–	1,370 g a.i./ha	7	
Sage	DE	I	Downy mildew Peronospora	SL	342 g/L	Foliar treatment – broadcast spraying	14–49	4	7	–	–	1,370 g a.i./ha	7	
Rosemary	DE	I	Downy mildew Peronospora	SL	342 g/L	Foliar treatment – broadcast spraying	14–49	4	7	–	–	1,370 g a.i./ha	7	
Thyme	DE	I	Downy mildew Peronospora	SL	342 g/L	Foliar treatment – broadcast spraying	14–49	4	7	–	–	1,370 g a.i./ha	7	

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Basil	DE	I	Downy mildew Peronospora	SL	342 g/L	Foliar treatment – broadcast spraying	14–49	4	7	–	–	1,370 g a.i./ha	7	
Laurel	DE	I	Downy mildew Peronospora	SL	342 g/L	Foliar treatment – broadcast spraying	14–49	4	7	–	–	1,370 g a.i./ha	7	
Tarragon	DE	I	Downy mildew Peronospora	SL	342 g/L	Foliar treatment – broadcast spraying	14–49	4	7	–	–	1,370 g a.i./ha	7	
Herbal infusions from leaves and herbs	DE	G	Downy mildew, Powdery mildew, *Phytophthora*, *Fusarium*, *Septoria*	SL	342 g/L	Foliar treatment – broadcast spraying	12–39	4	7	–	–	1,370 g a.i./ha	10	DE GAP on hemp (part B of Annex I) attributed to strawberry leaves in part A to Reg. (EC) No 396/2005 The reported MS is the MS acting as EMS in the framework of the MRL application where this use was assessed

MS: Member State; a.s.: active substance; a.i.: active ingredient; SL: soluble concentrate.
(a): Outdoor or field use (F), greenhouse application (G) or indoor application (I).
(b): CropLife International Technical Monograph no 2, 7th Edition. Revised March 2017. Catalogue of pesticide formulation types and international coding system. Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including, where relevant, information on season at time of application.
(c): PHI: minimum preharvest interval.

A.8. Import tolerance – potassium phosphonates

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Import tolerance – potassium phosphonates														
Almonds	US	F	Downy mildew		648 g/L	Foliar treatment – general (see also comment field)	–	6	7	–	–	3,030 g a.i./ha	1	Product FUNGI-PHITE (liquid formulation, 405 g/L phosphonic acid). Application at onset of disease at equiv. 1,89 kg phosphonic acid/ha per applic. PHI not specified. See EFSA (2018b) for further details.
Brazil nuts	US	F	Downy mildew		648 g/L	Foliar treatment – general (see also comment field)	–	6	7	–	–	3,030 g a.i./ha	1	Product FUNGI-PHITE (liquid formulation, 405 g/L phosphonic acid). Application at onset of disease at equiv. 1,89 kg phosphonic acid/ha per applic. PHI not specified. See EFSA (2018b) for further details.
Cashew nuts	US	F	Downy mildew		648 g/L	Foliar treatment – general (see also	–	6	7	–	–	3,030 g a.i./ha	1	Product FUNGI-PHITE (liquid formulation, 405 g/L phosphonic acid). Application at

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
						comment field)								onset of disease at equiv. 1,89 kg phosphonic acid/ha per applic. PHI not specified. See EFSA (2018b) for further details.
Chestnuts	US	F	Downy mildew		648 g/L	Foliar treatment – general (see also comment field)	–	6	7	–	–	3,030 g a.i./ha	1	Product FUNGI-PHITE (liquid formulation, 405 g/L phosphonic acid). Application at onset of disease at equiv. 1,89 kg phosphonic acid/ha per applic. PHI not specified. See EFSA (2018b) for further details.
Hazelnuts	US	F	Downy mildew		648 g/L	Foliar treatment – general (see also comment field)	–	6	7	–	–	3,030 g a.i./ha	1	Product FUNGI-PHITE (liquid formulation, 405 g/L phosphonic acid). Application at onset of disease at equiv. 1,89 kg phosphonic acid/ha per applic. PHI not specified. See EFSA (2018b) for further details.

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Macadamias	US	F	Downy mildew		648 g/L	Foliar treatment – general (see also comment field)	–	6	7	–	–	3,030 g a.i./ha	1	Product FUNGI-PHITE (liquid formulation, 405 g/L phosphonic acid). Application at onset of disease at equiv. 1,89 kg phosphonic acid/ha per applic. PHI not specified. See EFSA (2018b) for further details.
Pecans	US	F	Downy mildew		648 g/L	Foliar treatment – general (see also comment field)	–	6	7	–	–	3,030 g a.i./ha	1	Product FUNGI-PHITE (liquid formulation, 405 g/L phosphonic acid). Application at onset of disease at equiv. 1,89 kg phosphonic acid/ha per applic. PHI not specified. See EFSA (2018b) for further details.
Pine nut kernels	US	F	Downy mildew		648 g/L	Foliar treatment – general (see also comment field)	–	6	7	–	–	3,030 g a.i./ha	1	Product FUNGI-PHITE (liquid formulation, 405 g/L phosphonic acid). Application at

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
														onset of disease at equiv. 1,89 kg phosphonic acid/ha per applic. PHI not specified. See EFSA (2018b) for further details.
Pistachios	US	F	Downy mildew		648 g/L	Foliar treatment – general (see also comment field)	–	6	7	–	–	3,030 g a.i./ha	1	Product FUNGI-PHITE (liquid formulation, 405 g/L phosphonic acid). Application at onset of disease at equiv. 1,89 kg phosphonic acid/ha per applic. PHI not specified. See EFSA (2018b) for further details.
Walnuts	US	F	Downy mildew		648 g/L	Foliar treatment – general (see also comment field)	–	6	7	–	–	3,030 g a.i./ha	1	Product FUNGI-PHITE (liquid formulation, 405 g/L phosphonic acid). Application at onset of disease at equiv. 1,89 kg phosphonic acid/ha per applic. PHI not specified. See EFSA (2018b) for further details.

Crop and/ or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Blueberries	USA	F	Downy mildew	Liquid	648 g/L	Foliar treatment – broadcast spraying	BBCH 71–89	6	7–10	200–1,000	190–950	1,890 g a.i./ha	3	(equivalent to 1,181 phosphonic acid) Application should be made in conjunction with an appropriate spray adjuvant (non-ionic surfactant).

MS: Member State a.s.: active substance; a.i.: active ingredient.
(a): Outdoor or field use (F), greenhouse application (G) or indoor application (I).
(b): CropLife International Technical Monograph no 2, 7th Edition. Revised March 2017. Catalogue of pesticide formulation types and international coding system. Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including, where relevant, information on season at time of application.
(c): PHI: minimum preharvest interval.

A.9. Authorised outdoor uses in northern EU – disodium phosphonate

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Outdoor uses in northern EU – Disodium phosphonate														
Table grapes	DE	F	Downy mildew of grapevine (*Plasmopara viticola*)	SC	249.9 g/L	Foliar treatment – broadcast spraying		8	12	–	–	1,000 g a.i./ha	21	Use as a co-formulant. Basic application rate: 1 L ppp/ha; application rate from BBCH 61 to 71: 2 L ppp/ha; from BBCH 71 to 75: 3 L ppp/ha; from BBCH 75: 4 L ppp/ha.

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Wine grapes	DE	F	Downy mildew of grapevine (*Plasmopara viticola*)	SC	249.9 g/L	Foliar treatment – broadcast spraying		8	12	–	–	1,000 g a.i./ha	21	Use as a co-formulant. Basic application rate: 1 L ppp/ha; application rate from BBCH 61 to 71: 2 L ppp/ha; from BBCH 71 to 75: 3 L ppp/ha; from BBCH 75: 4 L ppp/ha.
Horseradishes	DE	F	*Albugo candida*	SC	249.9 g/L	Foliar treatment – broadcast spraying	41 to	4	12	–	–	1,000 g a.i./ha	14	Use as a co-formulant, application rate of the product 4 L/ha. Application in case of danger of infection and/or after warning service appeal.

MS: Member State; a.s.: active substance; WG: water-dispersible granule; a.i.: active ingredient; SC: suspension concentrate.
(a): Outdoor or field use (F), greenhouse application (G) or indoor application (I).
(b): CropLife International Technical Monograph no 2, 7th Edition. Revised March 2017. Catalogue of pesticide formulation types and international coding system. Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including, where relevant, information on season at time of application.
(c): PHI: minimum preharvest interval.

A.10. Authorised outdoor uses in southern EU – disodium phosphonate

Crop and/or situation	MS or country	F G or I[(a)]	Pests or group of pests controlled	Preparation		Application				Application rate per treatment			PHI (days)[(c)]	Remarks
				Type[(b)]	Conc. a.s.	Method kind	Range of growth stages and season[(c)]	Number min–max	Interval between application (min)	a.s./hL min–max	Water L/ha min–max	Rate and unit		
Outdoor uses in southern EU – Disodium phosphonate														
Table grapes	IT	F	*Plasmopara viticola*	SL	500 g/L	Foliar treatment – general (see also comment field)	12 to	6	7	–	–	1,500 g a.i./ha	21	Foliar application: airblast sprayer. BBCH 12 to onwards
Wine grapes	IT	F	*Plasmopara viticola*	SL	500 g/L	Foliar treatment – general (see also comment field)	12 to	6	7	–	–	1,500 g a.i./ha	21	Foliar application: airblast sprayer. BBCH 12 to onwards

MS: Member State; a.s.: active substance; a.i.: active ingredient; SL: soluble concentrate.
(a): Outdoor or field use (F), greenhouse application (G) or indoor application (I).
(b): CropLife International Technical Monograph no 2, 7th Edition. Revised March 2017. Catalogue of pesticide formulation types and international coding system. Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including, where relevant, information on season at time of application.
(c): PHI: minimum preharvest interval.

Appendix B – List of end points

B.1. Residues in plants

B.1.1. Nature of residues and methods of analysis in plants

B.1.1.1. Metabolism studies, methods of analysis and residue definitions in plants

Primary crops (available studies)	**Crop groups**	**Crop(s)**	**Application(s)**	**Sampling (DAT)**	**Comment/Source**
	Fosetyl				
	Fruit crops	Oranges	3–4 × 1 g a.s./15 trees (paintbrush application)	75	The initial step of fosetyl-Al metabolism proceeds through dissociation and the hydrolytic cleavage of the ethyl ester bond with phosphonic acid and ethanol as the major plant metabolites. Ethanol, when not lost by volatilisation, is further incorporated into natural products
		Apples	2 × unknown dose/ha	0–; 0+; 7; 14	
		Pineapples	1 dipping treatment of crowns (2.4 g/L solution)	0; 7; 14; 28; 56; 120	
			and 1 spraying treatment (2.4 g/L solution)	115; 122	
		Tomatoes	2 × 4.4 kg a.s./ha	–14; 0; 14; 42	
		Grape leaves	1 × 3,024 μg a.s. per plant	7, 14, 21	
	Potassium phosphonate				
	Metabolism studies are not available but information from public literature was considered sufficient to conclude on the residue definition in all plant commodities following foliar and soil application (EFSA, 2012b).				
	Disodium phosphonate				
	Fruit crops	Tomato plantlets	Roots soaking: 1 × 3 mmol/L	2–120 min	Tritiated phosphonic acid ($^3HNa_2PO_3$)
	Root crops	Information from public literature was considered sufficient to evaluate the behaviour and distribution of disodium phosphonate in plants (EFSA, 2013; France, 2020b).			

Rotational crops (available studies)	**Crop groups**	**Crop(s)**	**Application(s)**	**PBI (DAT)**	**Comment/Source**
	Fosetyl				
	Root/tuber crops	Radishes	Bare soil application of non-radiolabelled phosphonic acid at a target concentration of 4.9 mg/kg.	32; 182	Residues of phosphonic acid are observed in plants grown only one month after application to the soil. Radish root: 0.8 mg/kg Lettuce: 0.76 mg/kg In all other crop parts phosphonic acid residues < LOQ (0.5 mg/kg).
	Leafy crops	Lettuces		32	
	Cereals (small grain)	Barley		32	
	Potassium phosphonate				
	No study on nature of residues in rotational crops is available for potassium phosphonate. However, the available study conducted with fosetyl (see above) is considered sufficient to assess the behaviour of potassium phosphonate in rotational crops (France, 2020c).				
	Disodium phosphonate				
	No study on nature of residues in rotational crops is available for disodium phosphonate. However, the available study conducted with fosetyl (see above) is considered sufficient to assess the behaviour of disodium phosphonate in rotational crops (France, 2020b).				

Processed commodities (hydrolysis study)	**Conditions**	**Stable?**	**Comment/Source**
	Pasteurisation (20 min, 90°C, pH 4)	Yes	Studies evaluated during the peer review for the renewal of fosetyl, showed that fosetyl and phosphonic acid are stable following processing (EFSA, 2018e). In the peer review of disodium phosphonates a case was made that the only expected behaviour would be a change in the conversion rate to phosphonic acid (EFSA, 2013).
	Baking, brewing and boiling (60 min, 100°C, pH 5)	Yes	
	Sterilisation (20 min, 120°C, pH 6)	Yes	

Can a general residue definition be proposed for primary crops?	Yes	
Rotational crop and primary crop metabolism similar?	Yes	Fosetyl-Al degrades in soil very rapidly to its metabolite, phosphonic acid.
Residue pattern in processed commodities similar to residue pattern in raw commodities?	Yes	Fosetyl-Al and phosphonic acid are considered to be hydrolytically stable under conditions representative of pasteurisation, baking, brewing, boiling and sterilisation.
Plant residue definition for monitoring (RD-Mo)	**All categories of crops:** Phosphonic acid and its salts expressed as phosphonic acid	
Plant residue definition for risk assessment (RD-RA)	**All categories of crops and all authorized uses for fosetyl**: Sum of fosetyl, phosphonic acid and their salts, expressed as phosphonic acid **All categories of crops and authorized uses for potassium and disodium phosphonates**: Phosphonic acid and its salts expressed as phosphonic acid	
Methods of analysis for monitoring of residues (analytical technique, matrix groups, LOQs)	HPLC– MS/MS (matrices: high water, dry/high starch, high acid, high oil). ILV provided and validated (EFSA, 2012a). Fosetyl LOQ: 0.01 mg/kg Phosphonic acid LOQ: 0.1 mg/kg GC-FDP (hops) (EFSA, 2012a): Fosetyl LOQ: 2 mg/kg Phosphonic acid LOQ: 20 mg/kg Single residue method (QuPPe) for enforcement in routine analysis, LOQ 0.1 mg/kg (as phosphonic acid) for high water and high acid content commodities, and 0.2 mg/kg (as phosphonic acid) for high oil content and dry commodities (EURL, 2020).	

a.i.: active ingredient; DAT: days after treatment; PBI: plant-back interval; HPLC–MS/MS: high-performance liquid chromatography with tandem mass spectrometry; LC–MS/MS: liquid chromatography with tandem mass spectrometry; LOQ: limit of quantification; ILV: independent laboratory validation.

B.1.1.2. Stability of residues in plants

Plant products (available studies)	Category	Commodity	T (°C)	Stability period		Compounds covered	Comment/ Source
				Value	Unit		
	Fosetyl						
	High water content	Cucumbers	−18 to −25	25	Months	Phosphonic acid and its salts expressed as phosphonic acid. Sum of fosetyl, phosphonic acid and their salts expressed as phosphonic acid	France, (2018a), EFSA (2018e)
		Lettuces		24	Months	Phosphonic acid and its salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
		Lettuces		25	Months	Sum of fosetyl, phosphonic acid and their salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
		Head cabbages		24	Months	Phosphonic acid and its salts expressed as phosphonic acid	France (2018a); EFSA (2018e)
		Head cabbages		25	Months	Sum of fosetyl, phosphonic acid and their salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
		Cherry tomatoes		24	Months	Phosphonic acid and its salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
		Tomatoes		25	Months	Sum of fosetyl, phosphonic acid and their salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
	High oil content	Avocados		25	Months	Phosphonic acid and its salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
		Avocados		29	Months	Sum of fosetyl, phosphonic acid and their salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
	High protein content	White dry beans		24	Months	Phosphonic acid and its salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
	High starch content	Potatoes		25	Months	Phosphonic acid and its salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
		Potatoes		25	Months	Sum of fosetyl, phosphonic acid and their salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
	High acid content	Grapes		25	Months	Phosphonic acid and its salts expressed as phosphonic acid	France (2018a), EFSA (2018e)
		Oranges		24	Months	Phosphonic acid and its salts expressed as phosphonic acid	France (2018a), EFSA (2018e)

Plant products (available studies)	Category	Commodity	T (°C)	Stability period		Compounds covered	Comment/ Source
				Value	Unit		
	Potassium and disodium phosphonates						
	High water content	Wheat, whole plant	–20	12	Months	Phosphonic acid	EFSA (2019a)
		Apples	–18	12	Months	Phosphonic acid	EFSA (2018b)
		peaches	–18	307	Days	Phosphonic acid	EFSA (2018b)
	High oil content	Almond	–20	218	Days	Phosphonic acid	EFSA (2018b)
		Pistachio	–20	221		Phosphonic acid	EFSA (2018b)
		Walnut	–20	146		Phosphonic acid	EFSA (2018b)
	High protein	–	–	–	–	–	–
	Dry/High starch	Wheat, grain	–20	12	Months	Phosphonic acid	EFSA (2019a)
		Potato	–20	12	Months	Phosphonic acid	EFSA (2019a)
	High acid content	Grapes	–20	12	Months	Phosphonic acid	EFSA (2013)
	Processed products	Peach jam, puree, nectar and canned peaches	–18	112–114	Days	Phosphonic acid	EFSA (2018b)
	Others	Wheat straw	–20	12	Months	Phosphonic acid	EFSA (2019a)

B.1.2. Magnitude of residues in plants

B.1.2.1. Summary of residues data from the supervised residue trials with fosetyl – Primary crops

Commodity	Region/ Indoor[a]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[b] (mg/kg)	STMR[c] (mg/kg)	CF[d]
Residue trials performed with Fosetyl							
RD Mo: Phosphonic acid and its salts expressed as phosphonic acid **RD RA:** Sum of fosetyl, phosphonic acid and their salts, expressed as phosphonic acid							
Grapefruits Oranges Lemons Limes Mandarins	SEU	Mo: 2 × 0.8; 1.8; 2.26; 2.52; 3; 3.3; 3.4; 4.5; 4.65; 5.2; 5.4; 5.45; 6.25; 7.1; 2 × 7.5; 9; 9.6; 10; 10.1; 12; 13; 15; 16.8; 17; 20; 23 RA: –[e]	Trials on oranges (12) and mandarins (16) compliant with the GAP (Italy, 2020a,c, Spain, 2020). MRL_{OECD} = 31.85	40	23.00	6.68	1

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)	CF[(d)]
	EU	Mo: 4.2; 5; 2 × 6.6; 8.6 RA: –[(e)]	Trials on mandarins at a PHI of 8 days and compliant with the post-harvest GAP (Italy, 2020a,c, Spain, 2020). According to the extrapolation rules, 4 additional residue trials on oranges are in principle required. Considering that the residue levels in oranges are expected to be lower compared to mandarins and the SEU outdoor GAP is by far more critical, these trials can be considered as desirable only. An MRL can be derived for the whole group of citrus fruit. MRL based on the mean plus 4 SD.	15	8.60	6.60	1
Chestnuts	SEU	Mo: – RA: –	GAP-compliant trials not available.	–	–	–	
Pome fruits	NEU	Mo: 1.5; 1.8; 2.4; 2.5; 3.5; 3.8; 2 × 5; 5.3; 11 RA: –[(e)]	Combined data set on apples (9) and pears (1) supporting the critical GAPs for pome fruits (EFSA 2012a). MRL_{OECD} = 15.22	15	11.00	3.65	1
	SEU	Mo: 3.4; 5.32; 9.6; 13.4; 21.8; 25.2; 26.8; 27 RA: –[(e)]	Combined data set on apples (4) and pears (4) supporting the critical GAPs for pome fruits. Scaled values (factor: 1.3) (Italy, 2020a; Portugal, 2020; Spain, 2020) MRL_{OECD} = 55.81	60	27.00	17.60	1
Apricots Peaches	SEU	Mo: 3.2; 3.7; 5.4; 7.1; 12; 14; 19; 32 RA: –[(e)]	Combined GAP-compliant residue trials on apricots (4) and peaches (4) (Spain, 2020) MRL_{OECD} = 51.09	60	32.00	9.55	1
Table grapes	NEU	Mo: – RA: –	Residue trials available but not compliant with GAP (Czech Republic, 2020; Germany, 2020).	–	–	–	

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)	CF[(d)]
	SEU	Mo: 4.6; 5.8; 6.2; 7.8; 12; 14; 15; 16; 2 × 17; 2 × 22; 23; 25; 26; 27; 2 × 33; 34; 36; 42; 50 RA: –[(e)]	Trials on grapes compliant with GAP (EFSA, 2012a). MRL_{OECD} = 71.05	80	50.00	22.00	1
Wine grapes	NEU	Mo: 4.66[(f)]; 8[(f)]; 11; 13.86[(f)]; 14.2[(f)]; 14.4[(f)]; 2 × 16; 19.65[(f)]; 22; 23 RA: –[(e)]	Trials on grapes compliant with GAP (Czech Republic, 2020; Germany, 2020). MRL_{OECD} = 44.39	50	23.00	14.40	1
	SEU	Mo: 4.6; 5.8; 6.2; 7.8; 12; 14; 15; 16; 2 × 17; 2 × 22; 23; 25; 26; 27; 2 × 33; 34; 36; 42; 50 RA: –[(e)]	Trials on grapes compliant with GAP (EFSA, 2012a). MRL_{OECD} = 71.05	80	50.00	22.00	1
Strawberries	NEU	Mo: 4.9; 7.2; 8.1; 9.3; 10; 11; 19; 42 RA: –[(e)]	Trials on strawberries compliant with GAP (Netherlands, 2020). MRL_{OECD} = 62.22	70	42.00	9.65	1
	SEU	Mo: 4.2; 4.4; 5; 10.5; 11; 12; 15; 16; 44 RA: –[(e)]	Trials on strawberries compliant with GAP (EFSA, 2012a). MRL_{OECD} = 62.51	70	44.00	11.00	1
	EU	Mo: 7; 8.5; 9.1; 9.6; 10; 18; 25; 33 RA: –[(e)]	Trials on strawberries compliant with GAP (EFSA, 2012a). MRL_{OECD} = 52.92	60	33.00	9.80	1
Blackberries	NEU	Mo: 4.22; 5.37; 49 RA: 4.36; –; 49.65	GAP-compliant residue trials (Germany, 2015, 2020) MRL_{OECD} = 121.64	150 (tentative)[(g)]	49.00	5.37	1.0
	EU	Mo: 1.85; 2.5; 4.93; 6.6; 15.67; 17.16; 21; 23 RA: 3.72; 3.19; 5.50; 7.13; 21.30; 19.26; 26.21; 24.95	GAP-compliant residue trials (EFSA, 2015; Germany, 2020) MRL_{OECD} = 45.84	50	23.00	11.14	1.2
Raspberries (red and yellow)	NEU	Mo: – RA: –	Residue trials on blackberries available but not compliant with the GAP (Finland, 2020).	–	–	–	
	EU	Mo: 1.85; 4.85; 15.44; 16.9 RA: –[(e)]	GAP-compliant residue trials on blackberries (with extrapolation to raspberries) (Portugal, 2020) MRL_{OECD} = 39.86	40	16.90	10.15	1

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)	CF[(d)]
Kiwi fruits (green, red, yellow)	SEU	Mo: 3.6; 11.4; 11.6; 17; 30; 33; 44.5; 59.63 RA: –[(e)]	GAP-compliant residue trials (EFSA, 2012c) MRL_{OECD} = 102.55	100	59.63	23.50	1
Avocados	SEU	Mo: 2.9; 3.2; 3.5; 5.6; 20 RA: –[(e)]	Trials compliant with GAP (EFSA, 2012a) MRL_{OECD} = 36.33	40	20.00	3.50	1
Pineapples	Import (Latin American countries, FR)	Mo: 0.6; 2.4; 3.7; 5 RA: –[(e)]	Trials compliant with GAP but only the 1st trial reported reliable measurement for the whole fruit. Other results based on measurement in pulp multiplied by a ratio of 1.2 (derived from 1st trial) (EFSA 2012a). MRL_{OECD} = 10.44	10	5.00	3.05	1
Potatoes	SEU	Mo: 5.3; 6.6; 9.4; 11.9; 12.2; 14.1; 15.22; 23.06 RA: –[(e)]	GAP-compliant residue trials (Italy, 2020a,c, Spain, 2020) MRL_{OECD} = 36.67	40	23.06	12.05	1
Celeriacs/turnip rooted celeries	EU	Mo: 3 × < 0.15; < 0.20; 2.9 RA: –[(e)]	GAP-compliant residue trials (EFSA, 2015) MRL_{OECD} = 5.61	6	2.90	0.15	1
Radishes	EU	Mo: 6.4; 7.3; 7.7; 9.2 RA: –[(e)]	Trials compliant with GAP (EFSA, 2012a). MRL_{OECD} = 22.95	30	9.20	7.50	1
Onions	NEU	Mo: 4.4; 5.9; 8.9; 10; 12; 2 × 15; 18 RA: –[(e)]	Trials compliant with GAP (EFSA, 2012a). MRL_{OECD} = 33.45	40	18.00	11.00	1
	SEU	Mo: 1.3; 3.4; 3.9; 4.3; 4.4; 4.7; 7.7; 12; 17; 22 RA: –[(e)]	Trials compliant with GAP (EFSA, 2012a). MRL_{OECD} = 35.18	40	22.00	4.55	1
Tomatoes	SEU	Mo: 2.9[(f)]; 4.95; 6.16[(f)]; 6.21; 6.26[(f)]; 6.72[(f)]; 9.43[(f)]; 10.3; 13.68[(f)]; 15.3; 16.63[(f)]; 21.3; 21.81; 21.92; 22.23; 34.31[(f)] RA: 2.93; –; 6.19; –; 6.36; 7.77; 9.6; –; 14.4; –; 17.46; –; –; –; –; 35.07	GAP-compliant residue trials (Greece, 2020; Italy, 2020a,c; Spain, 2020). MRL_{OECD} = 48.62	50	34.31	11.99	1

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)	CF[(d)]
	EU	Mo: 2.45; 2.99; 3.89; 4.69; 6.12; 11.9; 13.27; 14.95 RA: 2.94; 4.8; 4.58; 5.59; 7.11; 13.22; 14.95; 15.58	GAP-compliant residue trials (France, 2020a; Germany, 2020; Greece, 2020; Italy, 2020a,c) MRL_{OECD} = 27.64	30	14.95	5.41	1.2
Sweet peppers/bell peppers	SEU	Mo: – RA: –	No GAP-compliant residue trials.	–	–	–	
	EU	Mo: – RA: –	No GAP-compliant residue trials.	–	–	–	
Aubergines/ eggplants	SEU	Mo: 7 × < 0.2; 0.26; 1 RA: –[(e)]	GAP-compliant residue trials on tomatoes with extrapolation to aubergines (Spain, 2020) MRL_{OECD} = 1.36	1.5	1	0.2	1
	EU	Mo: 2.45; 2.99; 3.89; 4.69; 6.12; 11.9; 13.27; 14.95 RA: –[(e)]	GAP-compliant residue trials on tomatoes. Extrapolation to aubergines possible (France, 2020a; Germany, 2020; Greece, 2020; Italy, 2020a,c) MRL_{OECD} = 27.64	30	14.95	5.41	1
Cucumbers Gherkins Courgettes	NEU	Mo: 6.6; 7.3; 9.9; 11; 13; 14; 21; 30 RA: –[(e)]	Trials on cucumbers with an overdosed application rate (4.5 kg a.s./ha) sufficient to demonstrate that indoor use is more critical (EFSA, 2012a). MRL_{OECD} = 45.5	50 (tentative)[(h)]	30.00	12.00	1
	SEU	Mo: 5.5; 7.6; 11; 2 × 12; 15; 19 RA: –[(e)]	Trials on courgettes compliant with the GAP; extrapolation to gherkins and cucumbers is possible (EFSA, 2012a). MRL_{OECD} = 35.19	40	19.00	12.00	1
	EU	Mo: 8.4; 2 × 11; 12; 13; 14; 15; 17; 26; 30; 31; 32; 34; 35; 39; 41; 53 RA: –[(e)]	Trials on cucumbers compliant with the GAP; extrapolation to gherkins and courgettes is possible (EFSA, 2012a). MRL_{OECD} = 77.7	80	53.00	26.00	1

Commodity	Region/Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)	CF[(d)]
Melons Pumpkins Watermelons	NEU	Mo: – RA: –	No GAP-compliant residue trials.	–	–	–	
	SEU	Mo: 11; 12; 17; 19; 20; 28 RA: –	Trials on melons supporting the southern outdoor GAP for cucurbits with inedible peel (EFSA, 2012a). MRL_{OECD} = 53.5	60 (tentative)[(g)]	28.00	18.00	1
	EU	Mo: 5.6; 10; 2 × 14; 15; 18; 21; 27 RA: –[(e)]	Trials on melons supporting the indoor GAP for cucurbits with inedible peel (EFSA, 2012a). MRL_{OECD} = 46.72	50	27.00	14.50	1
Cauliflowers Broccoli Brussels sprouts Head cabbages	SEU	Mo: 6 × < 0.2 RA: –[(e)]	Residue trials on cauliflower (2) and on head cabbage (4) conducted at an overdosed rate (Italy, 2020c). Extrapolation is acceptable considering the type of application (drenching) and no additional residue trials on cauliflower and head cabbage are required as the indoor GAP can be considered as more critical. Not authorised for use on Brussels sprouts and head cabbages in SEU. MRL_{OECD} = 0.2	0.2 (tentative)[(h)]	0.20	0.20	1
	EU	Cauliflowers: Mo: 2 × < 0.2; 0.21; 0.32; 0.61; 0.63; 0.86; 1.1; 1.3 RA: –[(e)] Head cabbages: Mo: 8 × < 0.02; 0.36 RA: –[(e)]	Combined data set on cauliflower (9) and head cabbage (9) supporting the indoor GAP for all brassica vegetables. Extrapolation is acceptable considering the type of application (drench treatment of soil prior to transplanting) (EFSA, 2012a). MRL_{OECD} = 1.8	2	1.30	0.20	1
Chinese cabbages/pe-tsai	EU	Mo: 4 × < 0.2 RA: –[(e)]	Trials on kale compliant with GAP; extrapolation to Chinese cabbage is possible (EFSA, 2012a). MRL_{OECD} = 0.2	0.2	0.20	0.20	1

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)	CF[(d)]
Kales	EU	Mo: 1.34; 1.86; 2.0; 2.08; 2 × 2.3; 2.92; 3.68 RA: 3.25; –; 3.07; –; 3.07; 3.55; –; –	Trials on kale compliant with GAP (EFSA, 2012a). MRL_{OECD} = 6.93	7	3.68	2.19	1.5
Kohlrabies	EU	Mo: 0.18; 0.19; 2 × 0.46; 0.62; 2 × 0.73; 0.81; 1.8; 3.3 RA: –[(e)]	Trials compliant with GAP (EFSA, 2012a). MRL_{OECD} = 4.73	5	3.30	0.68	1
Lettuces Lamb's lettuces/ corn salads Escaroles/broad-leaved endives Cresses and other sprouts and shoots Land cresses Roman rocket/ rucola Red mustards	NEU	Mo: 1.4; 1.7; 2 × 2.3; 2.5; 3.45[(f)]; 3.5; 4.05[(f)]; 4.7; 4.95[(f)]; 5.4[(f)]; 8.1; 8.33[(f)]; 8.68[(f)]; 10.69[(f)]; 17.44[(f)] RA: –[(e)]	GAP-compliant trials on lettuces 'open leaf' varieties. Extrapolation to all salads plants possible (Italy, 2020a,c) MRL_{OECD} = 22.44	30	17.44	4.38	1
	SEU	Mo: 3.09[(f)]; 4.5; 5.28[(f)]; 5.3; 6.01[(f)]; 6.08[(f)]; 6.22[(f)]; 6.8; 7.1; 8.06[(f)]; 8.5; 8.9; 11; 13.15[(f)]; 15; 16; 19.30[(f)]; 19.38[(f)] RA: –[(e)]	GAP-compliant trials on lettuces 'open leaf' varieties (Italy, 2020a,c). Extrapolation to all salad plants possible. MRL_{OECD} = 29.64	30	19.38	7.58	1
	EU	Mo: 2 × 7.7; 9; 9.2; 12; 13; 15; 17; 19; 23; 27; 30; 36; 41; 56; 66; 92 RA: –[(e)]	GAP-compliant residue trials on lettuces 'open leaf' varieties (Italy, 2020a,c). Extrapolation to all salad plants possible. MRL_{OECD} = 123.01	150	92.00	19.00	1
Baby leaf crops (including brassica species)	NEU	Mo: 1.4; 1.7; 2 × 2.3; 2.5; 3.45[(f)]; 3.5; 4.05[(f)]; 4.7; 4.95[(f)]; 5.4[(f)]; 8.1; 8.33[(f)]; 8.68[(f)]; 10.69[(f)]; 17.44[(f)] RA: –[(e)]	GAP-compliant trials on lettuces 'open leaf' varieties. Extrapolation to baby leaf crops possible (Italy, 2020a,c) MRL_{OECD} = 22.44	30	17.44	4.38	1

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)	CF[(d)]
	SEU	Mo: 3.09[(f)]; 4.5; 5.28[(f)]; 5.3; 6.01[(f)]; 6.08[(f)]; 6.22[(f)]; 6.8; 7.1; 8.06[(f)]; 8.5; 8.9; 11; 13.15[(f)]; 15; 16; 19.30[(f)]; 19.38[(f)] RA: –[(e)]	Trials on lettuces 'open leaf' varieties performed according to a more critical GAP (4x2.4 instead of 2x1.87 kg/ha) used to derive a tentative MRL for baby leaf crops (Italy, 2020a,c). Since the indoor GAP is clearly more critical no additional trials are required. MRL_{OECD} = 29.64	30 (tentative)[(h)]	19.38	7.58 –	1
	EU	Mo: 2 × 7.7; 9; 9.2; 12; 13; 15; 17; 19; 23; 27; 30; 36; 41; 56; 66; 92 RA: –[(e)]	GAP-compliant residue trials on lettuces 'open leaf' varieties (Italy, 2020a,c). Extrapolation to baby leaf crops possible. MRL_{OECD} = 123.01	150	92.00	19.00	1
Spinaches Chards/beet leaves	NEU	Mo: 0.93; 1.8; 5.3; 6.2; 37 RA: –[(e)]	Trials on spinach compliant with GAP. Extrapolation to beet leaves possible (Italy, 2020c). MRL_{OECD} = 70.74	70	37.00	5.30	1
	SEU	Mo: 3.8; 7.6; 9; 9.9; 18 RA: –[(e)]	Trials on spinach compliant with GAP (EFSA, 2012a). No authorised for use on beet leaves in SEU. MRL_{OECD} = 30.51	30	18.00	9.00	1
	EU	Mo: 2 × < 2; 3.55; 4.18 RA: –[(e)]	GAP-compliant residue trials on lettuces (open leaf) (Belgium, 2020). Extrapolation to spinach possible. No authorised for use on beet leaves indoor. MRL_{OECD} = 7.36	8	4.18	2.78	1
Witloofs/Belgian endives	NEU	Mo: 43; 39; 42; 20; 22; 60; 43; 12 RA: [(e)]	GAP-compliant residue trials on witloof following combination of treatment of the chicory plants prior to forcing of the roots followed by foliar spray treatment (EFSA, 2012a). MRL_{OECD}: 105,38	150	60	40.5	1

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)	CF[(d)]
	EU	Mo: 9.1; 2 × 10; 14; 24 RA: –	Residue trials overdosed (performed at 2 × 60 g a.s./hL instead of 1 × 12.4 g/hL) (Belgium, 2020) used to derive a tentative MRL. Nevertheless, since the NEU outdoor GAP is clearly more critical no additional trials are required. MRL_{OECD} = 40.26	40 (tentative) [(h)]	24	10	1
Chervil Chives Celery leaves Parsley Sage Rosemary Thyme Basil and edible flowers Laurel/bay leave Tarragon	NEU	Mo: 4.05; 4.95 RA: –[(e)]	GAP-compliant trials on parsley (Germany, 2020).	–	–	–	1
	EU	Mo: < 0.2; 0.92; 1.9; 2.3; 2.5; 6.7; 9.1; 10 RA: –[(e)]	GAP-compliant trials on parsley (4) and basil (4) (Germany, 2020). Extrapolation to fresh herbs possible. MRL_{OECD} = 19.51	20	10.00	2.40	1
Asparagus	EU	Mo: – RA: –	Considering that the application is done by drenching after seedling, residues are not expected in the consumable parts (Germany, 2020). At least 2 GAP-compliant trials should however be provided to demonstrate the no-residue situation.	0.1* (tentative)[(i)]	0.10	0.10	
Florence fennels	EU	Mo: < 0.15; 0.19; 0.27; 0.60 RA: –[(e)]	Trials compliant with GAP (EFSA, 2015) MRL_{OECD} = 1.12	1.5	0.60	0.23	1
Globe artichokes	SEU	Mo: 12; 14; 15; 29; 53 RA: –[(e)]	Trials compliant with GAP (EFSA, 2012a). MRL_{OECD} = 93.57	100	53.00	15.00	1
Leeks	SEU	Mo: – RA: –	No trials available.	–	–	–	

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)	CF[(d)]
Peas (dry)	NEU	Mo: – RA: –	No trials available.	–	–	–	
Herbal infusions from flowers	NEU	Mo: 96 RA: –	Only one GAP–compliant trial on chamomile and analysing for phosphonic acid residues (Germany, 2020).	–	–	–	-
Hops	NEU	Mo: 236; 300; 324; 368 RA: –[(e)]	Trials compliant with GAP (EFSA, 2012a). MRL_{OECD} = 921	1000	368	312	1
Seed spices Fruit spices	NEU	Mo: 30; 45; 103; 131 RA: –[(e)]	GAP-compliant trials on Caraway (1), fennel (1), Coriander (2) (EFSA, 2012c). Extrapolation to seed spices and seed fruits possible. MRL_{OECD} = 268.03	300	131	74	1
Chicory roots	NEU	Mo: 4.7; 12; 13; 14; 15; 17; 21; 42 RA: –[(e)]	Trials compliant with GAP (EFSA, 2012a). MRL_{OECD} = 61.3	70	42.00	14.50	1

GAP: Good Agricultural Practice; OECD: Organisation for Economic Co-operation and Development; MRL: maximum residue level.
*: Indicates that the MRL is proposed at the limit of quantification.
Mo: residue levels expressed according to the monitoring residue definition; RA: residue levels expressed according to risk assessment residue definition.
(a): NEU: Outdoor trials conducted in northern Europe, SEU: Outdoor trials conducted in southern Europe, Indoor: indoor EU trials or Country code: if non-EU trials.
(b): Highest residue. The highest residue for risk assessment (RA) refers to the whole commodity and not to the edible portion.
(c): Supervised trials median residue. The median residue for risk assessment (RA) refers to the whole commodity and not to the edible portion.
(d): Conversion factor to recalculate residues according to the residue definition for monitoring to the residue definition for risk assessment.
(e): For all the uses on fosetyl (except for blackberries, kales and tomatoes), for which sufficient residue trials are available, fosetyl residues were measured at negligible levels compared to phosphonic acid residues in the crops at harvest (residues either at or below the LOQ of the method or residues accounting for less than 15% of the phosphonic acid residues). Therefore the results according to the residue definition for risk assessment have not been reported and a conversion factor for risk assessment of 1 has been derived.
(f): Storage sample conditions of the corresponding trials were not given. However considering that acceptable storage stability was demonstrated for up to 25 months in the main four matrices and these residue values are in the same range as the residue values supported by acceptable storage stability data, this information is considered as desirable only.
(g): A tentative MRL is derived based on a reduced number of trials.
(h): A tentative MRL is derived based on overdosed trials or trials performed according to a more critical GAP.
(i): A tentative MRL is derived pending submission of GAP-compliant trials confirming that residues remain below the LOQ.

B.1.2.2. Summary of residues data from the supervised residue trials with potassium phosphonate – Primary crops

Commodity	Region/ Indoor[a]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[b] (mg/kg)	STMR[c] (mg/kg)
Residue trials performed with potassium phosphonates						
RD Mo = RD RA: Phosphonic acid and its salts expressed as phosphonic acid						
Grapefruits Oranges	SEU	Oranges: 9.6; 10.1; 13.2; 14.8; 15.1; 18.2; 22.5; 56.4 Tangerines: 9.16; 14.31; 22.0; 24.37; 29.1; 31.4; 33.9; 35.0; 44.7; 53.8; 55.53; 72.5	Combined data set of trials on oranges (8) and tangerines (12) performed at 3 instead of 2 applications used to derive a tentative MRL for grapefruits and oranges (France, 2020c). MRL_{OECD} = 103.21	100 (tentative)[d]	72.50	23.44
	EU	8.22; 2 × 8.6; 11.12; 12; 19; 23.20; 28.76; 41.40; 61.34	Combined data set of trials on oranges (4) and tangerines (6) compliant with GAP or with application within 25% dev (post-harvest drenching) (France, 2020c). Extrapolation to the whole group of citrus fruits possible. MRL calculated based on the mean plus 4 SD.	100	61.34	15.50
Lemons Limes Mandarins	SEU	Oranges: 9.6; 10.1; 13.2; 14.8; 15.1; 18.2; 22.5; 56.4 Tangerines: 9.16; 14.31; 22.0; 24.37; 29.1; 31.4; 33.9; 35.0; 44.7; 53.8; 55.53; 72.5	Combined data set of trials on oranges (8) and tangerines (12) compliant with GAP for lemons, limes and mandarins (France, 2020c). An higher MRL of 150 mg/kg has been recently derived in the framework of an MRL application not yet legally implemented based on the data on mandarins/tangerines only (EFSA, 2021f). Nevertheless since data on oranges were also available in the framework of this review and considering that the data sets on oranges and tangerines belong to the same population, the proposed MRL is based on the merged data set. MRL_{OECD} = 103.21	100	72.50	23.44
	EU	8.22; 2 × 8.6; 11.12; 12; 19; 23.20; 28.76; 41.40; 61.34	Combined data set of trials on oranges (4) and tangerines (6) compliant with GAP or with application within 25% dev (post-harvest drenching) (France, 2020c).	100	61.34	15.50

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)
			Extrapolation to the whole group of citrus fruits possible. MRL calculated based on the mean plus 4 SD.			
Almonds Chestnuts Hazelnuts/cobnuts Pistachios Walnuts	SEU	138; 209; 358; 359; 374; 450	Combined data set of trials on almonds (3) and pistachios (3) compliant with GAP (EFSA, 2020a). Extrapolation to almonds, chestnuts, hazelnuts, pistachios and walnuts possible. MRL not yet implemented. MRL_{OECD} = 944	1,000	450	359
	Import (US)	< 0.5; 0.505; 1.8; 3.75; 5.55; 53.5; 64.5; 67.0; 99.5; 166.5; 169; 171.5; 197	Combined data set of trials on almonds (4), pistachios (5), walnuts (4) compliant with GAP (EFSA, 2018b). Extrapolation to the whole group of tree nuts, except coconuts possible. MRL_{OECD} = 380.17	400	197	64.50
Brazil nuts Cashew nuts Macadamias Pecans Pine nut kernels	Import (US)	< 0.5; 0.505; 1.8; 3.75; 5.55; 53.5; 64.5; 67.0; 99.5; 166.5; 169; 171.5; 197	Combined data set of trials on almonds (4), pistachios (5), walnuts (4) compliant with GAP (EFSA, 2018b). Extrapolation to the whole group of tree nuts, except coconuts possible. MRL_{OECD} = 380.17	400	197	64.50
Pome fruits	NEU	6.5; 12.24; 15; 16; 16.14; 17.95; 19.84; 20	Trials on apples with dose rate within the 25% deviation (France, 2020c). Extrapolation to the whole group of pome fruits possible. MRL_{OECD} = 46.38	50	20	16.07
	SEU	15.6; 18.1; 22.4; 37.1	Trials on apples with dose rate within the 25% deviation (France, 2020c). Extrapolation to the whole group of pome fruits possible. Reduced number of trials sufficient to derive a tentative MRL. MRL_{OECD} = 69.9	70 **(tentative)**[(e)]	37.10	20.25
	EU	5.0; 5.2; 6.22; 6.24; 7.1; 7.3	Combined data set of trials on apples (4) and pears (2) with dose rate within 25% deviation (post-harvest drenching) (France,	10	7.30	6.23

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)
			2020c). Use not authorised on quinces, medlars and loquats. MRL based on the mean plus 4 SD.			
Apricots	SEU	–	No residue trials available.	–	–	–
Cherries (sweet)	SEU	–	No residue trials available.	–	–	–
Peaches	SEU	3.76; 5.22; 8.44; 9.50; 15.51; 16.28; 17.33; 20.53	Combined data set of trials on peaches (6) and nectarines (2) compliant with GAP (EFSA, 2018b). MRL_{OECD} = 36.66	40	20.53	12.51
Plums	SEU	–	No residue trials available.	–	–	–
Table grapes	NEU	15.45; 17.09; 23.44; 27.57; 29.29; 35.14; 37.56; 42.40; 54.71; 60.17	Residue trials on grapes with dose rate within the 25% deviation used to derive an MRL for table grapes (France, 2020c). MRL_{OECD} = 102.85	100	60.17	32.22
	SEU	9.2; 9.4; 11.8; 15.5; 22.5; 23.2; 42.0; 66.4	Residue trials on grapes with dose rate within the 25% deviation used to derive an MRL for table grapes (France, 2020c). MRL_{OECD} = 104.57	100	66.40	19.00
Wine grapes	NEU	15.45; 17.09; 23.44; 27.57; 34.81; 35.14; 36.22; 37.56; 42.16; 42.40; 54.71; 60.17	Residue trials on grapes with dose rate within the 25% deviation used to derive an MRL for wine grapes (France, 2020c). MRL_{OECD} = 106.68	150	60.17	35.68
	SEU	9.2; 9.4; 11.8; 15.5; 22.5; 23.2; 42.0; 66.4	Residue trials on grapes with dose rate within the 25% deviation used to derive an MRL for wine grapes (France, 2020c). MRL_{OECD} = 104.57	100	66.40	19.00
Strawberries	SEU	–	No residue trials available.	–	–	–
	EU	5.33; 16.4; 17.7; 19.0; 21.9; 22.0; 22.6; 25.2	Trials on strawberries with dose rate within the 25% deviation (France, 2020c). MRL_{OECD} = 56.3	60	25.20	20.45
Dewberries	SEU	16.8; 19.8; 27.9; 32.9	Trials on raspberries with dose rate within the 25% deviation (France, 2020c). Extrapolation to dewberries possible. MRL_{OECD} = 73.05	80	32.90	23.85
	EU	–	No indoor trials available.	–	–	–

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)
Raspberries (red and yellow) Blackberries	NEU	50.6; 55.8; 60.6; 81.5	Trial on raspberries compliant with the GAP. Extrapolation to blackberries possible (EFSA, 2018f). MRL_{OECD} = 186.38	200	81.50	58.20
	SEU	16.8; 19.8; 27.9; 32.9	Trials on raspberries with dose rate within the 25% deviation (France, 2020c). Extrapolation to blackberries possible. MRL_{OECD} = 73.05	80	32.90	23.85
	EU	25.3; 36.4; 37.4; 59.2	Trials on raspberries compliant with GAP (EFSA, 2020a). Extrapolation to blackberries possible. Not yet legally implemented. MRL_{OECD} = 118.72	150	59.20	36.90
Currants (black, red and white) Blueberries Gooseberries (green, red and yellow)	NEU	12.6; 15.4; 18.4; 21.3; 31.4	Trials on currants compliant with GAP (EFSA, 2018f). Extrapolation to blueberries and gooseberries possible. MRL_{OECD} = 59.46	60	31.40	18.40
	SEU	3.87; 7.01	Trials on currants with dose rate within 25% deviation (France, 2020c). Number of trials not sufficient to derive an MRL proposal.	–	–	–
	EU	3.3; 17.6; 39.8; 44.7; 50.3; 79.1	Trials on currants (5) and blueberries (1) compliant with GAP (EFSA, 2020a). Extrapolation to blueberries and gooseberries possible. Not yet legally implemented. MRL_{OECD} = 144.98	150	79.10	42.25
	Import (USA)	26, 27, 30, 35, 46, 47, 48	Residue trials on blueberries compliant with US GAP (EFSA, 2021e). Use not authorised on currants and gooseberries. Not yet legally implemented. MRL_{OECD} = 111	150	48	35
Cranberries Rose hips Mulberries (black and white) Azaroles/ Mediterranean medlars	SEU	3.87; 7.01	Trials on currants with dose rate within 25% deviation (France, 2020c). Number of trials not sufficient to derive an MRL proposal.	–	–	–
	EU	–	No residue trials available.	–	–	–

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)
Elderberries	NEU	12.6; 15.4; 18.4; 21.3; 31.4	Trials on currants compliant with GAP (EFSA, 2018f). Extrapolation to elderberries possible. MRL_{OECD} = 59.46	60	31.40	18.40
	SEU	3.87; 7.01	Trials on currants with dose rate within 25% deviation (France, 2020c). Number of trials not sufficient to derive an MRL proposal.	–	–	–
	EU	–	No residue trials available.	–	–	–
Table olives Olives for oil production	SEU	15.96; 16.91; 20.0; 22.0; 24.0; 24.12; 32.83; 33.88	Residue trials on olives compliant with GAP considered to derive an MRL for table olives and olives for oil production (EFSA, 2020c). Not yet legally implemented. MRL_{OECD} = 71.14	80	33.88	23.00
Kaki/Japanese persimmons	SEU	5.0; 12	Trials on kaki compliant with GAP (France, 2020c). Number of trials not sufficient to derive an MRL proposal.	–	–	–
Avocados	SEU	8.50; 13.13; 13.57; 16.18; 19.31; 24.90	Trials on avocados compliant with GAP (France, 2020c) (EFSA, 2020c). Not yet legally implemented. MRL_{OECD} = 47.8	50	24.90	14.88
Granate apples/ pomegranates	SEU	5.4; 24.1; 25.4; 31.4	Residue trials compliant with GAP (EFSA, 2020a). Not yet legally implemented. MRL_{OECD} = 66.54	70	31.40	24.75
Pineapples	SEU	3.65; 3.87; 6.56; 7.58	Residue trials overdosed (3 × 3,500-4,000 g a.i./ha) used to derive a tentative MRL (France, 2020c). MRL_{OECD} = 16.24	20 **(tentative)**[(d)]	7.58	5.22
Potatoes	NEU	< 0.5; 9.1; 12.7; 13.7; 22.5; 25.5; 25.9; 26.9; 33.1; 59.9; 72.8	Trials on potatoes compliant with GAP (EFSA, 2019a). NEU and SEU trials were combined to derive HR, STMR and MRL. Not yet legally implemented. MRL_{OECD} = 113.69	150	88.60	26.90

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)
	SEU	4.2; 9.1; 11.4; 32.8; 36.6; 40.8; 45.9; 64.5; 81.4; 88.6	Trials on potatoes compliant with GAP (EFSA, 2019a). NEU and SEU trials were combined to derive HR, STMR and MRL. Not yet legally implemented. MRL_{OECD} = 159.33	150	88.60	26.90
Horseradishes	NEU	22.26; 25.21; 39; 43.35; 51.9; 64.2	Trials on horseradishes compliant with GAP (EFSA, 2020c). Not yet legally implemented. MRL_{OECD} = 122.96	150	64.20	41.18
Radishes	NEU	6.0; 12.6; 13.7; 15.5	Trials on carrots performed with PHI of 10 days instead of 14 (France, 2020c). Extrapolation to radishes possible. MRL_{OECD} = 35.85	40	15.50	13.15
Onions	NEU	2.7; 4.1; 4.7; 11	Trials on onions compliant with GAP (EFSA, 2020c). Reduced number of trials is only sufficient to derive a tentative MRL for onions. MRL_{OECD} = 20.35	20 (tentative)[(e)]	11.00	4.40
Garlic Shallots	NEU	2.7; 4.1; 4.7; 11	Trials on onions compliant with GAP (EFSA, 2020c). Extrapolation to garlic and shallots possible. Not yet legally implemented. MRL_{OECD} = 20.35	20	11.00	4.40
Tomatoes Aubergines/ eggplants	SEU	3.0; 3.4; 7.4; 13.9	Reduced number of trials on tomato performed at 6 × 2,388 g a.i./ha instead of 4 × 3020 considered on a tentative basis (France, 2020c). Extrapolation to aubergines possible. As the indoor GAP is clearly more critical no additional SEU trials are required. MRL_{OECD} = 27.15	30 (tentative)[(d),(e)]	13.90	5.40
	EU	2.9; 4.3; 6.2; 6.5; 18.8; 22.4; 28.5; 33.3	Trials on tomatoes with application rate within 25% deviation (France, 2020c). Extrapolation to aubergines possible. MRL_{OECD} = 63.07	70	33.30	12.65
Sweet peppers/bell peppers	SEU	–	No residue trials available.	–	–	–

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)
	EU	3.79; 3.85; 4.44; 5.06; 5.16; 19.4; 24; 35.4	Residue trials with dose rate within 25% deviation (France, 2020c). MRL_{OECD} = 61.13	70	35.40	5.11
Cucurbits with edible peel	NEU	–	No residue trials available. No authorised for use on courgettes in NEU.	–	–	–
	SEU	–	No residue trials available	–	–	–
	EU	–	No residue trials available	–	–	–
Cucurbits with inedible peel	SEU	–	No residue trials available	–	–	–
	EU	–	No residue trials available	–	–	–
Broccoli Cauliflowers	NEU	2.50; 4.00; 5.50; 6.70; 10.30; 12.40; 12.90; 20.10; 23.70; 27.40	Combined data set of trials on broccoli (5) and cauliflower (5) compliant with GAP (EFSA, 2020b). Not yet legally implemented. MRL_{OECD} = 46.94	50	27.40	11.35
Kales Chinese cabbages/ pe-tsai	NEU	3.70; 4.20; 5.60; 9.90	Trials on kale compliant with GAP (EFSA, 2020b). Extrapolation to Chinese cabbages possible. Not yet legally implemented. MRL_{OECD} = 17.55	20	9.90	4.90
Lamb's lettuces/ corn salads Purslanes	NEU	13.1; 21.9; 30.5; 32.8; 35.6; 48.6; 59.3	Trials on open-leaf lettuce compliant with GAP or with dose rate within 25% deviation (France, 2020c). Extrapolation to lamb's lettuce and purslanes possible. MRL_{OECD} = 103	100	59.30	32.80
Lettuces	NEU	13.1; 21.9; 30.5; 32.8; 35.6; 48.6; 59.3	Trials on open-leaf lettuce compliant with GAP or with dose rate within 25% deviation (France, 2020c). MRL_{OECD} = 103	100 (tentative)[(e)]	59.30	32.80
	SEU	3.76; 4.23; 5.89; 6.97; 7.90; 8.85; 9.53; 10.10; 10.90; 16.40; 17.9	Trials on open-leaf (8) and head (3) lettuce with dose rate within 25% deviation (France, 2020c). MRL_{OECD} = 27.94	30	17.90	8.85
	EU	31.5; 31.6; 44.4; 84.8	Trials on open-leaf lettuce compliant with GAP (France, 2020c). MRL_{OECD} = 148.96	150 (tentative)[(e)]	84.80	38.00

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)
Escaroles/broad-leaved endives Roman rocket/ rucola	NEU	13.1; 21.9; 30.5; 32.8; 35.6; 48.6; 59.3	Trials on open-leaf lettuce compliant with GAP or with dose rate within 25% deviation (France, 2020c). Extrapolation to escaroles and Roman rocket possible. MRL_{OECD} = 103	100	59.30	32.80
	SEU	–	No residue trials available.	–	–	–
Cresses and other sprouts and shoots Land cresses Red mustards Baby leaf crops (including brassica species)	NEU	–	No residue trials available.	–	–	–
	SEU	–	No residue trials available.	–	–	–
Spinaches	NEU	13.1; 21.9; 30.5; 32.8; 35.6; 48.6; 59.3	Trials on open leaf lettuce compliant with GAP or with dose rate within 25% deviation (France, 2020c). Extrapolation to spinaches possible. MRL_{OECD} = 103	100	59.30	32.80
	EU	32.30; 39.1; 47.0; 67.80; 82.25	Trials on open-leaf lettuce compliant with GAP (EFSA, 2020b). Extrapolation to spinaches possible. Not yet legally implemented. MRL_{OECD} = 161	200	82.25	47.00
Witloofs/Belgian endives	NEU	–	No residue trials available.	–	–	–
	EU	–	No residue trials available.	–	–	–
Fresh herbs	NEU	13.1; 21.9; 30.5; 32.8; 35.6; 48.6; 59.3	Trials on open-leaf lettuce compliant with GAP or with dose rate within 25% deviation (France, 2020c). Extrapolation to fresh herbs possible. MRL_{OECD} = 103	100	59.30	32.80
	EU	19.5; 24.7; 89.5; 107; 115; 126	Trials on basil, parsley and sage compliant with GAP (EFSA, 2020a). Extrapolation to fresh herbs possible. Not yet legally implemented. MRL_{OECD} = 267	300	126	98.25

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)
Wheat grains	NEU	12.31; 17; 17.03; 20.61; 24.12; 26.08; 37.3; 40.69	Trials compliant with GAP (EFSA, 2019a). NEU and SEU trials were combined to derive HR, STMR and MRL. Not yet legally implemented. MRL_{OECD} = 73.18	80	52.58	23.13
	SEU	15.01; 21.06; 21.94; 22.13; 24.98; 34.82; 39.41; 52.58	Trials compliant with GAP (EFSA, 2019a). NEU and SEU trials were combined to derive HR, STMR and MRL. Not yet legally implemented. MRL_{OECD} = 86.97	80	52.58	23.13
Wheat straw	NEU	5.64; 18.56; 25.22; 26.52; 31.46; 37.4; 42.17; 81.39	Trials compliant with GAP (EFSA, 2019a). NEU and SEU trials were combined to derive HR, STMR and MRL. Not yet legally implemented. MRL_{OECD} = 123.05	100 (tentative)[(f)]	81.39	19.78
	SEU	2.16; 5.27; 5.58; 10.71; 11.65; 13.68; 21; 34.43	Trials compliant with GAP (EFSA, 2019a). NEU and SEU trials were combined to derive HR, STMR and MRL. Not yet legally implemented. MRL_{OECD} = 54.82	100 (tentative)[(f)]	81.39	19.78
Herbal infusions from leaves and herbs	EU	315, 316, 444, 848	Residue trials on open leaf lettuces compliant with the GAP for herbal infusions from leaves and herbs. Residues recalculated applying a default dehydration factor of 10 (EFSA, 2021f). Not yet legally implemented. MRL_{OECD} = 1,490	1,500	848	380

GAP: Good Agricultural Practice; OECD: Organisation for Economic Co-operation and Development; MRL: maximum residue level.
*: Indicates that the MRL is proposed at the limit of quantification.
Mo: residue levels expressed according to the monitoring residue definition; RA: residue levels expressed according to risk assessment residue definition.
(a): NEU: Outdoor trials conducted in northern Europe, SEU: Outdoor trials conducted in southern Europe, Indoor: indoor EU trials or Country code: if non-EU trials.
(b): Highest residue. The highest residue for risk assessment (RA) refers to the whole commodity and not to the edible portion.
(c): Supervised trials median residue. The median residue for risk assessment (RA) refers to the whole commodity and not to the edible portion.
(d): A tentative MRL is derived based on overdosed trials or trials performed according to a more critical GAP.
(e): A tentative MRL is derived based on a reduced number of trials.
(f): A tentative MRL was derived in view of possible future setting of MRLs in feed items.

B.1.2.3. Summary of residues data from the supervised residue trials with disodium phosphonate – Primary crops

Commodity	Region/ Indoor[(a)]	Residue levels observed in the supervised residue trials (mg/kg)	Comments/Source	Calculated MRL (mg/kg)	HR[(b)] (mg/kg)	STMR[(c)] (mg/kg)
Residue trials performed with disodium phosphonate						
RD Mo=RD RA: Phosphonic acid and its salts expressed as phosphonic acid						
Wine grapes Table grapes	NEU	4.47; 5.57; 5.59; 6.64; 6.90; 7.10; 9.96; 11.91	Trials on wine grapes performed with application rates within 25% deviation, evaluated in the peer review (France, 2009; EFSA, 2013). Extrapolation to table grapes is applicable. MRL_{OECD} = 21.8	30	11.91	6.77
	SEU	10.31; 13.30[(d)]; 13.40; 15.14; 20.39; 24.07; 27.19[(d)]; 30.57[(d)]; 32.30	Trials on wine grapes compliant with GAP or with dose rate within 25% deviation (20.39 and 32.30) (France, 2020b). Extrapolation to table grapes is applicable. MRL_{OECD} = 62.22	70	32.30	20.39
Horseradishes	NEU	0.78; 0.91[(d)]; 0.91; 1.43	Trials on carrots compliant with GAP on horseradishes (France, 2020b). MRL_{OECD} = 3.02	3	1.43	0.91

GAP: Good Agricultural Practice; OECD: Organisation for Economic Co-operation and Development; MRL: maximum residue level.
*: Indicates that the MRL is proposed at the limit of quantification.
(a): NEU: Outdoor trials conducted in northern Europe, SEU: Outdoor trials conducted in southern Europe, Indoor: indoor EU trials or Country code: if non-EU trials.
(b): Highest residue. The highest residue for risk assessment (RA) refers to the whole commodity and not to the edible portion.
(c): Supervised trials median residue. The median residue for risk assessment (RA) refers to the whole commodity and not to the edible portion.
(d): Selected value corresponds to a residue level selected at longer or shorter PHI.

B.1.2.4. Residues in rotational crops

Residues in rotational and succeeding crops expected based on confined rotational crop study?	yes	Based on the results of the confined metabolism study with phosphonic acid applied to bare soil at 4.9 mg a.s./kg, residue concentrations of phosphonic acid accounted for 0.35 and 0.8 mg eq/kg in radish tops/leaves and roots, respectively, 0.76 mg eq/kg in lettuce leaves and 0.14 and 0.42 mg eq/kg in barley grain and straw, respectively at 30 day PBI. Residues were not analysed at longer plant back interval but phosphonic acid residues in radish tops and roots planted 6 months after soil treatment were recovered at a level of <0.1 mg/kg.
Residues in rotational and succeeding crops expected based on field rotational crop study?	inconclusive	From the field trials conducted on lettuces, carrots and cereals (winter wheat and barley) following treatment of lettuces as a target crop with fosetyl at a total dose rate of 2.3 kg a.s./ha (corresponding to 1.73 kg phosphonic acid equivalents/ha), residues of fosetyl and phosphonic acid were shown to be below the LOQ in all rotational crops edible parts at the 30-day PBI, except in wheat grain (0.21 mg/kg for phosphonic acid). However, no firm conclusion can be drawn on the actual residue levels of fosetyl and phosphonic acid in rotational crops since these trials do not cover the maximum dose rates of application of the authorized GAPs and are also not expected to cover the possible accumulation of phosphonic acid residues following successive years of application as this compound is considered as highly persistent. Nevertheless in the framework of this assessment, monitoring data are also considered to derive MRL proposals and are expected to cover also the possible uptake of phosphonic acid in succeeding crops resulting from the use of fosetyl, potassium and disodium phosphonates in compliance with the authorized GAPs and from the use of other products of agricultural relevance. Additional rotational crops field studies are therefore only desirable.

B.1.2.5. Processing factors

Processed commodity	Number of valid studies[(a)]	Processing Factor (PF)		Comment/Source
		Individual values	Median PF	
Fosetyl – Processing factors derived according to the residue definition for monitoring set as phosphonic acid and its salts expressed as phosphonic acid				
Oranges, pomace (wet)	4	0.1, 0.1, 0.9, 1.1,	0.5	Processing studies on oranges extrapolated to all citrus fruits (EFSA, 2018e; France, 2018a)
Oranges, juice	5	0.9, 1.1, 1.1, 1.3, 1.75	1.1	Processing studies on oranges extrapolated to all citrus fruits (EFSA, 2018e; France, 2018a)
Oranges, marmalade	2	0.5, 1	0.75	Tentative[(b)] (EFSA, 2018e; France, 2018a)
Citrus fruits, peeled	33	0.18, 0.21, 0.24, 0.33, 0.48, 0.48, 0.5, 0.52, 0.54, 0.57, 0.59, 0.62, 0.76, 0.79, 0.79, 0.8, 0.82, 0.85, 1, 1, 1, 1, 1, 1.1, 1.1, 1.1, 1.1, 1.1, 1.1, 1.2, 1.3, 2, 3.8	0.82	Processing studies on oranges and mandarins extrapolated to all citrus fruits (EFSA, 2018e; France, 2018a)
Apples, pomace (wet)	4	0.5, 1, 1.8, 2	1.40	France, 2018a; EFSA, 2018e
Apples, juice	4	0.6, 1.5, 2.8, 3.57	2.15	France, 2018a; EFSA, 2018e
Apples, puree	4	0.44, 0.8, 1, 2	0.90	France, 2018a; EFSA, 2018e
Grapes, juice	8	0.5, 0.66, 0.93, 0.96, 1, 1.1, -, 1.3, 1.4	0.98	France, 2018a; EFSA, 2018e
Grapes, red wine	12	0.1, 0.51, 0.62, 0.69, 0.80, 0.84, 1.24, 1.30, 1.43, 1.50, 1.92, 2.50	1.04	France, 2018a; EFSA, 2018e
Grapes, white wine	9	0.33, 0.4, 0.5, 0.54, 0.64, 1.15, 1.3, 1.46, 1.65	0.64	France, 2018a; EFSA, 2018e
Cucurbits with inedible peel, peeled	4	Not available.	0.93	Processing studies on melons extrapolated to all cucurbits with inedible peel (EFSA, 2012b)
Pineapples, peeled	1	0.83	0.83	Tentative[(b)] (EFSA, 2012b)
Disodium phosphonates				
Wine grapes, must	2	1.01; 1.79	1.40	Tentative[(b)] (France, 2009)
Wine grapes, wine (red and white)	4	1.25; 1.56; 1.95; 2.51	1.80	Two processing studies were available for red wine and two for white wine. Since the processing factors for red and white wine were not significantly different, the peer review combined them to derive a robust processing factor (EFSA, 2013)

Processed commodity	Number of valid studies[(a)]	Processing Factor (PF)		Comment/Source
		Individual values	Median PF	
Potassium Phosphonates				
Citrus fruits, peeled	24	Oranges: 1.06; 1.67; 0.6; 0.88; 0.67; 0.51; 0.90; 0.86; 0.55; 0.55; 0.66; 0.88 Tangerines: 0.55; 0.57; 0.83; 1.03; 0.90; 0.72; 0.89; 0.20; 0.65; 0.59; 0.28; 0.52	0.66	Processing studies on oranges and tangerines extrapolated to all citrus fruits (France, 2020c; EFSA, 2021f)
Citrus fruits, juice	6	0.44; 0.44; 0.46; 0.91; 0.78; 0.51	0.485	Processing studies on oranges extrapolated to all citrus fruits (France, 2020c; EFSA, 2021f)
Citrus fruits, wet pomace	2	1.48; 1.85	1.67	Tentative[(b)] Processing studies on oranges extrapolated to all citrus fruits (France, 2020c)
Oranges, marmalade	6	0.62; 0.43; 0.27; 0.53; 0.33; 0.27	0.38	France (2020c), EFSA (2021f)
Oranges, canned fruit	6	0.54; 0.35; 0.32; 0.52; 0.41; 0.30	0.38	France (2020c), EFSA (2021f)
Orange, dried pomace	1	3.19	3.19	Tentative[(b)] (EFSA, 2021f)
Apples and pears, juice	5	Apples: 0.54; 0.84; 1.04 Pears: 0.89; 1.15	0.89	Processing studies on apples (EFSA, 2020a) and pears (EFSA, 2018b)
Apples and pears, dry pomace	5	Apples: 3.00; 3.96; 4.53 Pears: 3.19; 4.49	3.96	Processing studies on apples (EFSA, 2020a) and pears (EFSA, 2018b)
Apples and pears, wet pomace	7	Apples: 0.87; 0.92; 1.40 Pears: 1.0; 1.18; 1.23; 1.06	1.06	Processing studies on apples (EFSA, 2020a) and pears (EFSA, 2018b)
Apples, sauce	1	0.54	0.54	Tentative[(b)] (EFSA, 2020a)
Apples, canned	1	0.66	0.66	Tentative[(b)] (EFSA, 2020a)
Apples, dried	1	4.37	4.37	Tentative[(b)] (EFSA, 2020a)
Apples, fruits syrup	1	0.36	0.36	Tentative[(b)] (EFSA, 2020a)
Pears, dried	2	2.28; 3.92	3.10	Tentative[(b)] (EFSA, 2018b)
Pears, puree	2	1.22; 0.88	1.05	Tentative[(b)] (EFSA, 2018b)
Pears, canned	2	1.0; 0.79	0.9	Tentative[(b)] (EFSA, 2018b)
Table grapes, dried (raisins)	3	1.30; 1.58; 2.51	1.58	(France, 2020c)
Wine grapes, juice	4	0.93; 0.98; 1.00; 1.1	1	(France, 2020c)
Wine grapes, dry pomace	3	0.40; 0.46; 0.84	0.46	(France, 2020c)
Wine grapes, wet pomace	3	1.21; 1.29; 1.46	1.29	(France, 2020c)
Wine grapes, wine	5	1.1; 1.21; 1.25; 1.3; 1.8	1.25	Median PF for wine calculated pooling individual PF from red, white, young, bottled, not specified wine (EFSA, 2012b; France, 2020c).

Processed commodity	Number of valid studies[(a)]	Processing Factor (PF)		Comment/Source
		Individual values	Median PF	
Avocados, peeled	4	0.94; 1.10; 1.12; 1.14	1.1	(EFSA, 2020c)
Potatoes, peeled and boiled	4	0.5; 0.7; 1.2; 3.4	1	Tentative[(c)] (EFSA, 2019a)
Potatoes, unpeeled and microwaved	4	0.6; 0.7; 2.8; 3.3	1.8	Tentative[(c)] (EFSA, 2019a)
Potatoes, fried	4	1.1; 1.9; 2.3; 3.1	2.1	Tentative[(c)] (EFSA, 2019a)
Potatoes, granules or flakes (dehydrated tuber/dry pulp)	4	2.4; 4.7; 4.8; 6.3	4.8	Tentative[(c)] (EFSA, 2019a)
Potatoes, process waste (dried peel)	2	1.7; 2.6	2.15	Tentative[(b),(c)] (EFSA, 2019a)
Potatoes, baked tuber (no peel)	4	1.1; 1.4; 1.6; 1.7	1.5	Tentative[(c)] (EFSA, 2019a)
Tomatoes, peeled and canned	1	2.5	2.5	Tentative[(b)] (France, 2020c)
Tomatoes, paste	1	2.3	2.3	Tentative[(b)] (France, 2020c)
Tomatoes, ketchup	1	3.1	3.1	Tentative[(b)] (France, 2020c)
Tomatoes, juice	1	2.6	2.6	Tentative[(b)] (France, 2020c)
Olives for oil production, virgin oil after cold press	6	< 0.031; < 0.037; < 0.041; < 0.059; < 0.063; < 0.266	< 0.05	Residues in processed commodities always below the LOQ of 0.01 mg/kg. (EFSA, 2020c)
Wheat, whole-meal flour	2	1.0; 1.1	1.1	Tentative[(b),(c)] (EFSA, 2019a)
Wheat, whole-meal bread	2	0.7; 0.9	0.8	Tentative[(b),(c)] (EFSA, 2019a)
Wheat, white flour	2	0.8; 1.0	0.9	Tentative[(b),(c)] (EFSA, 2019a)
Wheat, dry milled by-products (incl. bran)	2	1.0; 1.2	1.1	Tentative[(b),(c)] (EFSA, 2019a)
Wheat, gluten meal (wet milling)	2	0.2; 0.2	0.2	Tentative[(b),(c)] (EFSA, 2019a)
Wheat germs	2	1.2; 1.4	1.3	Tentative[(b),(c)] (EFSA, 2019a)

PF: Processing factor (=Residue level in processed commodity expressed according to RD-Mo/ Residue level in raw commodity expressed according to RD-Mo).
(a): Studies with residues in the RAC at or close to the LOQ were disregarded (unless concentration may occur).
(b): A tentative PF is derived based on a limited data set.
(c): A tentative PF is derived as the analytical method used in the study was not sufficiently validated.

B.1.2.6. Proposed MRL based on available residue trials, existing CXLs and monitoring data

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
110010	Grapefruits	Y	–	100	15.4	n.c.	n.c.	100	Tentative MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
110020	Oranges	Y	20	100	13.5	n.c.	n.c.	100	Tentative MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
110030	Lemons	Y	–	100	7.88	n.c.	n.c.	100	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
110040	Limes	Y	–	100	8.46	n.c.	n.c.	100	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
110050	Mandarins	Y	50	100	25.5	n.c.	n.c.	100	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
120010	Almonds	Y	400	1,000	23.6	n.c.	n.c.	1,000	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data and existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.
120020	Brazil nuts	Y	400	400	0.289[(e)]	n.c.	n.c.	400	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data and existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.
120030	Cashew nuts	Y	400	400	0.289[(e)]	n.c.	n.c.	400	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data and existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.
120040	Chestnuts	Y	400	1,000	1.41	n.c.	n.c.	1,000	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data and existing CXL are covered by the proposed MRL. GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
120050	Coconuts	N	400	400	0.0578[(e)]	n.c.	n.c.	400	MRL derived from the existing CXL. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate.
120060	Hazelnuts	Y	400	1,000	2.03	n.c.	n.c.	1,000	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data and existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
120070	Macadamias	Y	400	400	–	–	–	400	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The existing CXL is covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. Monitoring data are not available.
120080	Pecans	Y	400	400	0.289[(e)]	n.c.	n.c.	400	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data and existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.
120090	Pine nut kernels	Y	400	400	–	–	–	400	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The existing CXL is covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. Monitoring data are not available.
120100	Pistachios	Y	400	1,000	–	–	–	1,000	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The existing CXL is covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. Monitoring data are not available.
120110	Walnuts	Y	400	1,000	30.5	n.c.	n.c.	1,000	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data and existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
130010	Apples	Y	50	70	25.5	n.c.	n.c.	70	Tentative MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
130020	Pears	Y	50	70	57.6	n.c.	n.c.	70	Tentative MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
130030	Quinces	Y	50	70	5.94	n.c.	n.c.	70	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
130040	Medlars	Y	50	70	1.28	n.c.	n.c.	70	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
130050	Loquats	Y	50	70	–	–	–	70	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. Monitoring data are not available.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
140010	Apricots	Y	–	60	14.7	n.c.	n.c.	60	MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
140020	Cherries	Y	–	–	19.7	1.35	2.02	2	MRL derived from available MoD using CI95 approach. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
140030	Peaches	Y	–	60	28.5	n.c.	n.c.	60	MRL derived from a GAP evaluated at EU level for fosetyl. The GAP evaluated at EU level for potassium phosphonates and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
140040	Plums	Y	–	–	5.40	0.548	0.957	1	MRL derived from available MoD using CI95 approach. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
151010	Table grapes	Y	60	100	66.8	n.c.	n.c.	100	MRL derived from a GAP evaluated at EU level for potassium phosphonates. GAPs evaluated at EU level for fosetyl and for disodium phosphonate, the monitoring data and the existing CXL are covered by the proposed MRL.
151020	Wine grapes	Y	60	150	38.2	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for potassium phosphonates. GAPs evaluated at EU level for fosetyl and for disodium phosphonate, the monitoring data and the existing CXL are covered by the proposed MRL.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
152000	Strawberries	Y	70	70	46.2	n.c.	n.c.	70	MRL derived from a GAP evaluated at EU level for fosetyl. The GAP evaluated at EU level for potassium phosphonates, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
153010	Blackberries	Y	–	200	38.5	n.c.	n.c.	200	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
153020	Dewberries	Y	–	80	–	–	–	80	MRL derived from a GAP evaluated at EU level for potassium phosphonates. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. Monitoring data are not available.
153030	Raspberries	Y	–	200	41.4	n.c.	n.c.	200	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
154010	Blueberries	Y	–	150	7.13	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
154020	Cranberries	Y	–	–	0.0578[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
154030	Currants	Y	–	150	14.2	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
154040	Gooseberries	Y	–	150	14.0	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
154050	Rose hips	Y	–	–	–	–	–	–	No MRL can be derived. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. No monitoring data available.
154060	Mulberries (black and white)	Y	–	–	–	–	–	–	No MRL can be derived. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. No monitoring data available.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
154070	Azaroles/ Mediterranean medlars	Y	50	50	–	–	–	50	MRL derived from the existing CXL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No monitoring data available.
154080	Elderberries	Y	–	60	–	–	–	60	MRL derived from a GAP evaluated at EU level for potassium phosphonates. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. Monitoring data are not available.
161010	Dates	N	–	–	0.116[(e)]	n.c.	n.c.	0.15	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
161020	Figs	N	–	–	0.285	0.0667	n.c.	0.3	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
161030	Table olives	Y	–	80	–	–	–	80	MRL derived from a GAP evaluated at EU level for potassium phosphonates. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. Monitoring data are not available.
161040	Kumquats	N	–	–	2.63	0.947	n.c.	3	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
161050	Carambolas	N	–	–	0.675	n.c.	n.c.	0.7	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
161060	Persimmon	Y	50	50	0.825	1.5	3	50	MRL derived from the existing CXL. Monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.
161070	Jambuls/ jambolans	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
162010	Kiwi fruits	Y	–	100	26.7	n.c.	n.c.	100	MRL derived from a GAP evaluated at EU level for fosetyl. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
162020	Lychees	N	–	–	0.302	n.c.	n.c.	0.3	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
162030	Passionfruit	N	–	–	17.8	8.97	n.c.	20	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
162040	Prickly pears	N	–	–	0.075[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
162040-001	Pitaya (dragon fruit)	N	–	–	0.0075[(e)]	n.c.	n.c.	0.1*	Covered by the tentative MRL derived for prickly pears and based on available MoD.
162050	Star apples	N	–	–	0.0188[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
162060	American persimmon/ Virginia kaki	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
163010	Avocados	Y	20	50	20.8	n.c.	n.c.	50	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
163020	Bananas	N	–	–	1.45	0.225	0.225	0.3	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
163030	Mangoes	N	–	–	2.32	0.825	1.21	1.5	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
163040	Papayas	N	–	–	2.4	2.12	n.c.	3	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
163050	Pomegranate	Y	–	70	7.58	n.c.	n.c.	70	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
163060	Cherimoyas	N	–	–	0.0578[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
163070	Guavas	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
163080	Pineapples	Y	–	20	20.2	11	15.1	20[(f)]	Tentative MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
163090	Breadfruits	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
163100	Durians	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
163110	Soursops/ guanabanas	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
211000	Potatoes	Y	–	150	41.3	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
212010	Cassava roots	N	–	–	0.0075[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
212020	Sweet potatoes	N	–	–	7.05	0.225	0.285	0.3	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
212030	Yams	N	–	–	0.0075[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
212040	Arrowroots	N	–	–	–	–	–	0.3	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on sweet potatoes (highest MoD among tropical roots). There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
213010	Beetroots	N	–	–	2.01	0.058	2.02	2	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
213020	Carrots	N	–	–	2.03	0.0750	0.975	1	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
213030	Celeriacs	Y	–	6	4.43	n.c.	n.c.	6	MRL derived from a GAP evaluated at EU level for fosetyl. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
213040	Horseradish	Y	–	150	4.43	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for disodium phosphonate and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
213050	Jerusalem artichokes	N	–	–	0.0578[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
213060	Parsnips	N	–	–	5.84	0.058	n.c.	6	MRL derived from available MoD, tentative approach based on the highest reported value corresponding to non-compliant sample. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
213070	Parsley roots	N	–	–	3.23	n.c.	n.c.	4	MRL derived from available MoD, tentative approach based on the highest reported value corresponding to non-compliant sample. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
213080	Radishes	Y	–	40	35	n.c.	n.c.	40	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
213090	Salsifies	N	–	–	0.0578[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
213100	Swedes	N	–	–	0.0578[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
213110	Turnips	N	–	–	0.0075[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
220010	Garlic	Y	–	20	0.141	n.c.	n.c.	20	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
220020	Onions	Y	–	40	29.1	n.c.	n.c.	40	MRL derived from a GAP evaluated at EU level for fosetyl. The GAP evaluated at EU level for potassium phosphonates and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
220030	Shallots	Y	–	20	5.55	n.c.	n.c.	20	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
220040	Spring onions	N	–	–	7.05	3.16	6.08	6	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
231010	Tomatoes	Y	8	70	18.3	n.c.	n.c.	70	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
231020	Sweet peppers	Y	7	70	7.58	n.c.	n.c.	70	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data and existing CXL are covered by the proposed MRL. GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
231020-001	Chili peppers	N	–	–	4.13	0.695	n.c.	70	Covered by the MRL derived for sweet peppers and based on GAP on potassium phosphonates.
231030	Aubergines	Y	–	70	10.2	n.c.	n.c.	70	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
231040	Okra	N	–	–	1.01	n.c.	n.c.	1	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
232010	Cucumbers	Y	60	80	27.9	n.c.	n.c.	80	MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data and the existing CXL are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
232020	Gherkins	Y	–	80	0.0075[(e)]	n.c.	n.c.	80	MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
232030	Courgettes	Y	70	80	14.1	n.c.	n.c.	80	MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data and the existing CXL are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
233010	Melons	Y	60	60	14.1	n.c.	n.c.	60	Tentative MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data and the existing CXL are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
233020	Pumpkins	Y	–	60	20	n.c.	n.c.	60	Tentative MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
233030	Watermelons	Y	–	60	4.5	n.c.	n.c.	60	Tentative MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
234000	Sweet corn	N	–	–	1.2	0.075	1.2	1.5	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
241010	Broccoli	Y	–	50	11.6	n.c.	n.c.	50	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
241020	Cauliflowers	Y	–	50	7.25	n.c.	n.c.	50	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
242010	Brussels sprouts	Y	–	2	7.05	0.225	0.225	2[(f)]	MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
242020	Head cabbages	Y	–	2	7.76	0.578	1.5	2[(f)]	MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
243010	Chinese cabbages	Y	–	20	9.57	n.c.	n.c.	20	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
243020	Kales	Y	–	20	3.12	n.c.	n.c.	20	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
244000	Kohlrabies	Y	–	5	13.1	0.698	2.22	5[(f)]	MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
251010	Lamb's lettuces	Y	–	150	2.12	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for fosetyl. The GAP evaluated at EU level for potassium phosphonates and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
251020	Lettuces	Y	200	200	96.8	n.c.	n.c.	200	MRL derived from the existing CXL. GAPs evaluated at EU level for fosetyl and potassium phosphonates and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
251030	Escaroles	Y	–	150	17	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for fosetyl. The GAP evaluated at EU level for potassium phosphonates and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
251040	Cresses and other sprouts and shoots	Y	–	150	0.0075[(e)]	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
251050	Land cresses	Y	–	150	0.0735	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
251060	Rucola	Y	–	150	113	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for fosetyl. The GAP evaluated at EU level for potassium phosphonates and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
251070	Red mustards	Y	–	150	–	–	–	150	MRL derived from a GAP evaluated at EU level for fosetyl. GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists. Monitoring data are not available.
251080	Baby leaf crops (including brassica species)	Y	–	150	–	–	–	150	MRL derived from a GAP evaluated at EU level for fosetyl. GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists. Monitoring data are not available.
252010	Spinaches	Y	20	200	44.6	n.c.	n.c.	200	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
252020	Purslanes	Y	–	100	0.0584	n.c.	n.c.	100	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
252030	Chards	Y	–	70	11.3	n.c.	n.c.	70	MRL derived from a GAP evaluated at EU level for fosetyl. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
253000	Grape leaves and similar species	N	–	–	0.116[(e)]	n.c.	n.c.	0.15	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
254000	Watercresses	N	–	–	0.0578[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
255000	Witloofs	Y	–	150	8.46	n.c.	n.c.	150	MRL derived from a GAP evaluated at EU level for fosetyl. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
256010	Chervil	Y	–	300	0.0578[(e)]	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
256020	Chives	Y	–	300	16.4	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
256030	Celery leaves	Y	–	300	0.225[(e)]	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
256030-004	Coriander leaves	Y	–	300	8.18	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
256040	Parsley	Y	–	300	53.1	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
256050	Sage	Y	–	300	0.0758	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
256060	Rosemary	Y	–	300	6.65	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
256070	Thyme	Y	–	300	0.75	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
256080	Basil and edible flowers	Y	–	300	139	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
256080-009	Basil (holy, sweet)	Y	–	300	2.93	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
256080-020	Mint	Y	–	300	1.31	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
256090	Laurel/bay leave	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data on all other fresh herbs are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
256100	Tarragon	Y	–	300	4.65	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for potassium phosphonates. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
260010	Beans (with pods)	N	–	–	6.98	0.713	1.28	1.5	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
260020	Beans (without pods)	N	–	–	–	–	–	0.2	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on peas (without pods). There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
260030	Peas (with pods)	N	–	–	24.3	1.5	1.5	1.5	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
260040	Peas (without pods)	N	–	–	0.161	0.058	0.161	0.2	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
260050	Lentils (fresh)	N	–	–	–	–	–	1.5	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on peas (with pods). There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
270010	Asparagus	Y	–	0.1	8.25	0.438	0.638	0.7	MRL derived from available MoD using CI95 approach. The GAP evaluated at EU level for fosetyl lead to a lower tentative MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
270020	Cardoons	N	–	–	–	–	–	0.1*	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on celeries. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
270030	Celeries	N	–	–	0.075[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
270040	Fennels	Y	–	1.5	7.76	0.075	n.c.	8	MRL derived from available MoD, tentative approach based on the highest reported value corresponding to non-compliant sample. The GAP evaluated at EU level for fosetyl lead to a lower MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
270050	Globe artichokes	Y	–	100	17.1	n.c.	n.c.	100	MRL derived from a GAP evaluated at EU level for fosetyl. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
270060	Leeks	Y	–	–	2.85	0.251	0.72	0.8	MRL derived from available MoD using CI95 approach. The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
270070	Rhubarbs	N	–	–	0.0866	0.225	0.225	0.3[(g)]	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
270080	Bamboo shoots	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
270090	Palm hearts	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
280010	Cultivated fungi	N	–	–	0.975	0.225	0.263	0.3	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
280020	Wild fungi	N	–	–	1.28	0.3	1.28	1.5	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
280990	Mosses and lichens	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
290000	Algae and prokaryotes organisms	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
300010	Beans (dry)	N	–	–	2.4	1.5	2.4	3	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
300020	Lentils (dry)	N	–	–	2.1	0.255	n.c.	3	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
300030	Peas (dry)	Y	–	–	3.63	n.c.	n.c.	4	MRL derived from available MoD, tentative approach based on the highest reported value. The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
300040	Lupins/lupini beans	N	–	–	–	–	–	3	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on beans (dry). There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
401010	Linseeds	N	–	–	0.289[(e)]	n.c.	n.c.	0.3	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401020	Peanuts	N	–	–	2.7	n.c.	n.c.	3	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401030	Poppy seeds	N	–	–	–	–	–	1.5	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on sunflower seeds. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401040	Sesame seeds	N	–	–	0.42	n.c.	n.c.	0.5	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401050	Sunflower seeds	N	–	–	1.31	0.338	n.c.	1.5	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401060	Rapeseeds	N	–	–	0.0375[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
401070	Soya beans	N	–	–	0.947	n.c.	n.c.	1	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401080	Mustard seeds	N	–	–	–	–	–	1.5	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on sunflower seeds. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401090	Cotton seeds	N	–	–	–	–	–	1.5	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on sunflower seeds. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401100	Pumpkin seeds	N	–	–	0.715	n.c.	n.c.	0.8	MRL derived from available MoD, tentative approach based on the highest reported value. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401110	Safflower seeds	N	–	–	–	–	–	1.5	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on sunflower seeds. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401120	Borage seeds	N	–	–	–	–	–	1.5	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on sunflower seeds. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
401130	Gold of pleasure seeds	N	–	–	–	–	–	1.5	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on sunflower seeds. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401140	Hemp seeds	N	–	–	–	–	–	1.5	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on sunflower seeds. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
401150	Castor beans	N	–	–	–	–	–	1.5	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on sunflower seeds. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
402010	Olives for oil production	Y	–	80	–	–	–	80	MRL derived from a GAP evaluated at EU level for potassium phosphonates. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. Monitoring data are not available.
402020	Oil palm kernels	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
402030	Oil palm fruits	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
402040	Kapok	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
500010	Barley	N	–	–	0.116[(e)]	n.c.	n.c.	0.15	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
500020	Buckwheat and other pseudo-cereals	N	–	–	1.8	0.469	1.8	2	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
500030	Maize	N	–	–	0.0075[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
500040	Millet	N	–	–	0.075[(e)]	n.c.	n.c.	0.1*	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
500050	Oat	N	–	–	0.116[(e)]	n.c.	n.c.	0.15	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
500060	Rice	N	–	–	5.64	1.5	3	3	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
500070	Rye	N	–	–	0.248	0.116	0.248	0.3[(g)]	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
500080	Sorghum	N	–	–	–	–	–	0.1*	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on maize. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
500090	Wheat	Y	–	80	1.88	n.c.	n.c.	80	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
610000	Teas	N	–	–	0.178	0.289	0.289	0.3[(g),(h)]	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
620000	Coffee beans	N	–	–	0.255[(e)]	n.c.	n.c.	0.3[(h)]	Tentative MRL derived from available MoD, all reported results < LOQ of reporting lab. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
631010	Chamomile flowers	Y	–	–	1.5	n.c.	n.c.	1.5[(h)]	MRL derived from available MoD, tentative approach based on the highest reported value. Extrapolated to all herbal infusions (dry flowers). The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
631020	Hibiscus/roselle	Y	–	–	–	–	–	1.5[(h)]	No monitoring data available. Tentative MRL derived from available MoD on chamomile flowers. The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
631030	Rose	Y	–	–	–	–	–	1.5[(h)]	No monitoring data available. Tentative MRL derived from available MoD on chamomile flowers. The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
631040	Jasmine	Y	–	–	–	–	–	1.5[(h)]	No monitoring data available. Tentative MRL derived from available MoD on chamomile flowers. The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
631050	Lime/linden flowers	Y	–	–	0.289[(e)]	n.c.	n.c.	1.5[(h)]	Only results from one sample available from the MoD. Tentative MRL derived from available MoD on chamomile flowers. The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
632010	Strawberry leaves	Y	–	1,500	–	–	–	1,500	MRL derived from a GAP evaluated at EU level for potassium phosphonates. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. Monitoring data are not available.
632020	Rooibos leaves	Y	–	1,500	0.289[(e)]	n.c.	n.c.	1,500	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
632030	Maté	Y	–	1,500	0.225[(e)]	n.c.	n.c.	1,500	MRL derived from a GAP evaluated at EU level for potassium phosphonates. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
633000	Herbal infusions (dried, roots)	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
640000	Cocoa beans	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
650000	Carobs/Saint John’s bread	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
700000	Hops	Y	1,500	1,500	54.8	n.c.	n.c.	1,500	MRL derived from the existing CXL. GAPs evaluated at EU level for fosetyl and monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate.
810010	Anise/aniseed	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
810020	Black caraway/ black cumin	Y	–	300	0.289[(e)]	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for fosetyl. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
810030	Celery	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
810040	Coriander	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
810050	Cumin	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
810060	Dill	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
810070	Fennel seed	Y	–	300	0.0375[(e)]	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for fosetyl. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
810080	Fenugreek	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
810090	Nutmeg	Y	–	300	1.13	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for fosetyl. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
820010	Allspice/pimento	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
820020	Sichuan pepper	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
820030	Caraway	Y		300	0.075[(e)]	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for fosetyl. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
820040	Cardamom	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
820050	Juniper berry	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
820060	Peppercorn (black, green and white)	Y		300	0.975	n.c.	n.c.	300	MRL derived from a GAP evaluated at EU level for fosetyl. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
820070	Vanilla	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
820080	Tamarind	Y	–	300	–	–	–	300	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
830000	Spices (bark)	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
840010	Liquorice	N	–	–	–	–	–	3[(h)]	No monitoring data available. Tentative MRL derived from available MoD on ginger.There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
840020	Ginger	N	–	–	2.55	0.453	n.c.	3[(h)]	MRL derived from available MoD, tentative approach based on the highest reported value. Extrapolated to all spices (roots and rhizome). There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
840030	Turmeric	N	–	–	–	–	–	3[(h)]	No monitoring data available. Tentative MRL derived from available MoD on ginger.There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
850000	Spices (buds)	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
860000	Spices (flower stigma)	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.

Code	Commodity	GAP authorised (Y/N)	Existing CXL (mg/kg)	Max MRL (mg/kg)[(a)]	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
					Max[(b)]	P95[(c)]	CI95 P95[(d)]		
870000	Spices (aril)	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
900010	Sugar beet roots	N	–	–	–	–	–	1	Monitoring data are not available. Tentative MRL extrapolated from monitoring data on carrots. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
900020	Sugar canes	N	–	–	–	–	–	–	No MRL can be derived. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
900030	Chicory roots	Y	–	70	–	–	–	70	MRL derived from a GAP evaluated at EU level for fosetyl. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.

n.c.: not calculated; MRL: maximum residue level; CXL: codex maximum residue limit; GAP: Good Agricultural Practice; MoD: monitoring data; LOQ: limit of quantification.
(*): MRL proposed at the LOQ for enforcement.
(a): At least one relevant GAP or CXL reported during this review is supported by data for this commodity; the reported value represents the highest MRL among the existing CXL, and the MRL derived from the available trials on fosetyl, disodium phosphonate and potassium phosphonates.
(b): Highest value found in the monitoring data from 2015 to 2018 (see Annex A).
(c): Percentile 95th (P95); when monitoring data were available and the MRL proposal derived from GAP and trials was lower than the max value of the monitoring data or when no MRL proposals could be derived from the reported GAP, the P95 was calculated. This parameter could only be calculated when at least 20 results were available. Residues below LOQ were included in the calculation by replacing them by the LOQ of the reporting laboratory (upper bound scenario).
(d): Upper confidence interval (CI95) of the calculated P95. The CI95 could only be calculated when at least 59 results were available. Residues below LOQ were included in the calculation by replacing them by the LOQ of the reporting laboratory (upper bound scenario).
(e): All monitoring data reported below LOQ of reporting laboratory.
(f): The highest value found in the monitoring data was higher than the MRL derived from the GAP, but MRL derived from monitoring data based on CI95 approach leads to lower MRL than the one derived from trials.
(g): CI95 driven by LOQs, which are higher than the maximum reported measured value.
(h): The derived MRL is lower than the proposed LOQ of the available method for enforcement in complex matrices. Therefore the derived MRL should be considered tentative only and should be confirmed by an analytical method validated at a lower LOQ.

B.2. Residues in livestock

Relevant groups (subgroups)	Dietary burden expressed in				Most critical subgroup[(a)]	Most critical commodity[(b)]	Trigger exceeded (Y/N)	Comments
	mg/kg bw per day		mg/kg DM					
	Median	Maximum	Median	Maximum				
Cattle (all)	7.564	11.584	242.27	346.78	Dairy cattle	Potato process waste	Y	–
Cattle (dairy only)	7.564	11.584	196.67	301.18	Dairy cattle	Potato process waste	Y	–
Sheep (all)	8.031	11.781	240.93	353.43	Ram/Ewe	Potato process waste	Y	–
Sheep (ewe only)	8.031	11.781	240.93	353.43	Ram/Ewe	Potato process waste	Y	–
Swine (all)	3.972	7.759	172.11	329.69	Swine (finishing)	Potato culls	Y	–
Poultry (all)	4.305	7.849	60.99	109.89	Turkey	Potato culls	Y	–
Poultry (layer only)	3.748	6.326	54.78	92.45	Poultry layer	Potato culls	Y	–

bw: body weight; DM: dry matter.
(a): When one group of livestock includes several subgroups (e.g. poultry 'all' including broiler, layer and turkey), the result of the most critical subgroup is identified from the maximum dietary burdens expressed as 'mg/kg bw per day'.
(b): The most critical commodity is the major contributor identified from the maximum dietary burden expressed as 'mg/kg bw per day'.

B.2.1. Nature of residues and methods of analysis in livestock

B.2.1.1. Metabolism studies, methods of analysis and residue definitions in livestock

Livestock (available studies)	**Animal**	**Dose (mg/kg bw per day)**	**Duration (days)**	**Comment/Source**
	Fosetyl			
	Laying hen	–	–	No metabolism study is available but based on the simple nature of the molecule and the extensive metabolism shown in the goat metabolism studies, a study investigating the metabolism of fosetyl-Al and phosphonic acid in poultry was considered not necessary (EFSA, 2018e).
	Goat	0.51	7	Metabolism study evaluated in the framework of the peer review for the renewal of fosetyl (EFSA, 2018e).
		1.46 and 1.5	7	Metabolism study evaluated in the framework of the peer review for the renewal of fosetyl (EFSA, 2018e).
		0.42 and 0.43	7	Metabolism study evaluated in the framework of the peer review for the renewal of fosetyl (EFSA, 2018e).
	Pig	–	–	Not available and not required (metabolism in rat and ruminants is similar)
	Potassium phosphonates			
	No livestock metabolism study was available for potassium phosphonates. Nevertheless, considering the results of the metabolism study performed with fosetyl on ruminants and the simple nature of phosphonic acid, no additional study is required.			
	Disodium phosphonates			
	Not required as disodium phosphonate is not authorised for use on commodities that might be fed to livestock.			

bw: body weight.

Time needed to reach a plateau concentration in milk and eggs (days)	Milk: Day 2 to day 3 of dosing.	-
	Eggs: Day 2 to day 3 of dosing.	-
Metabolism in rat and ruminant similar	yes	-
Can a general residue definition be proposed for animals?	yes	-
Animal residue definition for monitoring (RD-Mo)	Phosphonic acid	
Animal residue definition for risk assessment (RD-RA)	Phosphonic acid	
Fat soluble residues	No	Log Po/w: 2.1
Methods of analysis for monitoring of residues (analytical technique, matrix groups, LOQs)	Milk, eggs, meat, kidney and liver (France, 2018a): • LC-MS/MS • LOQ 0.05 mg (phosphonic acid)/kg in tissues and eggs and 0.01 mg (phosphonic acid)/kg in milk. • ILV available • Extraction efficiency missing but not required (EFSA, 2018e,g) Honey (France, 2018a): • LC-MS/MS • LOQ 0.05 mg (phosphonic acid)/kg • No ILV available and extraction efficiency missing but not required (EFSA, 2018e,g)	

B.2.1.2. Stability of residues in livestock

<table>
<tr><th rowspan="2">Animal products (available studies)</th><th rowspan="2">Animal</th><th rowspan="2">Commodity</th><th rowspan="2">T (°C)</th><th colspan="2">Stability period</th><th rowspan="2">Compounds covered</th><th rowspan="2">Comment/Source</th></tr>
<tr><th>Value</th><th>Unit</th></tr>
<tr><td rowspan="6"></td><td>Bovine</td><td>Muscle</td><td>–</td><td>–</td><td>–</td><td>–</td><td rowspan="6">Storage stability data on phosphonic acid in animal matrices were not submitted and are not required as samples from the lactating cow feeding studies were analysed within one month. No information on the storage conditions of the samples from the hens feeding studies is available. However, the peer review for the renewal of fosetyl concluded that, based on the elementary nature of the residues it is considered unlikely that significant degradation occurred (EFSA, 2018e).</td></tr>
<tr><td>Bovine</td><td>Fat</td><td>–</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Bovine</td><td>Liver</td><td>–</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Bovine</td><td>Kidney</td><td>–</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Bovine</td><td>Milk</td><td>–</td><td>–</td><td>–</td><td>–</td></tr>
<tr><td>Poultry</td><td>Eggs</td><td>–</td><td>–</td><td>–</td><td>–</td></tr>
</table>

B.2.2. Magnitude of residues in livestock

B.2.2.1. Summary of the residue data from livestock feeding studies

Animal commodity	Residues at the closest feeding level (mg/kg)		Estimated value at 1N		MRL proposal (mg/kg)
	Mean	Highest	STMR[(a)] (mg/kg)	HR[(b)] (mg/kg)	
Cattle (all) – Closest feeding level (11 mg/kg bw; 0.9N Dairy cattle (highest diet))[(c)]					
Muscle	< 0.50	< 0.50	0.50	0.51	**0.6 (tentative)**[(d)]
Fat	0.88	1.50	0.61	1.61	**2 (tentative)**[(d)]
Liver	0.55	0.61	0.50	0.87	**0.9 (tentative)**[(d)]
Kidney	3.83	4.60	2.64	6.65	**7 (tentative)**[(d)]
Cattle (dairy only) – Closest feeding level (11 mg/kg bw; 0.9N Dairy cattle)[(c)]					
Milk	0.22	n.a.	0.15	0.32	**0.4 (tentative)**[(d)]
Sheep (all)[(e)] – Closest feeding level (11 mg/kg bw; 0.9N Ram/Ewe (highestdiet))[(c)]					
Muscle	< 0.50	< 0.50	0.50	0.51	**0.6 (tentative)**[(d)]
Fat	0.88	1.50	0.65	1.64	**2 (tentative)**[(d)]
Liver	0.55	0.61	0.50	0.89	**0.9 (tentative)**[(d)]
Kidney	3.83	4.60	2.81	6.81	**7 (tentative)**[(d)]
Sheep (ewe only)[(e)] – Closest feeding level (11 mg/kg bw; 0.9N Ewe)[(c)]					
Milk	0.22	n.a.	0.27	0.32	**0.4 (tentative)**[(d)]
Swine (all)[(e)] – Closest feeding level (11 mg/kg bw; 1.4N Finishing (highest diet))[(c)]					
Muscle	< 0.50	< 0.50	0.50	0.50	**0.5 (tentative)**[(d)]
Fat	0.88	1.50	0.50	1.06	**1.5 (tentative)**[(d)]
Liver	0.55	0.61	0.50	0.50	**0.5 (tentative)**[(d)]
kidney	3.83	4.60	1.38	3.58	**4 (tentative)**[(d)]
Poultry (all) – Closest feeding level (11 mg/kg bw; 1.5N Turkey (highest diet))[(c)]					
Muscle	< 0.5	< 0.5	0.5	0.5	**0.5 (tentative)**[(d)]
Fat	< 0.5	< 0.5	0.5	0.5	**0.5 (tentative)**[(d)]
Liver	< 0.5	< 0.5	0.5	0.5	**0.5 (tentative)**[(d)]
Poultry (layer only) – Closest feeding level (11 mg/kg bw; 1.8N Layer)[(c)]					
Eggs	< 0.5	< 0.5	0.5	0.5	**0.5 (tentative)**[(d)]

*: Indicates that the MRL is proposed at the limit of quantification.
n.a.: not applicable; n.r. : not reported.
(a): Median residues expressed according to the residue definition for monitoring, recalculated at the 1N rate for the median dietary burden.
(b): Highest residues expressed according to the residue definition for monitoring, recalculated at the 1N rate for the maximum dietary burden.
(c): Closest feeding level and N dose rate related to the maximum dietary burden.

(d): Considering that tentative processing factors for potatoes process waste and dried pulp were used to calculate the dietary burdens and potatoes were the main contributor of the livestock exposure, the derived MRLs for livestock should be considered tentative only.

(e): Since extrapolation from cattle to other ruminants and swine is acceptable, results of the livestock feeding study on ruminants were relied upon to derive the MRL and risk assessment values in sheep and swine.

B.2.2.2. Proposed MRL based on livestock dietary burden calculations and livestock feeding studies, existing CXLs and monitoring data

Code Number	Commodity	MRL Livestock feeding studies (mg/kg)	Existing CXL (mg/kg)	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
				Max[(a)]	P95[(b)]	CI95 P95[(c)]		
1011010	Swine muscle	0.5	0.15	–	–	–	0.5	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1011020	Swine fat tissue	1.5	0.2	–	–	–	1.5	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1011030	Swine liver	0.5	0.5	–	–	–	0.5	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1011040	Swine kidney	4	0.5	–	–	–	4	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1012010	Bovine muscle	0.6	0.15	–	–	–	0.6	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1012020	Bovine fat tissue	2	0.2	–	–	–	2	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1012030	Bovine liver	0.9	0.5	–	–	–	0.9	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1012040	Bovine kidney	7	0.5	–	–	–	7	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1013010	Sheep muscle	0.6	0.15	–	–	–	0.6	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1013020	Fat (sheep)	2	0.2	0.0075 [(d)]	n.c.	n.c.	2	Tentative MRL derived from feeding studies. Existing CXL and available monitoring data covered by the proposed MRL.

Code Number	Commodity	MRL Livestock feeding studies (mg/kg)	Existing CXL (mg/kg)	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
				Max[(a)]	P95[(b)]	CI95 P95[(c)]		
1013030	Sheep liver	0.9	0.5	–	–	–	0.9	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1013040	Sheep kidney	7	0.5	–	–	–	7	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1014010	Goat muscle	0.6	0.15	–	–	–	0.6	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1014020	Goat fat tissue	2	0.2	–	–	–	2	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1014030	Goat liver	0.9	0.5	–	–	–	0.9	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1014040	Goat kidney	7	0.5	–	–	–	7	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1015010	Equine muscle	0.6	0.15	–	–	–	0.6	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1015020	Equine fat tissue	2	0.2	–	–	–	2	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1015030	Equine liver	0.9	0.5	–	–	–	0.9	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1015040	Equine kidney	7	0.5	–	–	–	7	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1016010	Poultry muscle	0.5	–	–	–	–	0.5	Tentative MRL derived from feeding studies. No CXL available. No monitoring data available.

Code Number	Commodity	MRL Livestock feeding studies (mg/kg)	Existing CXL (mg/kg)	Monitoring data (mg/kg)			MRL proposal (mg/kg)	Comment
				Max[(a)]	P95[(b)]	CI95 P95[(c)]		
1016020	Fat (poultry)	0.5	–	0.0075 [(d)]	n.c.	n.c.	0.5	Tentative MRL derived from feeding studies. Available monitoring data covered by the proposed MRL. No CXL available.
1016030	Poultry liver	0.5	-	-	-	-	0.5	Tentative MRL derived from feeding studies. No CXL available. No monitoring data available.
1020010	Milk (cattle)	0.4	0.1	0.075[(d)]	n.c.	n.c.	0.4	Tentative MRL derived from feeding studies. Existing CXL and available monitoring data covered by the proposed MRL.
1020020	Sheep milk	0.4	0.1	–	–	–	0.4	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1020030	Milk (goat)	0.4	0.1	0.075[(d)]	n.c.	n.c.	0.4	Tentative MRL derived from feeding studies. Existing CXL and available monitoring data covered by the proposed MRL.
1020040	Horse milk	0.4	0.1	–	–	–	0.4	Tentative MRL derived from feeding studies. Existing CXL covered by the proposed MRL. No monitoring data available.
1030000	Eggs (chicken)	0.5	–	0.015[(d)]	n.c.	n.c.	0.5	Tentative MRL derived from feeding studies. Available monitoring data covered by the proposed MRL. No CXL available.
1040000	Honey and other apicultural products	–	–	0.255	0.075	0.255	0.3	MRL derived from available MoD using CI95 approach. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.

n.c.: not calculated; MRL: maximum residue level; CXL: codex maximum residue limit.
(a): Highest value found in the monitoring data from 2015 to 2018 (see Annex A).
(b): Percentile 95th (P95); for animal tissues, eggs and milk, MRL proposals derived from livestock feeding studies were higher than max monitoring data (when available) and P95 was not calculated. For honey, the P95 was calculated (n > 20). Residues below LOQ were included in the calculation by replacing them by the LOQ of the reporting laboratory (upper bound scenario).
(c): Upper confidence interval (CI95) of the calculated P95. For honey (n > 59), CI95 was calculated. Residues below LOQ were included in the calculation by replacing them by the LOQ of the reporting laboratory (upper bound scenario).
(d): All monitoring data reported below LOQ of reporting laboratory.

B.3. Consumer risk assessment considering all sources of exposure and including the existing CXLs

Acute risk assessment not relevant since no ARfD has been considered necessary.

ADI	**Scenario 1 (TRV currently in place for phosphonic acid):** 2.25 mg/kg bw per day (European Commission, 2012). **Scenario 2 (TRV not yet endorsed):** 1 mg/kg bw per day (EFSA, 2018e).
TMDI according to EFSA PRIMo	Not assessed in this review.
NTMDI, according to (to be specified)	Not assessed in this review.
Highest IEDI, according to EFSA PRIMo (rev.3.1)	**Scenario 1 (TRV currently in place for phosphonic acid):** 36% ADI (NL toddler) **Scenario 2 (TRV not yet endorsed):** 80% ADI (NL toddler)
NEDI (% ADI)	Not assessed in this review.
Assumptions made for the calculations	**Scenario 1 and 2:** A comprehensive consumer risk assessment was performed, as detailed below. **Crops on which GAPs are authorised and sufficiently supported by residue trials and/or CXLs are established and monitoring data are available**: the risk assessment input values derived from the supervised residue trials and by the JMPR were compared the highest residue values were selected for the exposure calculation, except for asparagus for which both MRL proposal and risk assessment input values were driven by monitoring data. This approach is based on the assumption that the three substances under consideration are not used together on the same crop. **Crops for which no GAPs are authorized or the authorised GAPs are not supported by data, no CXLs are established and monitoring data were available**: the calculated mean from the monitoring data was used as input value for risk assessment in line with the approach followed in the annual report on pesticide residues. **Crops for which no GAPs are authorized, no CXLs are established and monitoring data are not available**: the following extrapolations were proposed, considering a similar morphology and the robustness of the monitoring data available: arrowroots (extrapolation from sweet potatoes), beans without pods (extrapolation from peas, without pods), lentils fresh (extrapolation from peas, with pods), cardoons (extrapolation from celeries), lupins (extrapolation from beans, dry), poppy seeds, mustard seeds, cotton seeds, safflower seeds, borage seeds, Gold of pleasure seeds, hemp seeds, castor beans (extrapolation from sunflower seeds), sorghum (extrapolation from maize), spices (roots and rhizome) (extrapolation from ginger), sugar beet root (extrapolation from carrots). **Crops for which GAPs are authorised but not supported by residue trials, no CXLs are**

	established, no monitoring data are available and no extrapolation was possible: EFSA considered the existing MRL recalculated as phosphonic acid, for an indicative calculation. For **animal commodities**, EFSA considered the input values as derived from the available livestock feeding studies as they are higher compared to the residue levels of phosphonic acid from the monitoring data in milk, eggs and tissues and the median from the available monitoring data on honey. The calculation is based on the raw agricultural commodities, except for citrus fruits, cucurbits with inedible peel, avocados and pineapples where the peeling factors were also applied.

ADI: acceptable daily intake; bw: body weight; NEDI: national estimated daily intake; PRIMo: (EFSA) Pesticide Residues Intake Model; WHO: World Health Organization; TMDI: theoretical maximum daily intake; NTMDI: national theoretical maximum daily intake.

Consumer exposure assessment through drinking water resulting from groundwater metabolite(s) according to SANCO/221/2000 rev.10 Final (25/02/2003)

Metabolite(s)	Not assessed in this review.
ADI (mg/kg bw per day)	Not assessed in this review.
Intake of groundwater metabolites (% ADI)	Not assessed in this review.

B.4. Proposed MRLs

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
Enforcement residue definition (existing): fosetyl-Al (sum of fosetyl, phosphonic acid and their salts, expressed as fosetyl) **Enforcement residue definition 1 (proposed):** phosphonic acid and its salts expressed as phosphonic acid					
110010	Grapefruit	75	–	100	Further consideration needed[(a)] data gap #1
110020	Oranges	75	20	100	Further consideration needed[(b)] data gap #1
110030	Lemons	75	–	100	Recommended[(c)]
110040	Limes	75	–	100	Recommended[(c)]
110050	Mandarins	75	50	100	Recommended[(d)]
120010	Almonds	500	400	1,000	Recommended[(e)]
120020	Brazil nuts	500	400	400	Recommended[(e)]
120030	Cashew nuts	500	400	400	Recommended[(e)]
120040	Chestnuts	500	400	1,000	Recommended[(f)]
120050	Coconuts	500	400	400	Recommended[(g)]
120060	Hazelnuts	500	400	1,000	Recommended[(e)]
120070	Macadamia	500	400	400	Recommended[(h)]
120080	Pecans	500	400	400	Recommended[(e)]
120090	Pine nuts	500	400	400	Recommended[(h)]
120100	Pistachios	500	400	1,000	Recommended[(h)]
120110	Walnuts	500	400	1,000	Recommended[(e)]

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
130010	Apples	150	50	70	Further consideration needed[b] data gap #1
130020	Pears	150	50	70	Further consideration needed[b] data gap #1
130030	Quinces	150	50	70	Recommended[d]
130040	Medlar	150	50	70	Recommended[d]
130050	Loquat	150	50	70	Recommended[i]
140010	Apricots	2.0*	–	60	Recommended[j]
140020	Cherries	2.0*	–	2	Further consideration needed[k] data gap #1
140030	Peaches	50	–	60	Recommended[l]
140040	Plums	2.0*	–	1	Further consideration needed[k] data gap #1
151010	Table grapes	100	60	100	Recommended[m]
151020	Wine grapes	100	60	150	Recommended[m]
152000	Strawberries	100	70	70	Recommended[n]
153010	Blackberries	300	–	200	Recommended[c]
153020	Dewberries	2.0*	–	80	Recommended[o]
153030	Raspberries	300	–	200	Recommended[c]
154010	Blueberries	80	–	150	Recommended[p]
154020	Cranberries	2.0*	–	0.1*	Further consideration needed[q] data gap #1
154030	Currants (red, black and white)	80	–	150	Recommended[p]
154040	Gooseberries	80	–	150	Recommended[p]
154050	Rose hips	2.0*	–	1.5	Further consideration needed[r] data gap #1
154060	Mulberries	2.0*	–	1.5	Further consideration needed[r] data gap #1
154070	Azarole (Mediterranean medlar)	50	50	50	Recommended[s]
154080	Elderberries	80	–	60	Recommended[o]
161010	Dates	2.0*	–	0.15	Further consideration needed[t] data gap #3
161020	Figs	2.0*	–	0.3	Further consideration needed[u] data gap #3
161030	Table olives	2.0*	–	80	Recommended[o]
161040	Kumquats	2.0*	–	3	Further consideration needed[u] data gap #3
161050	Carambola	2.0*	–	0.7	Further consideration needed[u] data gap #3
161060	Persimmon	50	50	50	Recommended[v]
161070	Jambolan (java plum)	2.0*	–	1.5	Further consideration needed[w] data gap #3
162010	Kiwi	150	–	100	Recommended[x]
162020	Lychee (Litchi)	2.0*	–	0.3	Further consideration needed[u] data gap #3
162030	Passion fruit	2.0*	–	20	Further consideration needed[u] data gap #3
162040	Prickly pear (cactus fruit)	2.0*	–	0.1*	Further consideration needed[t] data gap #3
162050	Star apple	2.0*	–	0.1*	Further consideration needed[t] data gap #3
162060	American persimmon (Virginia kaki)	2.0*	–	1.5	Further consideration needed[w] data gap #3
163010	Avocados	50	20	50	Recommended[d]
163020	Bananas	2.0*	–	0.3	Further consideration needed[y]
163030	Mangoes	2.0*	–	1.5	Further consideration needed[y]
163040	Papaya	2.0*	–	3	Further consideration needed[u] data gap #3
163050	Pomegranate	2.0*	–	70	Recommended[p]
163060	Cherimoya	2.0*	–	0.1*	Further consideration needed[t] data gap #3

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
163070	Guava	2.0*	–	1.5	Further consideration needed[w] data gap #3
163080	Pineapples	50	–	20	Further consideration needed[a] data gap #1
163090	Bread fruit	2.0*	–	1.5	Further consideration needed[w] data gap #3
163100	Durian	2.0*	–	1.5	Further consideration needed[w] data gap #3
163110	Soursop (guanabana)	2.0*	–	1.5	Further consideration needed[w] data gap #3
211000	Potatoes	40	–	150	Recommended[c]
212010	Cassava	2.0*	–	0.1*	Further consideration needed[t] data gap #3
212020	Sweet potatoes	2.0*	–	0.3	Further consideration needed[y]
212030	Yams	2.0*	–	0.1*	Further consideration needed[t] data gap #3
212040	Arrowroot	2.0*	–	0.3	Further consideration needed[z] data gap #3
213010	Beetroot	2.0*	–	2	Further consideration needed[y]
213020	Carrots	2.0*	–	1	Further consideration needed[y]
213030	Celeriac	8	–	6	Recommended[x]
213040	Horseradish	2.0*	–	150	Recommended[aa]
213050	Jerusalem artichokes	2.0*	–	0.1*	Further consideration needed[t] data gap #3
213060	Parsnips	2.0*	–	6	Further consideration needed[bb] data gap #3
213070	Parsley root	2.0*	–	4	Further consideration needed[bb] data gap #3
213080	Radishes	25	–	40	Recommended[c]
213090	Salsify	2.0*	–	0.1*	Further consideration needed[t] data gap #3
213100	Swedes	2.0*	–	0.1*	Further consideration needed[t] data gap #3
213110	Turnips	2.0*	–	0.1*	Further consideration needed[t] data gap #3
220010	Garlic	2.0*	–	20	Recommended[p]
220020	Onions	50	–	40	Recommended[l]
220030	Shallots	2.0*	–	20	Recommended[p]
220040	Spring onions	30	–	6	Further consideration needed[y]
231010	Tomatoes	100	8	70	Recommended[d]
231020	Peppers	130	7	70	Recommended[f]
231030	Aubergines (egg plants)	100	–	70	Recommended[c]
231040	Okra, lady's fingers	2.0*	–	1	Further consideration needed[u] data gap #3
232010	Cucumbers	80	60	80	Recommended[cc]
232020	Gherkins	75	–	80	Recommended[j]
232030	Courgettes	100	70	80	Recommended[cc]
233010	Melons	75	60	60	Further consideration needed[dd] data gap #2
233020	Pumpkins	75	–	60	Further consideration needed[ee] data gap #2
233030	Watermelons	75	–	60	Further consideration needed[ee] data gap #2
234000	Sweet corn	5	–	1.5	Further consideration needed[y]
241010	Broccoli	10	–	50	Recommended[c]
241020	Cauliflower	10	–	50	Recommended[c]
242010	Brussels sprouts	10	–	2	Recommended[ff]
242020	Head cabbage	10	–	2	Recommended[ff]
243010	Chinese cabbage	10	–	20	Recommended[c]
243020	Kale	10	–	20	Recommended[c]
244000	Kohlrabi	10	–	5	Recommended[ff]
251010	Lamb's lettuce	75	–	150	Recommended[l]

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
251020	Lettuce	300	200	200	Recommended[gg]
251030	Scarole (broad-leaf endive)	75	–	150	Recommended[l]
251040	Cress	75	–	150	Recommended[j]
251050	Land cress	75	–	150	Recommended[j]
251060	Rocket, Rucola	75	–	150	Recommended[l]
251070	Red mustard	75	–	150	Recommended[hh]
251080	Leaves and sprouts of Brassica spp	75	–	150	Recommended[hh]
252010	Spinach	75	20	200	Recommended[d]
252020	Purslane	2.0*	–	100	Recommended[p]
252030	Beet leaves (chard)	15	–	70	Recommended[x]
253000	Vine leaves (grape leaves)	2.0*	–	0.15	Further consideration needed[t] data gap #3
254000	Water cress	2.0*	–	0.1*	Further consideration needed[t] data gap #3
255000	Witloof	75	–	150	Recommended[j]
256010	Chervil	75	–	300	Recommended[c]
256020	Chives	75	–	300	Recommended[c]
256030	Celery leaves	75	–	300	Recommended[c]
256040	Parsley	75	–	300	Recommended[c]
256050	Sage	75	–	300	Recommended[c]
256060	Rosemary	75	–	300	Recommended[c]
256070	Thyme	75	–	300	Recommended[c]
256080	Basil	75	–	300	Recommended[c]
256090	Bay leaves (laurel)	75	–	300	Recommended[c]
256100	Tarragon	75	–	300	Recommended[c]
260010	Beans (fresh, with pods)	2.0*	–	1.5	Further consideration needed[y]
260020	Beans (fresh, without pods)	2.0*	–	0.2	Further consideration needed[z] data gap #3
260030	Peas (fresh, with pods)	2.0*	–	1.5	Further consideration needed[y]
260040	Peas (fresh, without pods)	2.0*	–	0.2	Further consideration needed[y]
260050	Lentils (fresh)	2.0*	–	1.5	Further consideration needed[z] data gap #3
270010	Asparagus	2.0*	–	0.7	Further consideration needed[ii] data gap #2
270020	Cardoons	2.0*	–	0.1*	Further consideration needed[z] data gap #3
270030	Celery	2.0*	–	0.1*	Further consideration needed[t] data gap #3
270040	Fennel	2.0*	–	8	Further consideration needed[jj] data gap #3
270050	Globe artichokes	50	–	100	Recommended[x]
270060	Leek	30	–	0.8	Further consideration needed[kk] data gap #2
270070	Rhubarb	2.0*	–	0.3	Further consideration needed[ll]
270080	Bamboo shoots	2.0*	–	1.5	Further consideration needed[w] data gap #3
270090	Palm hearts	2.0*	–	1.5	Further consideration needed[w] data gap #3
280010	Cultivated fungi	2.0*	–	0.3	Further consideration needed[y]
280020	Wild fungi	2.0*	–	1.5	Further consideration needed[y]

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
280990	Mosses and lichens	2.0*	–	1.5	Further consideration needed(w) data gap #3
290000	Algae and prokaryotes organisms	2.0*	–	1.5	Further consideration needed(w) data gap #3
300010	Beans	2.0*	–	3	Further consideration needed(y)
300020	Lentils	2.0*	–	3	Further consideration needed(u) data gap #3
300030	Peas	2.0*	–	4	Further consideration needed(mm) data gaps #2,3
300040	Lupins/lupini beans	2.0*	–	3	Further consideration needed(z) data gap #3
401010	Linseeds	2.0*	–	0.3	Further consideration needed(t) data gap #3
401020	Peanuts/ groundnuts	2.0*	–	3	Further consideration needed(u) data gap #3
401030	Poppy seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401040	Sesame seeds	2.0*	–	0.5	Further consideration needed(u) data gap #3
401050	Sunflower seeds	2.0*	–	1.5	Further consideration needed(u) data gap #3
401060	Rapeseeds/ canola seeds	2.0*	–	0.1*	Further consideration needed(t) data gap #3
401070	Soya beans	2.0*	–	1	Further consideration needed(u) data gap #3
401080	Mustard seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401090	Cotton seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401100	Pumpkin seeds	2.0*	–	0.8	Further consideration needed(u) data gap #3
401110	Safflower seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401120	Borage seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401130	Gold of pleasure seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401140	Hemp seeds	2.0*	–	1.5	Further consideration needed(z) data gap #3
401150	Castor beans	2.0*	–	1.5	Further consideration needed(z) data gap #3
402010	Olives for oil production	2.0*	–	80	Recommended(o)
402020	Oil palm kernels	2.0*	–	1.5	Further consideration needed(w) data gap #3
402030	Oil palm fruits	2.0*	–	1.5	Further consideration needed(w) data gap #3
402040	Kapok	2.0*	–	1.5	Further consideration needed(w) data gap #3
500010	Barley	2.0*	–	0.15	Further consideration needed(t) data gap #3
500020	Buckwheat and other pseudo-cereals	2.0*	–	2	Further consideration needed(y)
500030	Maize/corn	2.0*	–	0.1*	Further consideration needed(t) data gap #3
500040	Common millet/ proso millet	2.0*	–	0.1*	Further consideration needed(t) data gap #3
500050	Oat	2.0*	–	0.15	Further consideration needed(t) data gap #3
500060	Rice	2.0*	–	3	Further consideration needed(y)
500070	Rye	2.0*	–	0.3	Further consideration needed(ll)
500080	Sorghum	2.0*	–	0.1*	Further consideration needed(z) data gap #3
500090	Wheat grains	2.0*	–	80	Recommended(p)
610000	Tea (dried leaves of *Camellia sinensis*)	5.0*	–	0.3	Further consideration needed(ll) data gap #4
620000	Coffee beans	5.0*	–	0.3	Further consideration needed(t) data gaps #3,4

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
631000	Herbal infusions (dried, flowers)	500	–	1.5	Further consideration needed[(mm)] data gaps #2,3,4
632010	Strawberry leaves	500	–	1,500	Recommended[(o)]
632020	Rooibos	500	–	1,500	Recommended[(p)]
632030	Mate/maté	500	–	1,500	Recommended[(p)]
633000	Herbal infusions (dried, roots)	500	–	400	Further consideration needed[(w)] data gap #3
640000	Cocoa beans	2.0*	–	1.5	Further consideration needed[(w)] data gaps #3,4
650000	Carobs/Saint John's bread	2.0*	–	1.5	Further consideration needed[(w)] data gaps #3,4
700000	Hops	1,500	1,500	1,500	Recommended[(nn)]
810010	Anise/aniseed	400	–	300	Recommended[(oo)]
810020	Black caraway/ black cumin	400	–	300	Recommended[(x)]
810030	Celery	400	–	300	Recommended[(oo)]
810040	Coriander	400	–	300	Recommended[(oo)]
810050	Cumin	400	–	300	Recommended[(oo)]
810060	Dill	400	–	300	Recommended[(oo)]
810070	Fennel seed	400	–	300	Recommended[(x)]
810080	Fenugreek	400	–	300	Recommended[(oo)]
810090	Nutmeg	400	–	300	Recommended[(x)]
820010	Allspice/pimento	400	–	300	Recommended[(oo)]
820020	Sichuan pepper	400	–	300	Recommended[(oo)]
820030	Caraway	400	–	300	Recommended[(x)]
820040	Cardamom	400	–	300	Recommended[(oo)]
820050	Juniper berry	400	–	300	Recommended[(oo)]
820060	Peppercorn (black, green and white)	400	–	300	Recommended[(x)]
820070	Vanilla	400	–	300	Recommended[(oo)]
820080	Tamarind	400	–	300	Recommended[(oo)]
830000	Spices (bark)	400	–	300	Further consideration needed[(w)] data gap #3
840000	Spices (roots and rhizome)	400	–	3	Further consideration needed[(u)] data gaps #3,4
850000	Spices (buds)	400	–	300	Further consideration needed[(w)] data gap #3
860000	Spices (flower stigma)	400	–	300	Further consideration needed[(w)] data gap #3
870000	Spices (aril)	400	–	300	Further consideration needed[(w)] data gap #3
900010	Sugar beet roots	2.0*	–	1	Further consideration needed[(z)] data gap #3
900020	Sugar canes	2.0*	–	1.5	Further consideration needed[(w)] data gap #3
900030	Chicory roots	75	–	70	Recommended[(oo)]
Enforcement residue definition (existing): fosetyl-Al (sum of fosetyl, phosphonic acid and their salts, expressed as fosetyl)**Enforcement residue definition 2 (proposed):** phosphonic acid					
1011010	Swine meat	0.5*	0.15	0.5	Further consideration needed[(pp)] data gap #5
1011020	Swine fat (free of lean meat)	0.5*	0.2	1.5	Further consideration needed[(pp)] data gap #5
1011030	Swine liver	0.5	0.5	0.5	Further consideration needed[(pp)] data gap #5
1011040	Swine kidney	0.5	0.5	4	Further consideration needed[(pp)] data gap #5

Code number	Commodity	Existing EU MRL (mg/kg)	Existing CXL (mg/kg)	Outcome of the review	
				MRL (mg/kg)	Comment
1012010	Bovine meat	0.5*	0.15	0.6	Further consideration needed[pp] data gap #5
1012020	Bovine fat	0.5*	0.2	2	Further consideration needed[pp] data gap #5
1012030	Bovine liver	0.5	0.5	0.9	Further consideration needed[pp] data gap #5
1012040	Bovine kidney	0.5	0.5	7	Further consideration needed[pp] data gap #5
1013010	Sheep meat	0.5*	0.15	0.6	Further consideration needed[pp] data gap #5
1013020	Sheep fat	0.5*	0.2	2	Further consideration needed[qq] data gap #5
1013030	Sheep liver	0.5	0.5	0.9	Further consideration needed[pp] data gap #5
1013040	Sheep kidney	0.5	0.5	7	Further consideration needed[pp] data gap #5
1014010	Goat meat	0.5*	0.15	0.6	Further consideration needed[pp] data gap #5
1014020	Goat fat	0.5*	0.2	2	Further consideration needed[pp] data gap #5
1014030	Goat liver	0.5	0.5	0.9	Further consideration needed[pp] data gap #5
1014040	Goat kidney	0.5	0.5	7	Further consideration needed[pp] data gap #5
1015010	Horse meat	0.5*	0.15	0.6	Further consideration needed[pp] data gap #5
1015020	Horse fat	0.5*	0.2	2	Further consideration needed[pp] data gap #5
1015030	Horse liver	0.5	0.5	0.9	Further consideration needed[pp] data gap #5
1015040	Horse kidney	0.5	0.5	7	Further consideration needed[pp] data gap #5
1016010	Poultry meat	0.5*	0.5	0.5	Further consideration needed[rr] data gap #5
1016020	Poultry fat	0.5*	–	0.5	Further consideration needed[ss] data gap #5
1016030	Poultry liver	0.5*	–	0.5	Further consideration needed[rr] data gap #5
1020010	Cattle milk	0.1	0.1	0.4	Further consideration needed[qq] data gap #5
1020020	Sheep milk	0.1	0.1	0.4	Further consideration needed[pp] data gap #5
1020030	Goat milk	0.1	0.1	0.4	Further consideration needed[qq] data gap #5
1020040	Horse milk	0.1	0.1	0.4	Further consideration needed[pp] data gap #5
1030000	Birds' eggs	0.1*	–	0.5	Further consideration needed[ss] data gap #5
1040000	Honey	0.5*	–	0.3	Further consideration needed[y]

MRL: maximum residue level; CXL: codex maximum residue limit.
*: Indicates that the MRL is set at the limit of quantification.
(a): Tentative MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
(b): Tentative MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(c): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for fosetyl and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
(d): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for fosetyl, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(e): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. Monitoring data and existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.
(f): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. Monitoring data and existing CXL are covered by the proposed MRL. GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(g): MRL derived from the existing CXL. No risk to consumers identified. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate.
(h): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The existing CXL is covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. Monitoring data are not available.
(i): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for fosetyl and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. Monitoring data are not available.

(j): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
(k): MRL derived from available MoD using CI95 approach. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
(l): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.
(m): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. GAPs evaluated at EU level for fosetyl and for disodium phosphonate, the monitoring data and the existing CXL are covered by the proposed MRL.
(n): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates, the monitoring data and the existing CXL are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(o): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. Monitoring data are not available.
(p): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
(q): Tentative MRL derived from available monitoring data, all reported results < LOQ of reporting lab. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists.
(r): No MRL can be derived and the existing EU MRL recalculated as phosphonic acid was considered in the risk assessment for an indicative calculation. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No CXL exists. No monitoring data available.
(s): MRL derived from the existing CXL. No risk to consumers identified. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate. No monitoring data available.
(t): Tentative MRL derived from available monitoring data, all reported results < LOQ of reporting lab. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(u): MRL derived from available monitoring data, tentative approach based on the highest reported value. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(v): MRL derived from the existing CXL. No risk to consumers identified. Monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for fosetyl and disodium phosphonate.
(w): No MRL can be derived and the existing EU MRL recalculated as phosphonic acid was considered in the risk assessment for an indicative calculation. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists. No monitoring data available.
(x): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. Monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
(y): MRL derived from available monitoring data using CI95 approach. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(z): Monitoring data are not available. Tentative MRL extrapolated from monitoring data on a similar crop. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(aa): MRL derived from a GAP evaluated at EU level for potassium phosphonates. No risk to consumers identified. The GAP evaluated at EU level for disodium phosphonate and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for fosetyl. No CXL exists.
(bb): MRL derived from available MoD, tentative approach based on the highest reported value corresponding to **non-compliant** sample. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(cc): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The monitoring data and the existing CXL are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(dd): Tentative MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The monitoring data and the existing CXL are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(ee): Tentative MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The monitoring data are covered by the proposed MRL. The GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists.

(ff): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. The monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
(gg): MRL derived from the existing CXL. No risk to consumers identified. GAPs evaluated at EU level for fosetyl and potassium phosphonates and the monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate.
(hh): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. GAP evaluated at EU level for potassium phosphonates is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for disodium phosphonate. No CXL exists. Monitoring data are not available.
(ii): MRL derived from available monitoring data using CI95 approach. No risk to consumers identified. The GAP evaluated at EU level for fosetyl lead to a lower tentative MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
(jj): MRL derived from available monitoring data, tentative approach based on the highest reported value corresponding to **non-compliant** sample. No risk to consumers identified. The GAP evaluated at EU level for fosetyl lead to a lower MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Further considerations by risk managers is required on whether an MRL of 1.5 mg/kg as derivable from the trials available for the use of fosetyl on this crop should be considered instead.
(kk): MRL derived from available monitoring data using CI95 approach. No risk to consumers identified. The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
(ll): MRL derived from available monitoring data using CI95 approach (**CI95 driven by an LOQ which is higher than the maximum reported measured value**). No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for fosetyl, potassium phosphonates and disodium phosphonate. No CXL exists.
(mm): MRL derived from available monitoring data, tentative approach based on the highest reported value. No risk to consumers identified. The GAP evaluated at EU level for fosetyl is not supported by data. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists.
(nn): MRL derived from the existing CXL. No risk to consumers identified. GAPs evaluated at EU level for fosetyl and monitoring data are covered by the proposed MRL. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate.
(oo): MRL derived from a GAP evaluated at EU level for fosetyl. No risk to consumers identified. There are no relevant authorisations or import tolerances reported at EU level for potassium phosphonates and disodium phosphonate. No CXL exists. Monitoring data are not available.
(pp): Tentative MRL derived from feeding studies. No risk to consumers identified. Existing CXL covered by the proposed MRL. No monitoring data available.
(qq): Tentative MRL derived from feeding studies. No risk to consumers identified. Existing CXL and available monitoring data covered by the proposed MRL.
(rr): Tentative MRL derived from feeding studies. No risk to consumers identified. No monitoring data available. No CXL exists.
(ss): Tentative MRL derived from feeding studies. No risk to consumers identified. Available monitoring data covered by the proposed MRL. No CXL exists.

Appendix C – Pesticide Residue Intake Model (PRIMo)

- PRIMo(Scenario 1)

European Food Safety Authority

EFSA PRIMo revision 3.1; 2021/01/06

Phosphonic acid

LOQs (mg/kg) range from:	0.1	to:	0.10
Toxicological reference values			
ADI (mg/kg bw per day):	2.25	ARfD (mg/kg bw):	not necessary
Source of ADI:	EC	Source of ARfD:	EC
Year of evaluation:	2012	Year of evaluation:	2012

Input values

Details – chronic risk assessment | Supplementary results – chronic risk assessment

Details – acute risk assessment/children | Details – acute risk assessment/adults

Comments:

Normal mode

Chronic risk assessment: JMPR methodology (IEDI/TMDI)

No of diets exceeding the ADI : ---

TMDI/NEDI/IEDI calculation (based on average food consumption)

Calculated exposure (% of ADI)	MS Diet	Exposure (µg/kg bw per day)	Highest contributor to MS diet (in % of ADI)	Commodity/ group of commodities	2nd contributor to MS diet (in % of ADI)	Commodity/ group of commodities	3rd contributor to MS diet (in % of ADI)	Commodity/ group of commodities	Exposure resulting from MRLs set at the LOQ (in % of ADI)	Exposure resulting from commodities not under assessment (in % of ADI)
36%	NL toddler	804.95	10%	Apples	5%	Potatoes	4%	Wheat		36%
33%	DE child	742.36	11%	Apples	4%	Wheat	3%	Potatoes		33%
24%	NL child	534.59	5%	Apples	4%	Wheat	4%	Potatoes		24%
22%	GEMS/Food G06	503.10	7%	Wheat	2%	Potatoes	2%	Tomatoes		22%
19%	GEMS/Food G08	429.70	5%	Potatoes	4%	Wheat	2%	Wine grapes		19%
19%	GEMS/Food G11	425.98	5%	Potatoes	4%	Wheat	2%	Wine grapes		19%
19%	GEMS/Food G07	416.70	4%	Potatoes	4%	Wheat	2%	Wine grapes		19%
18%	PT general	410.42	6%	Potatoes	4%	Wheat	4%	Wine grapes		18%
18%	RO general	397.92	5%	Wheat	4%	Potatoes	3%	Wine grapes		18%
17%	GEMS/Food G15	383.75	5%	Wheat	4%	Potatoes	2%	Wine grapes		17%
17%	IE adult	378.43	3%	Potatoes	2%	Wheat	2%	Wine grapes		17%
17%	FR child 3 15 yr	375.11	5%	Wheat	2%	Oranges	2%	Potatoes		17%
16%	GEMS/Food G10	367.38	4%	Wheat	4%	Potatoes	0.9%	Tomatoes		16%
14%	DK child	321.81	5%	Wheat	3%	Potatoes	2%	Apples		14%
14%	SE general	320.29	5%	Potatoes	3%	Wheat	0.9%	Apples		14%
14%	UK toddler	316.58	4%	Potatoes	4%	Wheat	2%	Apples		14%
14%	ES child	310.72	5%	Wheat	2%	Potatoes	1%	Oranges		14%
14%	FR toddler 2 3 yr	303.98	3%	Wheat	3%	Apples	2%	Potatoes		14%
13%	DE women 14-50 yr	285.31	2%	Apples	2%	Wheat	1%	Wine grapes		13%
13%	IT toddler	284.73	7%	Wheat	1%	Potatoes	0.9%	Tomatoes		13%
12%	FI 3 yr	273.76	6%	Potatoes	1%	Wheat	1%	Cucumbers		12%
12%	NL general	268.82	3%	Potatoes	2%	Wheat	1%	Apples		12%
12%	DE general	264.19	2%	Apples	2%	Wheat	1%	Potatoes		12%
11%	UK infant	238.81	4%	Potatoes	3%	Wheat	1%	Apples		11%
10%	FR adult	234.89	4%	Wine grapes	2%	Wheat	0.9%	Potatoes		10%
10%	ES adult	224.19	2%	Wheat	1%	Potatoes	1.0%	Lettuces		10%
10%	FI 6 yr	218.20	5%	Potatoes	1%	Wheat	0.8%	Cucumbers		10%
9%	IT adult	213.66	4%	Wheat	0.7%	Tomatoes	0.7%	Potatoes		9%
8%	UK vegetarian	190.04	2%	Wheat	2%	Potatoes	1%	Wine grapes		8%
8%	PL general	189.68	4%	Potatoes	2%	Apples	0.6%	Tomatoes		8%
8%	LT adult	181.93	4%	Potatoes	2%	Apples	1%	Wheat		8%
7%	UK adult	167.42	2%	Wheat	2%	Wine grapes	2%	Potatoes		7%
7%	FR infant	165.23	2%	Potatoes	2%	Apples	0.8%	Wheat		7%
7%	DK adult	162.32	2%	Potatoes	2%	Wine grapes	1%	Wheat		7%
5%	FI adult	115.33	1%	Potatoes	0.5%	Apples	0.5%	Wine grapes		5%
3%	IE child	62.12	1%	Wheat	0.7%	Potatoes	0.3%	Apples		3%

Conclusion:
The estimated long-term dietary intake (TMDI/NEDI/IEDI) was below the ADI.
The long-term intake of residues of Phosphonic acid is unlikely to present a public health concern.
DISCLAIMER: Dietary data from the UK were included in PRIMO when the UK was a member of the European Union.

Acute risk assessment/children	Acute risk assessment/adults/general population
Details – acute risk assessment/children	Details – acute risk assessment/adults

As an ARfD is not necessary/not applicable, no acute risk assessment is performed.

Show results for all crops

Unprocessed commodities

Results for children No. of commodities for which ARfD/ADI is exceeded (IESTI):	---			**Results for adults** No. of commodities for which ARfD/ADI is exceeded (IESTI):	---		
IESTI				**IESTI**			
Highest % of ARfD/ADI	Commodities	MRL/input for RA (mg/kg)	Exposure (µg/kg bw)	Highest % of ARfD/ADI	Commodities	MRL/input for RA (mg/kg)	Exposure (µg/kg bw)
Expand/collapse list							
Total number of commodities exceeding the ARfD/ADI in children and adult diets (IESTI calculation)							

Processed commodities

Results for children No of processed commodities for which ARfD/ADI is exceeded (IESTI):	---			**Results for adults** No of processed commodities for which ARfD/ADI is exceeded (IESTI):	---		
IESTI				**IESTI**			
Highest % of ARfD/ADI	Processed commodities	MRL/input for RA (mg/kg)	Exposure (µg/kg bw)	Highest % of ARfD/ADI	Processed commodities	MRL/input for RA (mg/kg)	Exposure (µg/kg bw)
Expand/collapse list							

Conclusion:

- PRIMo(Scenario 2)

efsa
European Food Safety Authority
EFSA PRIMo revision 3.1; 2021/01/06

Phosphonic acid

LOQs (mg/kg) range from:	0.1	to:	0.10
Toxicological reference values			
ADI (mg/kg bw per day):	1	ARfD (mg/kg bw):	not necessary
Source of ADI:	EFSA	Source of ARfD:	EFSA
Year of evaluation:	2018	Year of evaluation:	2018

Input values

Details – chronic risk assessment | Supplementary results – chronic risk assessment

Details – acute risk assessment/children | Details – acute risk assessment/adults

Comments:

Normal mode

Chronic risk assessment: JMPR methodology (IEDI/TMDI)

No of diets exceeding the ADI : ---

TMDI/NEDI/IEDI calculation (based on average food consumption)

Calculated exposure (% of ADI)	MS Diet	Expsoure (µg/kg bw per day)	Highest contributor to MS diet (in % of ADI)	Commodity/ group of commodities	2nd contributor to MS diet (in % of ADI)	Commodity/ group of commodities	3rd contributor to MS diet (in % of ADI)	Commodity/ group of commodities	Exposure resulting from MRLs set at the LOQ (in % of ADI)	Exposure resulting from commodities not under assessment (in % of ADI)
80%	NL toddler	804.95	22%	Apples	11%	Potatoes	9%	Wheat		80%
74%	DE child	742.36	25%	Apples	10%	Wheat	7%	Potatoes		74%
53%	NL child	534.59	12%	Apples	10%	Wheat	9%	Potatoes		53%
50%	GEMS/Food G06	503.10	17%	Wheat	5%	Potatoes	5%	Tomatoes		50%
43%	GEMS/Food G08	429.70	11%	Potatoes	9%	Wheat	4%	Wine grapes		43%
43%	GEMS/Food G11	425.98	11%	Potatoes	8%	Wheat	4%	Wine grapes		43%
42%	GEMS/Food G07	416.70	10%	Potatoes	10%	Wheat	5%	Wine grapes		42%
41%	PT general	410.42	14%	Potatoes	9%	Wheat	9%	Wine grapes		41%
40%	RO general	397.92	12%	Wheat	10%	Potatoes	6%	Wine grapes		40%
38%	GEMS/Food G15	383.75	11%	Wheat	10%	Potatoes	4%	Wine grapes		38%
38%	IE adult	378.43	6%	Potatoes	5%	Wheat	4%	Wine grapes		38%
38%	FR child 3 15 yr	375.11	11%	Wheat	5%	Oranges	4%	Potatoes		38%
37%	GEMS/Food G10	367.38	9%	Wheat	8%	Potatoes	2%	Tomatoes		37%
32%	DK child	321.81	10%	Wheat	7%	Potatoes	5%	Apples		32%
32%	SE general	320.29	11%	Potatoes	7%	Wheat	2%	Apples		32%
32%	UK toddler	316.58	9%	Potatoes	9%	Wheat	3%	Apples		32%
31%	ES child	310.72	10%	Wheat	5%	Potatoes	3%	Oranges		31%
30%	FR toddler 2 3 yr	303.98	7%	Wheat	6%	Apples	5%	Potatoes		30%
29%	DE women 14-50 yr	285.31	5%	Apples	5%	Wheat	3%	Wine grapes		29%
28%	IT toddler	284.73	15%	Wheat	2%	Potatoes	2%	Tomatoes		28%
27%	FI 3 yr	273.76	13%	Potatoes	3%	Wheat	3%	Cucumbers		27%
27%	NL general	268.82	7%	Potatoes	4%	Wheat	3%	Apples		27%
26%	DE general	264.19	5%	Apples	4%	Wheat	3%	Potatoes		26%
24%	UK infant	238.81	9%	Potatoes	6%	Wheat	3%	Apples		24%
23%	FR adult	234.89	8%	Wine grapes	5%	Wheat	2%	Potatoes		23%
22%	ES adult	224.19	5%	Wheat	3%	Potatoes	2%	Lettuces		22%
22%	FI 6 yr	218.20	10%	Potatoes	2%	Wheat	2%	Cucumbers		22%
21%	IT adult	213.66	10%	Wheat	2%	Tomatoes	2%	Potatoes		21%
19%	UK vegetarian	190.04	5%	Wheat	4%	Potatoes	3%	Wine grapes		19%
19%	PL general	189.68	9%	Potatoes	4%	Apples	1%	Tomatoes		19%
18%	LT adult	181.93	9%	Potatoes	4%	Apples	2%	Wheat		18%
17%	UK adult	167.42	4%	Wheat	4%	Wine grapes	4%	Potatoes		17%
17%	FR infant	165.23	5%	Potatoes	3%	Apples	2%	Wheat		17%
16%	DK adult	162.32	3%	Potatoes	3%	Wine grapes	3%	Wheat		16%
12%	FI adult	115.33	3%	Potatoes	1%	Apples	1%	Wine grapes		12%
6%	IE child	62.12	3%	Wheat	2%	Potatoes	0.7%	Apples		6%

Conclusion:
The estimated long-term dietary intake (TMDI/NEDI/IEDI) was below the ADI.
The long-term intake of residues of Phosphonic acid is unlikely to present a public health concern.
DISCLAIMER: Dietary data from the UK were included in PRIMO when the UK was a member of the European Union.

Acute risk assessment/children	Acute risk assessment/adults/general population
Details – acute risk assessment/children	Details – acute risk assessment/adults

As an ARfD is not necessary/not applicable, no acute risk assessment is performed.

Show results for all crops

Unprocessed commodities

Results for children No. of commodities for which ARfD/ADI is exceeded (IESTI):	---			**Results for adults** No. of commodities for which ARfD/ADI is exceeded (IESTI):	---		
IESTI				**IESTI**			
Highest % of ARfD/ADI	Commodities	MRL / input for RA (mg/kg)	Exposure (µg/kg bw)	Highest % of ARfD/ADI	Commodities	MRL / input for RA (mg/kg)	Exposure (µg/kg bw)
Expand/collapse list							
Total number of commodities exceeding the ARfD/ADI in children and adult diets (IESTI calculation)							

Processed commodities

Results for children No of processed commodities for which ARfD/ADI is exceeded (IESTI):	---			**Results for adults** No of processed commodities for which ARfD/ADI is exceeded (IESTI):	---		
IESTI				**IESTI**			
Highest % of ARfD/ADI	Processed commodities	MRL/input for RA (mg/kg)	Exposure (µg/kg bw)	Highest % of ARfD/ADI	Processed commodities	MRL/input for RA (mg/kg)	Exposure (µg/kg bw)
Expand/collapse list							

Conclusion:

Appendix D – Input values for the exposure calculations

D.1. Livestock dietary burden calculations

Feed commodity	Median dietary burden		Maximum dietary burden	
	Input value (mg/kg)	Comment	Input value (mg/kg)	Comment
Risk assessment residue definition 1: phosphonic acid and its salts, expressed as phosphonic acid				
Kale leaves (forage)	4.9	STMR (potassium phosphonates)	9.9	HR (potassium phosphonates)
Triticale straw	19.8	STMR (potassium phosphonates)	81.4	HR (potassium phosphonates)
Wheat straw	19.8	STMR (potassium phosphonates)	81.4	HR (potassium phosphonates)
Carrot culls	0.07	Mean (monitoring data)	2.03	HR (monitoring data)
Cassava/tapioca roots	0.01	Mean (monitoring data, tentative)	0.01	HR (monitoring data, tentative)
Potato culls	26.9	STMR (potassium phosphonates)	88.6	HR (potassium phosphonates)
Swede roots	0.03	Mean (monitoring data, tentative)	0.06	HR (monitoring data, tentative)
Turnip roots	0.01	Mean (monitoring data, tentative)	0.01	HR (monitoring data, tentative)
Barley grain	0.04	Mean (monitoring data, tentative)	0.04	Mean (monitoring data, tentative)
Bean seed (dry)	0.34	Mean (monitoring data)	0.34	Mean (monitoring data)
Corn, field (Maize) grain	0.01	Mean (monitoring data, tentative)	0.01	Mean (monitoring data, tentative)
Corn, pop grain	0.01	Mean (monitoring data, tentative)	0.01	Mean (monitoring data, tentative)
Cotton undelinted seed	0.09	Mean (monitoring data extrapolated from sunflower seeds, tentative)	0.09	Mean (monitoring data, extrapolated from sunflower seeds tentative)
Cowpea seed	0.34	Mean (monitoring data, extrapolated from beans (dry), tentative)	0.34	Mean (monitoring data, extrapolated from beans (dry), tentative)
Lupin seed	0.34	Mean (monitoring data, extrapolated from beans (dry), tentative)	0.34	Mean (monitoring data, extrapolated from beans (dry), tentative)
Millet grain	0.02	Mean (monitoring data, tentative)	0.02	Mean (monitoring data, tentative)
Oat grain	0.06	Mean (monitoring data, tentative)	0.06	Mean (monitoring data, tentative)
Pea (Field pea) seed (dry)	0.59	Mean (monitoring data, tentative)	0.59	Mean (monitoring data, tentative)
Rye grain	0.08	Mean (monitoring data)	0.08	Mean (monitoring data)
Sorghum grain	0.01	Mean (monitoring data, extrapolated from maize, tentative)	0.01	Mean (monitoring data, extrapolated from maize, tentative)
Soybean seed	0.12	Mean (monitoring data, tentative)	0.12	Mean (monitoring data, tentative)
Triticale grain	23.1	STMR (potassium phosphonates)	23.1	STMR (potassium phosphonates)
Wheat grain	23.1	STMR (potassium phosphonates)	23.1	STMR (potassium phosphonates)
Apple pomace, wet	21.5	STMR (potassium phosphonates, tentative) × PF (1.1, potassium phosphonates)	21.5	STMR (potassium phosphonates, tentative) × PF (1.1, potassium phosphonates)

Feed commodity	Median dietary burden		Maximum dietary burden	
	Input value (mg/kg)	**Comment**	**Input value (mg/kg)**	**Comment**
Beet, sugar dried pulp	1.26	Mean (monitoring data, extrapolated from carrots, tentative) × default PF (18)[(a)]	1.26	Mean (monitoring data, extrapolated from carrots, tentative) × default PF (18)[(a)]
Beet, sugar ensiled pulp	0.21	Mean (monitoring data, extrapolated from carrots, tentative) × default PF (3)[(a)]	0.21	Mean (monitoring data, extrapolated from carrots, tentative) × default PF (3)[(a)]
Beet, sugar molasses	1.96	Mean (monitoring data, extrapolated from carrots, tentative) × default PF (28)[(a)]	1.96	Mean (monitoring data, extrapolated from carrots, tentative) × default PF (28)[(a)]
Brewer's grain dried	0.12	Mean (monitoring data, tentative) × default PF (3.3)[(a)]	0.12	Mean (monitoring data, tentative) × default PF (3.3)[(a)]
Canola (Rape seed) meal	0.08	Mean (monitoring data, tentative) × default PF (2)[(a)]	0.08	Mean (monitoring data, tentative) × default PF (2)[(a)]
Grapefruits and oranges, dried pulp	74.76	STMR (potassium phosphonates, tentative) × PF (3.2 potassium phosphonates, tentative)	74.76	STMR (potassium phosphonates, tentative) × PF (3.2 potassium phosphonates, tentative)
Lemons, limes and mandarins, dried pulp	74.76	STMR (potassium phosphonates) × PF (3.2 potassium phosphonates, tentative)	74.76	STMR (potassium phosphonates) × PF (3.2 potassium phosphonates, tentative)
Coconut meal	0.09	Mean (monitoring data, tentative) × default PF (1.5)[(a)]	0.09	Mean (monitoring data, tentative) × default PF (1.5)[(a)]
Corn, field milled by-pdts	0.01	Mean (monitoring data, tentative) × default PF (1)[(a)]	0.01	Mean (monitoring data, tentative) × default PF (1)[(a)]
Corn, field hominy meal	0.05	Mean (monitoring data, tentative) × default PF (6)[(a)]	0.05	Mean (monitoring data, tentative) × default PF (6)[(a)]
Corn, field gluten feed	0.02	Mean (monitoring data, tentative) × default PF (2.5)[(a)]	0.02	Mean (monitoring data, tentative) × default PF (2.5)[(a)]
Corn, field gluten, meal	0.01	Mean (monitoring data, tentative) × default PF (1)[(a)]	0.01	Mean (monitoring data, tentative) × default PF (1)[(a)]
Cotton meal	0.11	Mean (monitoring data, extrapolated from sunflower seeds, tentative) × default PF (1.3)[(a)]	0.11	Mean (monitoring data, extrapolated from sunflower seeds, tentative) × default PF (1.3)[(a)]
Distiller's grain dried	76.3	STMR (potassium phosphonates) × default PF (3.3)[(a)]	76.3	STMR (potassium phosphonates) × default PF (3.3)[(a)]
Flaxseed/Linseed meal	0.44	Mean (monitoring data, tentative) × default PF (2)[(a)]	0.44	Mean (monitoring data, tentative) × default PF (2)[(a)]
Lupin seed meal	0.38	Mean (monitoring data, extrapolated from beans (dry), tentative) × default PF (1.1)[(a)]	0.38	Mean (monitoring data, extrapolated from beans (dry), tentative) × default PF (1.1)[(a)]
Peanut meal	2.22	Mean (monitoring data, tentative) × default PF (2)[(a)]	2.22	Mean (monitoring data, tentative) × default PF (2)[(a)]
Potato process waste	57.8	STMR (potassium phosphonates) × PF (2.2, potassium phosphonates, tentative)	57.8	STMR (potassium phosphonates) × PF (2.2, potassium phosphonates, tentative)

Feed commodity	Median dietary burden		Maximum dietary burden	
	Input value (mg/kg)	Comment	Input value (mg/kg)	Comment
Potato dried pulp	129	STMR (potassium phosphonates) × PF (4.8, potassium phosphonates, tentative)	129	STMR (potassium phosphonates) × PF (4.8, potassium phosphonates, tentative)
Rape meal	0.08	Mean (monitoring data, tentative) × default PF (2)[(a)]	0.08	Mean (monitoring data, tentative) × default PF (2)[(a)]
Rice bran/pollard	2.18	Mean (monitoring data) × default PF (10)[(a)]	2.18	Mean (monitoring data) × default PF (10)[(a)]
Safflower meal	0.17	Mean (monitoring data, extrapolated from sunflower seeds, tentative) × default PF (2)[(a)]	0.17	Mean (monitoring data, extrapolated from sunflower seeds, tentative) × default PF (2)[(a)]
Soybean meal	0.16	Mean (monitoring data, tentative) × default PF (1.3)[(a)]	0.16	Mean (monitoring data, tentative) × default PF (1.3)[(a)]
Soybean hulls	1.61	Mean (monitoring data, tentative) × default PF (13)[(a)]	1.61	Mean (monitoring data, tentative) × default PF (13)[(a)]
Sunflower meal	0.17	Mean (monitoring data, tentative) × default PF (2)[(a)]	0.17	Mean (monitoring data, tentative) × default PF (2)[(a)]
Wheat gluten meal	4.63	STMR (potassium phosphonates) × PF (0.2, potassium phosphonates, tentative)	4.63	STMR (potassium phosphonates) × PF (0.2, potassium phosphonates, tentative)
Wheat milled by-pdts	25.4	STMR (potassium phosphonates) × PF (1.1, potassium phosphonates, tentative)	25.4	STMR (potassium phosphonates) × PF (1.1, potassium phosphonates, tentative)
Risk assessment residue definition 2: sum of fosetyl, phosphonic acid and their salts, expressed as phosphonic acid				
Cabbage, heads leaves	0.2	STMR × CF (fosetyl)	1.3	HR × CF (fosetyl)

STMR: supervised trials median residue; HR: highest residue; PF: processing factor.
(a): In the absence of processing factors supported by data, default the processing factor of was included in the calculation to consider the potential concentration of residues in these commodities.

D.2. Consumer risk assessment considering all sources of phosphonic acid and including the existing CXLs

Commodity	Chronic risk assessment	
	Input value (mg/kg)	Comment
Risk assessment residue definition 1: phosphonic acid and its salts, expressed as phosphonic acid		
Grapefruits Oranges	15.5	STMR (potassium phosphonates, tentative) × PF (0.66, potassium phosphonates)
Lemons Limes Mandarins	15.5	STMR (potassium phosphonates) × PF (0.66, potassium phosphonates)
Almonds Chestnuts Hazelnuts/cobnuts Pistachios Walnuts	359	STMR (potassium phosphonates)

Commodity	Chronic risk assessment	
	Input value (mg/kg)	Comment
Brazil nuts Cashew nuts Macadamias Pecans Pine nut kernels	64.5	STMR (potassium phosphonates)
Coconuts	54.0	STMR (CXL)
Apples Pears	20.3	STMR (potassium phosphonates, tentative)
Quinces Medlars Loquats/Japanese medlars	20.3	STMR (potassium phosphonates)
Cherries (sweet)	0.32	Mean (monitoring data)
Plums	0.13	Mean (monitoring data)
Table grapes	32.2	STMR (potassium phosphonates)
Wine grapes	35.7	STMR (potassium phosphonates)
Strawberries	20.5	STMR (potassium phosphonates)[(a)]
Blackberries	58.2	STMR (potassium phosphonates)
Dewberries	23.9	STMR (potassium phosphonates)
Raspberries (red and yellow)	58.2	STMR (potassium phosphonates)
Blueberries	42.3	STMR (potassium phosphonates)
Cranberries	0.04	Mean (monitoring data, tentative)
Currants (black, red and white)	42.3	STMR (potassium phosphonates)
Gooseberries (green, red and yellow)	42.3	STMR (potassium phosphonates)
Rose hips	1.5	EU MRL
Mulberries (black and white)	1.5	EU MRL
Azaroles/Mediterranean medlars	15.0	STMR (CXL)
Elderberries	18.4	STMR (potassium phosphonates)
Dates	0.04	Mean (monitoring data, tentative)
Figs	0.03	Mean (monitoring data, tentative)
Table olives	23.0	STMR (potassium phosphonates)
Kumquats	0.24	Mean (monitoring data, tentative)
Carambolas	0.09	Mean (monitoring data, tentative)
Kaki/Japanese persimmons	15.0	STMR (CXL)
Jambuls/jambolans	1.5	EU MRL
Litchis/lychees	0.05	Mean (monitoring data, tentative)
Passionfruits/maracujas	1.07	Mean (monitoring data, tentative)
Prickly pears/cactus fruits	0.02	Mean (monitoring data, tentative)
Star apples/cainitos	0.02	Mean (monitoring data, tentative)
American persimmon/Virginia kaki	1.5	EU MRL
Avocados	16.4	STMR (potassium phosphonates) $\times$ PF (1.1, potassium phosphonates)
Bananas	0.05	Mean (monitoring data)
Mangoes	0.15	Mean (monitoring data)
Papayas	0.24	Mean (monitoring data, tentative)
Granate apples/pomegranates	24.8	STMR (potassium phosphonates)
Cherimoyas	0.03	Mean (monitoring data, tentative)
Guavas	1.5	EU MRL

Commodity	Chronic risk assessment	
	Input value (mg/kg)	Comment
Pineapples	4.33	STMR (potassium phosphonates, tentative) × PF (0.83, fosetyl, tentative)
Breadfruits	1.50	EU MRL
Durians	1.50	EU MRL
Soursops/guanabanas	1.50	EU MRL
Potatoes	26.9	STMR (potassium phosphonates)
Cassava roots/manioc	0.01	Mean (monitoring data, tentative)
Sweet potatoes	0.13	Mean (monitoring data)
Yams	0.01	Mean (monitoring data, tentative)
Arrowroots	0.13	Mean (monitoring data, tentative, tentative)
Beetroots	0.08	Mean (monitoring data)
Carrots	0.07	Mean (monitoring data)
Horseradishes	41.2	STMR (potassium phosphonates)
Jerusalem artichokes	0.02	Mean (monitoring data, tentative)
Parsnips	0.24	Mean (monitoring data, tentative)
Parsley roots/Hamburg roots parsley	0.21	Mean (monitoring data, tentative)
Radishes	13.2	STMR (potassium phosphonates)
Salsifies	0.02	Mean (monitoring data, tentative)
Swedes/rutabagas	0.03	Mean (monitoring data, tentative)
Turnips	0.01	Mean (monitoring data, tentative)
Garlic	4.40	STMR (potassium phosphonates)
Shallots	4.40	STMR (potassium phosphonates)
Spring onions/green onions and Welsh onions	0.54	Mean (monitoring data)
Sweet peppers/bell peppers	5.11	STMR (potassium phosphonates)
Aubergines/eggplants	12.7	STMR (potassium phosphonates)
Okra/lady's fingers	0.11	Mean (monitoring data, tentative)
Sweet corn	0.05	Mean (monitoring data)
Broccoli	11.4	STMR (potassium phosphonates)
Cauliflowers	11.4	STMR (potassium phosphonates)
Chinese cabbages/pe-tsai	4.90	STMR (potassium phosphonates)
Kales	4.90	STMR (potassium phosphonates)
Lamb's lettuces/corn salads	32.8	STMR (potassium phosphonates)[(a)]
Lettuces	41.0	STMR (CXL)
Escaroles/broad-leaved endives	32.8	STMR (potassium phosphonates)[(a)]
Roman rocket/rucola	32.8	STMR (potassium phosphonates)[(a)]
Spinaches	47.0	STMR (potassium phosphonates)
Purslanes	32.8	STMR (potassium phosphonates)
Grape leaves and similar species	0.10	Mean (monitoring data, tentative)
Watercress	0.02	Mean (monitoring data, tentative)
Fresh herbs	98.3	STMR (potassium phosphonates)
Beans (with pods)	0.14	Mean (monitoring data)
Beans (without pods)	0.01	Mean (monitoring data, tentative)
Peas (with pods)	0.31	Mean (monitoring data)
Peas (without pods)	0.01	Mean (monitoring data)
Lentils (fresh)	0.31	Mean (monitoring data, tentative)
Asparagus	0.14	Mean (monitoring data)

Commodity	Chronic risk assessment	
	Input value (mg/kg)	Comment
Cardoons	0.02	Mean (monitoring data, tentative)
Celeries	0.02	Mean (monitoring data, tentative)
Leeks	0.07	Mean (monitoring data)
Rhubarbs	0.04	Mean (monitoring data)
Bamboo shoots	1.5	EU MRL
Palm hearts	1.5	EU MRL
Cultivated fungi	0.06	Mean (monitoring data)
Wild fungi	0.06	Mean (monitoring data)
Mosses and lichens	1.5	EU MRL
Algae and prokaryotes organisms	1.5	EU MRL
Beans	0.34	Mean (monitoring data)
Lentils	0.11	Mean (monitoring data, tentative)
Peas	0.59	Mean (monitoring data, tentative)
Lupins/lupini beans	0.34	Mean (monitoring data, tentative)
Linseeds	0.22	Mean (monitoring data, tentative)
Peanuts/groundnuts	1.11	Mean (monitoring data, tentative)
Poppy seeds	0.09	Mean (monitoring data, tentative)
Sesame seeds	0.15	Mean (monitoring data, tentative)
Sunflower seeds	0.09	Mean (monitoring data, tentative)
Rapeseeds/canola seeds	0.04	Mean (monitoring data, tentative)
Soya beans	0.12	Mean (monitoring data, tentative)
Mustard seeds	0.09	Mean (monitoring data, tentative)
Cotton seeds	0.09	Mean (monitoring data, tentative)
Pumpkin seeds	0.10	Mean (monitoring data, tentative)
Safflower seeds	0.09	Mean (monitoring data, tentative)
Borage seeds	0.09	Mean (monitoring data, tentative)
Gold of pleasure seeds	0.09	Mean (monitoring data, tentative)
Hemp seeds	0.09	Mean (monitoring data, tentative)
Castor beans	0.09	Mean (monitoring data, tentative)
Olives for oil production	23.0	STMR (potassium phosphonates)
Oil palm kernels	1.5	EU MRL
Oil palm fruits	1.5	EU MRL
Kapok	1.5	EU MRL
Barley	0.04	Mean (monitoring data, tentative)
Buckwheat and other pseudo-cereals	0.16	Mean (monitoring data)
Maize/corn	0.01	Mean (monitoring data, tentative)
Common millet/proso millet	0.02	Mean (monitoring data, tentative)
Oat	0.06	Mean (monitoring data, tentative)
Rice	0.22	Mean (monitoring data)
Rye	0.08	Mean (monitoring data)
Sorghum	0.01	Mean (monitoring data, tentative)
Wheat grains	23.1	STMR (potassium phosphonates)
Tea (dried leaves of *Camellia sinensis*)	0.11	Mean (monitoring data)
Coffee beans	0.26	Mean (monitoring data, tentative)
Herbal infusions (dried, flowers)	0.28	Mean (monitoring data, tentative)
Herbal infusions (dried, leaves)	380	STMR (potassium phosphonates)

Commodity	Chronic risk assessment	
	Input value (mg/kg)	Comment
Herbal infusions (dried, roots)	400	EU MRL
Cocoa beans	1.5	EU MRL
Carobs/Saint John's bread	1.5	EU MRL
Hops	350	STMR (CXL)
Spices (bark)	300	EU MRL
Spices (roots and rhizome)	0.14	Mean (monitoring data, tentative)
Spices (buds)	300	EU MRL
Spices (flower stigma)	300	EU MRL
Spices (aril)	300	EU MRL
Sugar beet roots	0.07	Mean (monitoring data, tentative)
Sugar canes	1.5	EU MRL
Risk assessment residue definition 2: sum of fosetyl, phosphonic acid and their salts, expressed as phosphonic acid		
Apricots	9.55	STMR × CF (fosetyl)
Peaches	9.55	STMR × CF (fosetyl)
Kiwi fruits (green, red, yellow)	23.5	STMR × CF (fosetyl)
Celeriacs/turnip rooted celeries	0.15	STMR × CF (fosetyl)
Onions	11.0	STMR × CF (fosetyl)
Tomatoes	14.4	STMR × CF (fosetyl)[(b)]
Cucurbits with edible peel	26.0	STMR × CF (fosetyl)
Cucurbits with inedible peel	16.7	STMR × CF (fosetyl, tentative) × PF (0.93, fosetyl)
Brussels sprouts	0.20	STMR × CF (fosetyl)
Head cabbages	0.20	STMR × CF (fosetyl)
Kohlrabies	0.68	STMR × CF (fosetyl)
Cresses and other sprouts and shoots	19.0	STMR × CF (fosetyl)
Land cresses	19.0	STMR × CF (fosetyl)
Red mustards	19.0	STMR × CF (fosetyl)
Baby leaf crops (including brassica species)	19.0	STMR × CF (fosetyl)
Chards/beet leaves	5.30	STMR × CF (fosetyl)
Witloofs/Belgian endives	40.5	STMR × CF (fosetyl)
Florence fennels	0.23	STMR × CF (fosetyl)[(c)]
Globe artichokes	15.0	STMR × CF (fosetyl)
Seed spices	74.0	STMR × CF (fosetyl)
Fruit spices	74.0	STMR × CF (fosetyl)
Chicory roots	14.5	STMR × CF (fosetyl)
Risk assessment residue definition 3: phosphonic acid		
Swine meat	0.50	STMR muscle
Swine fat	0.50	STMR
Swine liver	0.50	STMR
Swine kidney	1.38	STMR
Bovine and equine meat	0.50	STMR muscle
Bovine and equine fat	0.61	STMR
Bovine and equine liver	0.50	STMR
Bovine and equine kidney	2.64	STMR
Sheep and goat meat	0.50	STMR muscle
Sheep and goat fat	0.65	STMR

Commodity	Chronic risk assessment	
	Input value (mg/kg)	**Comment**
Sheep and goat liver	0.50	STMR
Sheep and goat kidney	2.81	STMR
Poultry meat	0.50	STMR muscle
Poultry fat	0.50	STMR
Poultry liver	0.50	STMR
Cattle and horse milk	0.15	STMR
Sheep and goat milk	0.27	STMR
Birds eggs	0.50	STMR
Honey and other apicultural products	0.06	Mean (monitoring data)

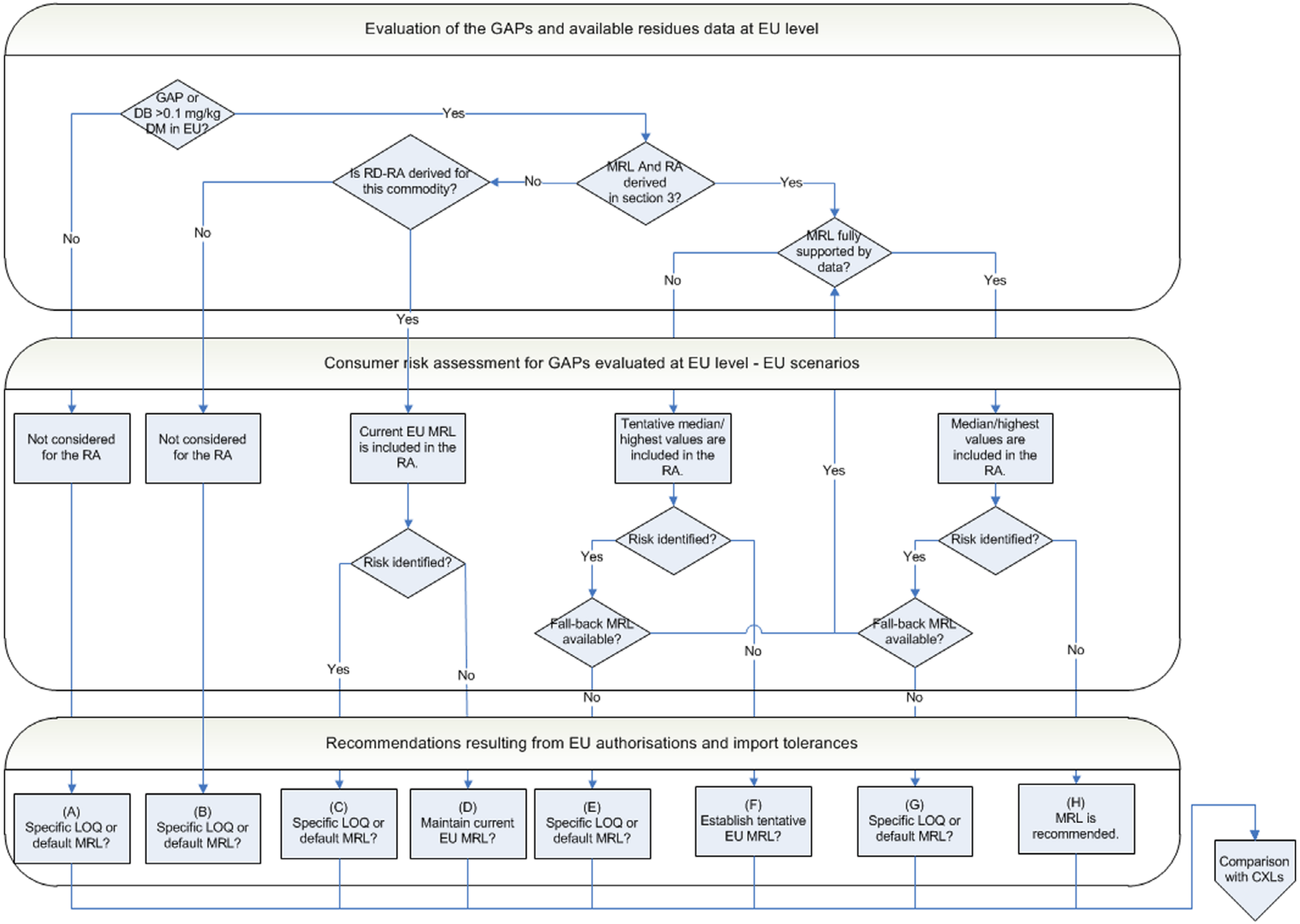
STMR: supervised trials median residue MRL: maximum residue level; CXL: codex maximum residue limit.

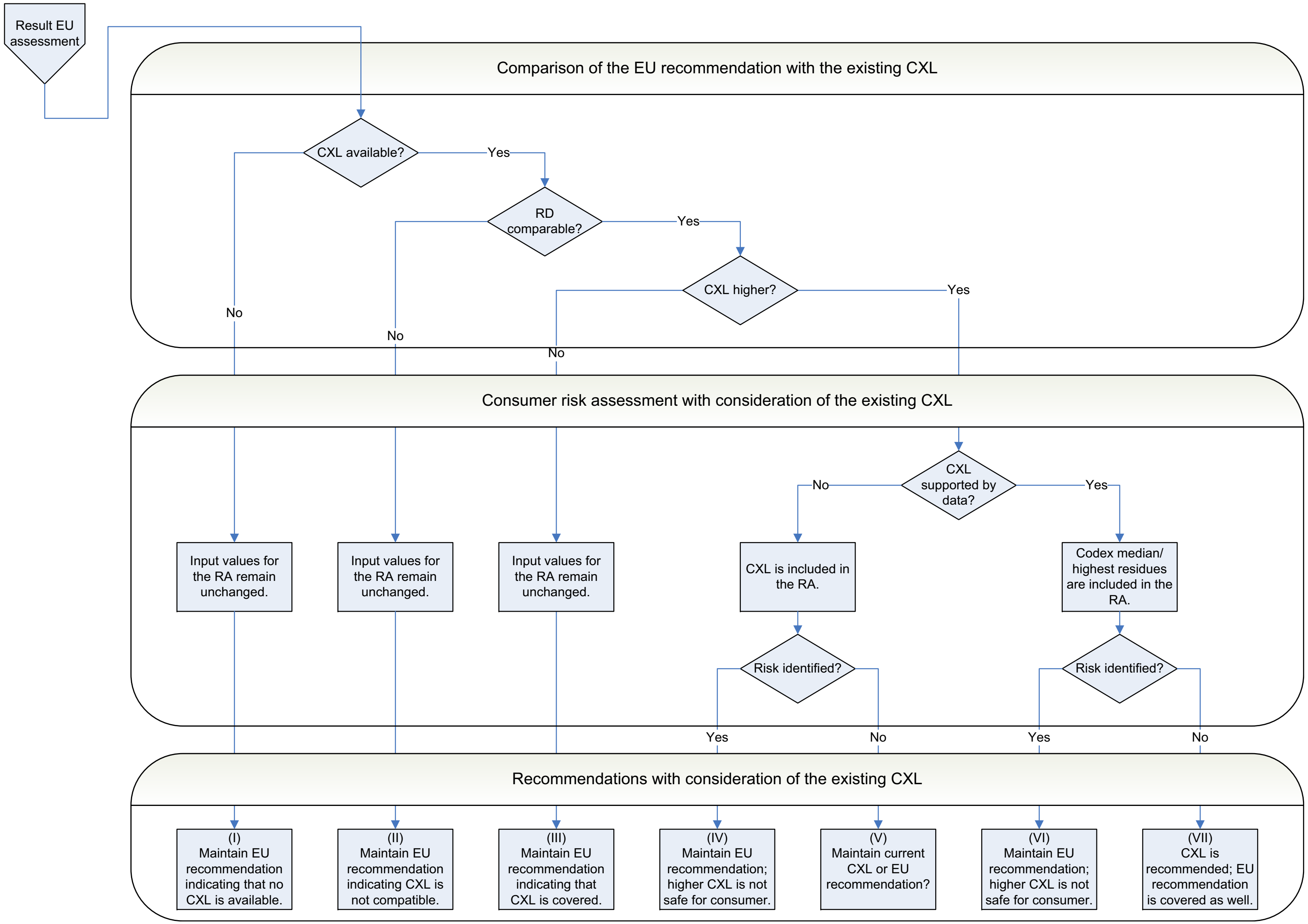
(a): Although the MRL is derived from the authorised use for fosetyl, the STMR considered for risk assessment is based on the authorised use for potassium phosphonates which lead to an higher STMR.

(b): Although the MRL is derived from the authorised use for potassium phosphonates, the STMR considered for risk assessment is based on the authorised use for fosetyl which lead to an higher STMR.

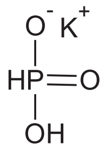
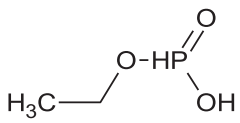
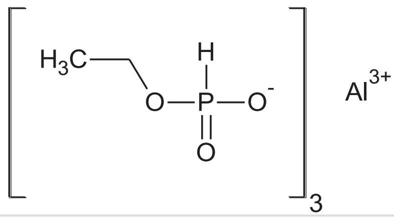
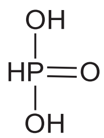
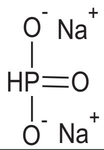
(c): Although the MRL is derived from the monitoring data, the STMR considered for risk assessment is based on the authorised use for fosetyl which lead to an higher STMR.

Appendix E – Decision tree for deriving MRL recommendations




Result EU assessment
Comparison of the EU recommendation with the existing CXL
CXL available?
Yes
No
RD comparable?
Yes
No
CXL higher?
Yes
No
Consumer risk assessment with consideration of the existing CXL
CXL supported by data?
No
Yes
Input values for the RA remain unchanged.
Input values for the RA remain unchanged.
Input values for the RA remain unchanged.
CXL is included in the RA.
Codex median/ highest residues are included in the RA.
Risk identified?
Risk identified?
Yes
No
Yes
No
Recommendations with consideration of the existing CXL
(I) Maintain EU recommendation indicating that no CXL is available.
(II) Maintain EU recommendation indicating CXL is not compatible.
(III) Maintain EU recommendation indicating that CXL is covered.
(IV) Maintain EU recommendation; higher CXL is not safe for consumer.
(V) Maintain current CXL or EU recommendation?
(VI) Maintain EU recommendation; higher CXL is not safe for consumer.
(VII) CXL is recommended; EU recommendation is covered as well.

Appendix F – Used compound codes

Code/trivial name[(a)]	IUPAC name/SMILES notation/ InChiKey[(b)]	Structural formula[(c)]
potassium hydrogen phosphonate	potassium hydrogen phosphonate [K+].O[PH]([O-])=O GNSKLFRGEWLPPA-UHFFFAOYSA-M	
fosetyl	ethyl hydrogen phosphonate O=P(O)OCC VUERQRKTYBIULR-UHFFFAOYSA-N	
fosetyl-Al fosetyl aluminium	aluminium tris(ethyl phosphonate) [Al+3].[O-]P(=O)OCC.[O-]P(=O)OCC.[O-]P(=O)OCC ZKZMJOFIHHZSRW-UHFFFAOYSA-K	
phosphonic acid Phosphorous acid	phosphonic acid O=P(O)O ABLZXFCXXLZCGV-UHFFFAOYSA-N	
disodium phosphonate	disodium phosphonate	

IUPAC: International Union of Pure and Applied Chemistry; SMILES: simplified molecular-input line-entry system; InChiKey: International Chemical Identifier Key.
(a): The metabolite name in bold is the name used in the conclusion.
(b): ACD/Name 2020.2.1 ACD/Labs 2020 Release (File version N15E41, Build 116563, 15 June 2020).
(c): ACD/ChemSketch 2020.2.1 ACD/Labs 2020 Release (File version C25H41, Build 121153, 22 March 2021).

Annex A – Summary of monitoring data

The commodities reported in the table are limited to those for which MRL proposal was based on results of monitoring data

Code	Commodity	n[(a)]	n[(b)] (> LOQ)	n[(c)] (non-compliant)	Mean[(d)] (mg/kg)	Percentile (mg/kg)[(e)]				Max[(f)] (mg/kg)	Samples origin[(g)]
						P90	P95	P97.5	P99		
Plant commodities											
120050	Coconuts	2	0	0	< 0.0578	n.c.	n.c.	n.c.	n.c.	< 0.0578	GH
140020	Cherries	410	109	3	0.319	0.7	1.35	2.63	4.99	19.7	DE, TR, unknown, IT, GR, ES, PL, HU, RS, AT, CO, HR, NL
140040	Plums	402	76	0	0.130	0.195	0.548	1.28	2.26	5.40	DE, ZA, ES, IT, CL, unknown, HU, AR, FR, BA, MK, TR, BG, GR, MD, PL
154020	Cranberries	15	0	0	< 0.0357	n.c.	n.c.	n.c.	n.c.	< 0.0578	Unknown, DE
161010	Dates	3	0	0	< 0.0435	n.c.	n.c.	n.c.	n.c.	< 0.116	IL, JO, unknown
161020	Figs	40	2	0	0.0262	0.0578	0.0667	0.180	n.c.	0.285	TR, IT, BR, ES, unknown
161040	Kumquats	23	7	0	0.240	0.655	0.947	n.c.	n.c.	2.63	ES, IL, ZA, FR, MY, unknown
161050	Carambolas	13	3	0	0.0927	0.141	n.c.	n.c.	n.c.	0.675	MY
161060	Kaki/Japanese persimmons	180	15	0	0.590	1.5	1.5	1.5	3	0.825	ES, IL, ZA, unknown, IT
162020	Lychees	14	1	0	0.0526	0.075	n.c.	n.c.	n.c.	0.302	MG, ZA, unknown
162030	Passionfruit	39	15	4	1.07	3.60	8.96	n.c.	n.c.	17.8	CO, ZA, GH, PT, UG, ZW, TH, VN, unknown
162040	Prickly pears	13	0	0	< 0.0075	n.c.	n.c.	n.c.	n.c.	< 0.0075	IT, VN, unknown
162040-001	Pitahaya (dragon fruit)	1	0	0	< 0.0075	n.c.	n.c.	n.c.	n.c.	< 0.0075	unknown
162050	Star apples	1	0	0	< 0.0188	n.c.	n.c.	n.c.	n.c.	< 0.0188	DO
163020	Bananas	448	34	0	0.0521	0.075	0.225	0.251	0.81	1.45	PT, CO, EC, unknown, CR, DO, PE, PA, NI, GT, CM, SR, CI, MX, UG, BE, BR, ES
163030	Mangoes	229	57	1	0.148	0.330	0.825	1.21	1.65	2.32	PE, BR, unknown, ES, IL, SN, CI, DO, BF, ML, MX, PT, US, CM, CR, EG, IT, PK, ZA
163040	Papayas	34	6	0	0.237	0.9	2.12	n.c.	n.c.	2.40	BR, GH, EC, ES, JM, VN, unknown
163060	Cherimoyas	2	0	0	< 0.0327	n.c.	n.c.	n.c.	n.c.	< 0.0578	ES
163080	Pineapples	152	130	0	2.92	6.45	11.0	13.9	15.2	20.2	CR, GH, unknown, PT, PA, HN, CI, DO, EC, IT, MU, US
212010	Cassava roots	2	0	0	< 0.0075	n.c.	n.c.	n.c.	n.c.	< 0.0075	CN, CR

Code	Commodity	n[(a)]	n[(b)] (> LOQ)	n[(c)] (non-compliant)	Mean[(d)] (mg/kg)	Percentile (mg/kg)[(e)]				Max[(f)] (mg/kg)	Samples origin[(g)]
						P90	P95	P97.5	P99		
212020	Sweet potatoes	107	2	1	0.134	0.225	0.225	0.225	0.285	7.05	US, ES, unknown, PT, DE, EG, HN, NL
212030	Yams	1	0	0	< 0.0075	n.c.	n.c.	n.c.	n.c.	< 0.0075	PT
213010	Beetroots	67	2	0	0.0762	0.0578	0.0578	1.5	n.c.	2.01	DE, unknown, FR, GB, NL
213020	Carrots	301	9	0	0.0712	0.075	0.075	1.31	1.5	2.03	DE, NL, ES, IT, unknown, IL, PT, BE, DK, GB, PL, ZA
213050	Jerusalem artichokes	5	0	0	< 0.0176	n.c.	n.c.	n.c.	n.c.	< 0.0578	DE, FR, IT
213060	Parsnips	28	1	1	0.238	0.0578	0.0578	n.c.	n.c.	5.84	DE, GB, AT, NL, unknown
213070	Parsley roots	18	1	1	0.211	0.0578	n.c.	n.c.	n.c.	3.23	DE, unknown, NL
213090	Salsifies	11	0	0	< 0.0205	n.c.	n.c.	n.c.	n.c.	< 0.0578	DE, NL
213100	Swedes	8	0	0	< 0.0264	n.c.	n.c.	n.c.	n.c.	< 0.0578	DE, IT, FR
213110	Turnips	2	0	0	< 0.0075	n.c.	n.c.	n.c.	n.c.	< 0.0075	PT
220040	Spring onions	124	30	0	0.538	1.43	3.16	5.64	6.98	7.05	DE, IT, unknown, EG, MA, NL
231040	Okra	19	2	0	0.109	0.645	n.c.	n.c.	n.c.	1.01	unknown, IN, MQ, GP, CM, EG, PK
234000	Sweet corn	80	1	0	0.0541	0.075	0.075	0.075	n.c.	1.20	DE, unknown, MA, ES, TH, HU
242010	Brussels sprouts	197	4	0	0.107	0.225	0.225	0.225	5.25	7.05	NL, unknown, DE, BE, FR
242020	Head cabbages	170	11	0	0.160	0.075	0.578	1.5	4.03	7.76	DE, unknown, NL, PT, ES, IT, FR, TR
244000	Kohlrabies	163	19	0	0.236	0.21	0.698	1.58	7.05	13.1	DE, IT, unknown, ES, PT
253000	Grape leaves and similar species	2	0	0	< 0.0953	n.c.	n.c.	n.c.	n.c.	< 0.116	TR, unknown
254000	Watercress	4	0	0	< 0.0201	n.c.	n.c.	n.c.	n.c.	< 0.0578	PT, TH
260010	Beans (with pods)	266	36	1	0.142	0.195	0.713	1.41	2.22	6.98	MA, DE, unknown, KE, EG, ES, SN, NL, TR, IT, BE, ET, FR, GT, TZ
260030	Peas (with pods)	157	12	1	0.314	0.225	1.5	1.5	2.93	24.3	unknown, DE, ES, KE, ZW, GT, BE, ET, FR, PE, TR, CN, PL
260040	Peas (without pods)	76	6	0	0.0142	0.036	0.0578	0.0578	n.c.	0.16116	unknown, DE, AT, BE, FR, ES
270010	Asparagus	798	98	1	0.137	0.182	0.438	1.13	2.72	8.25	DE, ES, GR, PE, IT, unknown, MX, PL, AT, NL, HU, TH
270030	Celeries	47	0	0	< 0.0163	n.c.	n.c.	n.c.	n.c.	< 0.075	DE, ES, IT, NL, unknown
270040	Fennels	56	2	1	0.175	0.075	0.075	0.233	n.c.	7.76	DE, IT, unknown, NL
270060	Leeks	168	15	0	0.0748	0.075	0.251	0.668	2.183	2.85	DE, BE, unknowns, CY, NL, ES, FR, GR

Code	Commodity	n[(a)]	n[(b)] (> LOQ)	n[(c)] (non-compliant)	Mean[(d)] (mg/kg)	Percentile (mg/kg)[(e)]				Max[(f)] (mg/kg)	Samples origin[(g)]
						P90	P95	P97.5	P99		
270070	Rhubarbs	76	1	0	0.0439	0.075	0.225	0.225	n.c.	0.0866	DE, unknown, NL
280010	Cultivated fungi	352	59	0	0.0595	0.225	0.225	0.332	0.563	0.975	DE, PL, NL, unknown, KR, CY, BE, CZ, CN, ES, KP, AT, GB, GR, HU, TR
280020	Wild fungi	69	5	0	0.0564	0.075	0.3	0.548	n.c.	1.28	RU, unknown, BG, BY, ES, DE, RS, PL, BA, CN, RO, CZ, KR, US
300010	Beans (dry)	65	29	0	0.342	0.975	1.5	1.73	n.c.	2.40	unknown, CN, TR, KG, DE, AR, CA, IN, IT, KZ, MM, TH
300020	Lentils (dry)	53	5	0	0.107	0.143	0.255	0.375	n.c.	2.10	Unknown, TR, DE, CA, FR, IT, RU, LB, SY
300030	Peas (dry)	17	9	1	0.585	1.5	n.c.	n.c.	n.c.	3.63	unknown, DE, EG, IT, RU, CA, MX
401010	Linseeds	22	0	0	< 0.219	n.c.	n.c.	n.c.	n.c.	< 0.289	unknown, DE, CZ, KZ, IN, PL, UA
401020	Peanuts	3	3	0	1.11	n.c.	n.c.	n.c.	n.c.	2.70	US, unknown
401040	Sesame seeds	7	3	0	0.154	n.c.	n.c.	n.c.	n.c.	0.42	Unknown, UG, IN, TH
401050	Sunflower seeds	27	9	0	0.0865	0.137	0.365	n.c.	n.c.	1.31	Unknown, RO, AT, CN, BG, DE, FR, HU, NL, SI, US
401060	Rapeseeds	2	0	0	< 0.0375	n.c.	n.c.	n.c.	n.c.	< 0.0375	DE
401070	Soya beans	14	3	0	0.124	0.289	n.c.	n.c.	n.c.	0.947	DE, CN, CA, AT, FR, unknown
401100	Pumpkin seeds	8	1	0	0.0997	n.c.	n.c.	n.c.	n.c.	0.715	Unknown, AT, DE
500010	Barley	5	0	0	< 0.0351	n.c.	n.c.	n.c.	n.c.	< 0.116	DE
500020	Buckwheat and other pseudo-cereals	60	15	0	0.163	0.289	0.469	1.61	n.c.	1.80	Unknown, DE, CN, BO, CZ, LT, PE, PL, IN, MX, NL, UA
500030	Maize	5	0	0	< 0.0075	n.c.	n.c.	n.c.	n.c.	< 0.0075	PT, TH, VN
500040	Millet	16	0	0	< 0.0225	n.c.	n.c.	n.c.	n.c.	< 0.0750	Unknown, CN, UA, DE
500050	Oat	9	0	0	< 0.0569	n.c.	n.c.	n.c.	n.c.	< 0.116	DE, unknown, PT
500060	Rice	333	24	1	0.218	0.27	1.5	3	3	5.64	Unknown, IN, IT, PT, DE, BR, ES, TH, US, NL, SR, GR, GB, KH, PK, AA, AE, BE, FR, GE, LK, NP, UY, ZA
500070	Rye	136	1	0	0.0788	0.075	0.116	0.225	3	0.248	DE, unknown, AT, GR, GB, AA, BE, ES, IT, PT
610000	Teas	159	4	0	0.107	0.289	0.289	0.289	0.289	0.178	unknown, CN, LK, IN, JP, TR, NP, VN, TW
620000	Coffee beans	3	0	0	< 0.255	n.c.	n.c.	n.c.	n.c.	< 0.255	ET, GT, PE

Code	Commodity	n[(a)]	n[(b)] (> LOQ)	n[(c)] (non-compliant)	Mean[(d)] (mg/kg)	Percentile (mg/kg)[(e)]				Max[(f)] (mg/kg)	Samples origin[(g)]
						P90	P95	P97.5	P99		
631010	Chamomile flowers	12	1	0	0.282	0.25	n.c.	n.c.	n.c.	1.50	Unknown, DE
631050	Lime/linden flowers	1	0	0	< 0.289	n.c.	n.c.	n.c.	n.c.	< 0.289	TR
632020	Rooibos leaves	10	0	0	< 0.225	n.c.	n.c.	n.c.	n.c.	< 0.289	ZA, unknown, DE
632030	Mate	2	0	0	< 0.131	n.c.	n.c.	n.c.	n.c.	< 0.225	unknown
840020	Ginger	52	6	0	0.137	0.289	0.453	0.75	n.c.	2.55	CN, unknown, PE, BR, TH
Animal commodities											
1040000	Honey and other apicultural products	62	1	0	0.0631	0.075	0.075	0.075	n.c.	0.255	DE, unknown, GT, IT, RO

LOQ: limit of quantification. n.c.: not calculated (Percentiles were only calculated if n > 9 (P90); n > 20 (P95); n > 40 (P97.5); n > 100 (P99) and at least 1 sample higher than LOQ of reporting laboratory). (<): all results below LOQ of the reporting laboratory.
(a): Number of monitoring results available (from years 2015 to 2018).
(b): Number of results above the LOQ.
(c): Number of non-compliant results (exceeding the MRL after taking the measurement uncertainty into account).
(d): Average value. Residue values below LOQ were replaced by the LOQ of the reporting laboratory (upper bound scenario). When all results below LOQ, the mean LOQ of the reporting laboratories is depicted.
(e): Percentiles 90th, 95th, 97.5th and 99th calculated considering all monitoring results. Residue values below LOQ were replaced by the LOQ of the reporting laboratory (upper bound scenario).
(f): Highest value considering all monitoring results. When all results below LOQ, the highest LOQ of the reporting laboratory is depicted.
(g): Country codes indicating the origin of the samples, in order of frequency.