

Maximum residue levels for thiamethoxam

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EU reduces MRLs for thiamethoxam on all products, with impacts on fruit, vegetables, cereals, teas and coffees, cereals and animal products

Commission Regulation (EU) [2023/334](#) of 2 February 2023 amending Annexes II and V to Regulation (EC) No 396/2005 of the European Parliament and of the Council as regards maximum residue levels for clothianidin and thiamethoxam in or on certain products

Update

On 15 February 2023, the European Commission published Regulation 2023/334 reducing the maximum residue levels (MRLs) for thiamethoxam to the limit of analytical determination (LOD) (the lowest level that can be detected using the most modern and reliable analytical methods). For thiamethoxam, these range between 0.01 and 0.05 mg/kg. There are implications for exporters of fruit, vegetables, cereals, teas and coffees, cereals and animal products.

Impacted products

grapefruits, oranges, lemons, limes, mandarins, apples, pears, quinces, medlars, loquats/ Japanese medlars, apricots, peaches, cherries, table grapes, wine grapes, strawberries, table olives, avocados, mangoes, potatoes, carrots, tomatoes, aubergines, eggplants, sweet peppers, bell peppers, cucumbers, courgettes, melons, watermelons, broccoli, lettuces, escaroles, broad-leaved endives, basil and edible flowers, beans (with pods), peas (with pods), celeries, globe artichokes, beans, lentils, peas, lupins, Lupini beans, soyabeans, olives for oil production, barley, maize, corn, wheat, rice, teas, animal products

What is changing?

The European Commission proposes changes to the MRLs for thiamethoxam as summarised in Table 1.

In addition, on other fruits, vegetables (except herbs), pulses and oilseeds not included in Table 1, the MRLs will be reduced from 0.02 to 0.01 mg/kg. The MRLs on animal products that are not included in Table 1 are increased from 0.01 to 0.02 mg/kg, reflecting the lowest level that can be reliably detected with current analytical methods (the limit of determination, LOD).

Why?

In 2016, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on pollinators, pollination and food production concluded that neonicotinoids (including thiamethoxam) have adverse effects on bees and other pollinators ([IPBES 2016](#)). [EFSA \(2018\)](#) found that the use of thiamethoxam outdoors poses significant risks to bees. The Commission therefore restricted its use to greenhouses. Following these restrictions, applications for the renewal of thiamethoxam were withdrawn.

Where a substance is not reapproved, the EU typically reduces MRLs to default levels, but will take into account established Codex MRLs (CXLs). In this case, the Commission argues that CXLs based on good agricultural practices (GAP) for outdoor use are not acceptable due to the effects on bees. The EU wishes to avoid contributing to this global environmental problem. This proposal aims to ensure that all products are imported “free from clothianidin and thiamethoxam” [recital [\(12\)](#)].

Timeline

The Regulation enters into force on 25 February 2023. The new MRLs will apply from 7 March 2026.

What are the major implications for exporting countries?

Thiamethoxam is approved for a wide range of agricultural, viticultural and horticultural uses. In the case of pests such as aphids, effective control is essential not only to reduce damage by the pests themselves, but also to prevent them acting as vectors of serious viruses and other diseases.

Since restrictions on neonicotinoid pesticides were introduced in 2013, several EU Member States have granted emergency authorisations for thiamethoxam, as no alternative products or methods (chemical or non-chemical) were available, or because there was a risk of pest resistance developing to available alternative products ([EFSA 2021](#)). However, in January 2023, the European Court of Justice (ECJ) ruled that emergency authorisations for thiamethoxam are no longer permitted (C-162/21).

Producer experience in the EU suggests that the reduction of MRLs on thiamethoxam may also be a major challenge for countries exporting to the EU market.

Exporting countries must find alternative products or methods to control pests in the coming 3 years. The Commission considers that “adaptation of agricultural practices can be reasonably

expected to be achieved after two growing seasons” [recital [\(19\)](#)].

Recommended Actions

Suppliers to the EU market of fruit, vegetables, cereals, teas and coffees, and animal products should review their current use of thiamethoxam with a view to seeking alternative solutions in anticipation of the reduction in MRLs in 2026.

Background

MRLs are set in accordance with the rules set out in Regulation [396/2005](#). For information on current MRLs for other substances, please consult the EU [Pesticide Residues database](#).

Resources

EFSA (2021) [Evaluation of the emergency authorisations granted by Member State Poland for plant protection products containing imidacloprid, thiacloprid or thiamethoxam](#).

EFSA (2018) [Peer review of the pesticide risk assessment for bees for the active substance clothianidin considering the uses as seed treatments and granules](#).


IPBES (2016) [The assessment report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services on pollinators, pollination and food production](#).

Sources

Commission Regulation (EU) [2023/334](#)

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Table & Figures

Table 1 Maximum residue levels for thiamethoxam			
Food category	Products	Thiamethoxam (mg/kg)	
		Old MRL	New MRL
Citrus fruits	Grapefruits, oranges, lemons, limes, mandarins	0.15	0.01*
Pome fruits	Apples, pears, quinces, medlars, loquats/ Japanese medlars	0.3	0.01*
Stone fruits	Apricots, peaches	0.07	0.01*
	Cherries	0.6	0.01*
Berries and small fruits	Table grapes, wine grapes	0.4	0.01*
	Strawberries	0.3	0.01*
Miscellaneous fruits	Table olives	0.4	0.01*
	Avocados	0.5	0.01*
	Mangoes	0.2	0.01*
Root and tuber vegetables	Potatoes	0.07	0.01*
	Carrots	0.3	0.01*
Fruiting vegetables	Tomatoes, aubergines/ eggplants	0.2	0.01*
	Sweet peppers/ bell peppers	0.7	0.01*
	Cucumbers/ courgettes	0.5	0.01*
	Melons, watermelons	0.15	0.01*
Brassica vegetables	Broccoli	0.3	0.01*
Leaf vegetables	Lettuces, escaroles/ broad-leaved endives	5	0.01*
Herbs and edible flowers	Basil and edible flowers	1.5	0.02*
Legume vegetables	Beans (with pods), peas (with pods)	0.3	0.01*
Stem vegetables	Celeries	1	0.01*
	Globe artichokes	0.5	0.01*
Pulses	Beans, lentils, peas, lupins/ Lupini beans	0.04	0.01*
Oilseeds	Soyabeans	0.04	0.01*
Oil fruits	Olives for oil production	0.4	0.01*
Cereals	Barley	0.4	0.01*
	Maize/ corn, wheat	0.05	0.01*
Teas, coffee, herbal infusions, cocoa and carobs	Teas	20	0.05*
	Coffee beans	0.2	0.05*
Hops		0.09	0.05*
Commodities from swine/bovine/sheep/goat/equine	Liver, edible offals	0.2	0.02*
Commodities from bovine/sheep/goat/equine/other farmed terrestrial animals	Muscle, edible offals	0.02	0.02*
Milk	Cattle, sheep, goat, horse	0.05	0.01*
* Limit of determination. Source: based on SANTE/11226/2021 [Annex V]			
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Source: Commission Regulation (EU) [2023/334](#)

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