

Monitoring of quinolizidine alkaloids in lupins

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European Commission recommends EU Member States and food business operators to monitor quinolizidine alkaloids in lupins and lupin-derived foods

Commission Recommendation (EU) [2026/1241](#) of 11 June 2026 on monitoring the presence of quinolizidine alkaloids in lupins and lupin-derived food

Update

The European Commission has published a Recommendation to EU Member States and food business operators on the monitoring of quinolizidine alkaloids in lupins and lupin-derived foods. The aim is to collect more data to better understand exposure, identify risk factors, and decide whether further regulatory action is needed.

Impacted products

Lupins and lupin-derived foods including dry lupin seeds, lupin flour, canned or jarred lupins, bread and fine bakery wares containing lupins, bakery pre-mixes containing lupins, lupin-based egg analogues, lupin-based coffee substitutes, lupin-based milk substitutes, lupin-based meat substitutes, lupin protein powder for shakes and smoothies, animal products.

What is changing?

The European Commission has published a Recommendation that EU Member States, in collaboration with food business operators, should monitor quinolizidine alkaloids in lupins and lupin-derived foods. The aim is to collect more data on their occurrence, understand why high levels may occur, and assess how processing can reduce these compounds.

The Commission also recommends monitoring foods of animal origin, especially milk, when animals have been fed with feed containing lupin-derived materials, because quinolizidine alkaloids may transfer from feed to animal products.

The recommendation is to analyse at least the following quinolizidine alkaloids: albine, anagyrin, angustifoline, 13 α -hydroxylupanine, isolupanine, lupanine, lupinine, multiflorine, and sparteine.

Additional investigations

Member States, in collaboration with food business operators, should also investigate:

- factors leading to high quinolizidine alkaloid levels
- differences between lupin species, where known
- differences between sweet and bitter lupins
- effects of processing such as soaking, boiling, or other reduction processes.

Sampling should be carried out in line with Regulation [333/2007](#). The recommended analytical method is liquid chromatography/tandem mass spectrometry (LC-MS/MS). Other methods may be used only if they can provide reliable results. The limit of quantification (LOQ) for the determination of each quinolizidine alkaloid should be:

- lupin seeds and lupin-derived foods: 1 mg/kg
- foods containing lupins and/or lupin-derived foods: 0.2 mg/kg
- milk and other food of animal origin: 0.05 mg/kg.

Why?

Quinolizidine alkaloids are naturally occurring compounds found in lupins. The European Food Safety Authority (EFSA) has identified possible risks for some consumers, particularly from acute exposure, but available data were too limited for a full human health risk assessment ([EFSA 2019](#)).

Timeline

The Recommendation applies from June 2026. EU Member States and the food industry should submit monitoring data to EFSA by **30 June** of each year.

What are the major implications for exporting countries?

Possible future EU maximum levels or other requirements for quinolizidine alkaloids will be based on the information collected by EFSA. It is therefore in the interests of the food industry to ensure that EFSA has access to the comprehensive data needed.

EU Member state authorities will share with EFSA data that is provided by food business operators. Suppliers of lupin products may therefore receive requests from their EU buyers for information about the potential presence of quinolizidine alkaloids, and the species of lupins and production processes used.

Recommended Actions

Suppliers of lupin products should collaborate with EU operators and EU Member States to ensure the necessary data is shared with EFSA.

Resources

EFSA (2019) [Scientific opinion on the risks for animal and human health related to the presence of quinolizidine alkaloids in feed and food, in particular in lupins and lupin-derived products.](#) EFSA Journal, 17(11): 5860.

Sources

Commission Recommendation (EU) [2026/1241](#) on monitoring the presence of quinolizidine alkaloids in lupins and lupin-derived food

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