



Notification to CBs on Fosetyl-Al residues detected on fruits and vegetables

1 ABOUT FOSETYL-AL

Fosetyl-aluminum (Fosetyl-Al, CAS RN 39148-24-8) is a broad spectrum systemic organophosphate fungicide introduced 40 years ago. The use of this active is approved in multiple crops and countries. Examples of pesticides containing this active ingredient are: Aliette 80 WG, Fullstop, Pilarfarm, Chipco Aliette WDG, etc.

Fosetyl-Al has a low acute toxicity to mammals, birds, fishes and honeybees, but it is a respiratory tract and eyes irritant. It does not seem to be persistent in soils, but it is very persistent in water.

GLOBALG.A.P. has received and investigated a substantial number of complaints related to MRL exceedances of Fosetyl-Al since January 2014, involving producers located in seven different countries. The crops with the most Fosetyl-Al exceedances reported are kakis (persimmons) and pomegranates followed by peaches. But exceedances have also been reported in a variety of other crops.

In more than half of the cases the CB investigation of the MRL exceedance has shown that Fosetyl-Al has not been sprayed on the crop. The cause of the MRL exceedance in these cases was probably due to foliar applications of fertilizer and/or enhancer.

2 DEGRADATION AND EU RESIDUE DEFINITION

Fosetyl-Al breaks down into phosphorous/phosphonic acid (H_3PO_3). Salts of phosphorous/phosphonic acid are named phosphonates.

Laboratories can separately identify and report the fosetyl (parental) and the phosphonates (degradation product). The closer the sample is taken to the Fosetyl-Al application the higher the ratio fosetyl/phosphonates. As time passes, more fosetyl is degraded into phosphonates and this ratio decreases.



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The EU residue definition¹ is set as “The residue definition for monitoring applicable to fosetyl comprises the parent compound fosetyl, the degradation product phosphorous/phosphonic acid and their salts”.

Nevertheless, phosphonate residues in fruits and vegetables can also come from application of fertilizers, especially from foliar fertilizers².

In June 2014, the EU increased the fosetyl MRLs in kiwis and spices³ and in September set higher temporary MRLs⁴ in several products (asparagus, beans, peas, berries, stone fruit, etc.) to avoid market disruptions due to the number of MRL exceedances reported. Most of these temporary MRLs have returned to their previous values (e.g.: stone fruit and berries) whilst other temporary MRLs are still in force (e.g. nuts).

3 GUIDANCE ON HOW TO FOLLOW UP INCIDENCES

Regardless of the source of the phosphonates, the legal MRL shall always be complied and products not complying with the legal MRL shall not be placed on the market.

¹ 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

² COMMISSION REGULATION (EU) No 991/2014 of 19th September 2014:

(4) The Commission collected monitoring data in 2014 to investigate the presence of phosphonates in food. Those data were generated by food business operators and showed that phosphonates are present at levels that vary depending on the source and product, but frequently exceed the MRL set at the limit of determination of 2 mg/kg. Further data analysis indicated that the vast majority of non-compliant samples contain residues of phosphorous acid and its salts in excess of the limit of determination while residues of fosetyl and its salts remain below the limit of determination.

(5) Although phosphonates have not been included in Annex I to Regulation (EC) No 2003/2003 of the European Parliament and of the Council (2) by virtue of Article 14 of that Regulation, they could be contained in fertilizers authorized at national level, notably certain fertilizer products applied to the leaves of plants (foliar fertilizers). Given the lack of relevant authorizations for plant protection products containing fosetyl both in the Union and in third countries that are important exporters of the concerned food products into the Union, the scarcity of detectable residues for fosetyl and its salts, and the use of phosphonates as ingredient in foliar fertilizer products, it can be reasonably assumed that residues are a consequence of the application of foliar fertilizer products containing phosphonates.

³ Reg. (EU) No 737/2014

⁴ Commission Regulation (EU) No 991/2014 (2) amended Annex III to Regulation (EC) No 396/2005, setting temporary MRLs for fosetyl to avoid significant market disruptions in the trade of certain products. Those temporary MRLs were based on the available monitoring data and on a statement (3) of the European Food Safety Authority, hereinafter ‘the Authority’, in which it concluded that the proposed temporary MRLs are expected to sufficiently protect consumers.



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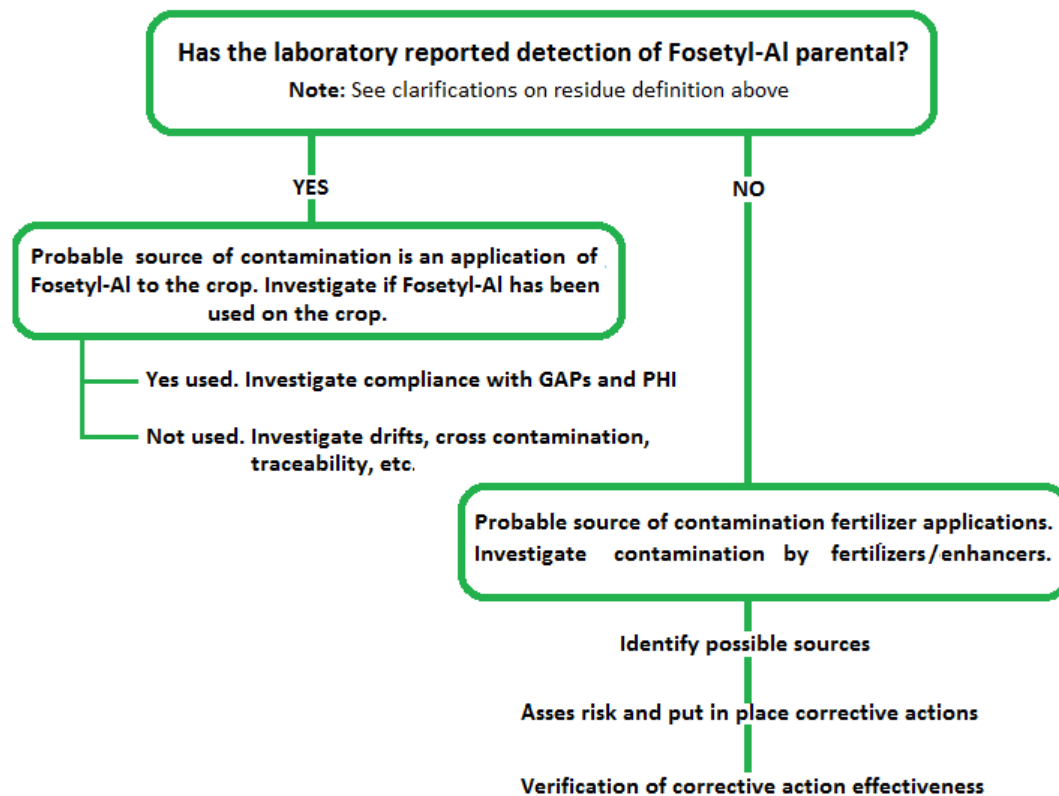
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The CB shall investigate the origin of the MRL exceedance and require the producer to put measures in place to monitor the problem and to avoid recurrence.

As indicated above, phosphonates may be produced by the degradation of products such as phosphorus fertilizers and phosphorus strengthening/enhancer agents. Algae-based products and organic-enhancers (amongst other products) seem to be recurrent sources of phosphonates. It has been observed that phosphonic acid residues are higher when the products are applied through foliar spray.

The detection of residues of the parental fosetyl under the limit of detection (LOD) is a good indicator that phosphonic acid is more likely coming from the application of fertilizers than the application of Fosetyl-Al. In all cases, the pesticide spraying records, traceability records, pesticide stores, etc. shall be inspected to assess whether Fosetyl-Al has been used and if pre-harvest intervals have been complied with.

Guide to a Fosetyl MRL investigation:





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Identify possible sources: Producers should identify fertilizers and enhancers used on the crop that could lead to a phosphonate residue on the crop.

Assess risk and put corrective actions in place. Where fertilizer or other potential sources of phosphonates are applied to the crop, the producer has to evaluate the potential risk of exceeding the applicable MRLs for Fosetyl-AI (CB 7.6.3) and take the appropriate measures.

This could include analysis of phosphonates content of the fertilizers directly and/or requesting written guaranties from the suppliers about the phosphonate-content of each fertilizer product.

Once the potential source of contamination is identified, corrective actions should be put in place to avoid repetition of the problem.

Verification of corrective actions. The verification process shall include testing for fosetyl residues. If fertilizers/enhancers or other potential sources of phosphonates are continued to be used, a monitoring process based on testing should be put in place.

Feel free to inform all of your potentially affected producers about this issue.

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