

Phosphonic acid in organic products

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Recently, on the EU market, phosphonic acid residues were detected in many organic goods, although fosetyl-derivates and phosphite salts are not allowed by Reg. EC n. 889/2008.

Fosetyl (and its aluminium salt) and phosphonic acid (formulated as the potassium or sodium salts) are systemic fungicides with protectant action against a number of fungi and some plant pathogenic bacteria in a range of fruit, vegetables and ornamental crops. They are rapidly absorbed through both leaves and roots.

To reduce the risk of contaminated food, Legislative Decree 10 July 2020 sets a maximum level of phosphonic acid in organic products.

For details please read Legislative Decree 10 July 2020 at the following [link](#).

Pay specific attention to:

1. In case of presence of phosphonic acid in organic products, simultaneously in absence of ethyl phosphonic acid, following law limit should be applied:
phosphonic acid \geq 0,05 mg/kg;
2. As an exception to point 1 and up to 31 December 2022, following law limit should be applied:
 - a. phosphonic acid \geq 0,5 mg/kg for herbaceous crops;
 - b. phosphonic acid \geq 1,0 mg/kg for arboreal crops.

Figure 1: Italian law limits issued by Legislative Decree 10 July 2020¹.

Neutron proposal

Neutron performs the analysis of phosphonic acid by HPAEC-MS/MS technique, permitting to detect the residue with a limit of quantification of 0,010 mg/kg for most matrices (low limit parameter request). This method is in compliance with Legislative Decree 10 July 2020, that shall apply from 10 September 2020.

References

1. Decreto Ministeriale 10 Luglio 2020 “Modifica del decreto 13 gennaio 2011, recante «Contaminazioni accidentali e tecnicamente inevitabili di prodotti fitosanitari in agricoltura biologica»”.