IMIDACLOPRID IN HOUSE DUST AND ITS RELEVANCE FOR INTAKE ASSESSMENT

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Imidacloprid is a systemic insecticide belonging to the neonicotinoid class, widely administered to pets with "pour on" formulation as anti-fleas product. The indoor use of such pesticide may determine its presence in the house dust, thus causing an involuntary intake via dust licking in cats and mouthing in toddlers. House dust was sampled from vacuum-cleaners bags from 40 differents houses settled in the Northern, Central and Southern parts of Italy, along with a detailed questionnaire. Dust (test portion of 0.4 g dry weight) was extracted in 4 mL Acetonitril, and imidacloprid and other pesticides of interest determined by UPLC-MS/MS, according to an already validated multi-residue method applied to vegetables. Imidacloprid was determined in 6 out of 40 dust samples, in the range 150 – 3,720 ng/g dust. Only in two cases the presence of pets and the use of pour-on was reported, with concentrations not trespassing 200 ng/g dust. In the other cases, the imidacloprid presence in house dust acknowledged the use of phyto-sanitary products on ornamental plants, and/or to fight aunts. Such results are discussed in light of the potential contribution of the dust intake to imidacloprid exposure in pets and toddlers, accounting for an Acceptable Daily Intake and an Acute Reference Dose of 60 μg/kg bw for potential developmental neurotoxic effects recently proposed by the European Food Safety Authority.

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