عنوان مقاله:

Investigation of Residual Concentration of Organochlorine, Organophosphorus, and Carbamate Pesticides in Urban Drinking Water Networks of Hamadan Province, Iran

محل انتشار:

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خلاصه مقاله:

Pollution of water resources with pesticides is one of the environmental problems and a serious threat to the communities' health. This study aimed to determine the residual concentration of pesticides in urban drinking water networks of Hamadan province in ۲۰۱۹. In order for investigating the residual concentration of organochlorine (aldrin, dieldrin, lindane, methoxychlor and permethrin), organophosphorus (chlorpyrifos, diazinon and malathion), and carbamate (atrazine and alachlor) pesticides in urban drinking water distribution networks of the province, a total of ۴۶ samples were taken. The samples were analyzed by GC-ECD and the results were analyzed using Excel software (a descriptive cross-sectional study). The residues of aldrin, dieldrin, lindane, diazinon, malathion, atrazine, and alachlor were found in none of the samples. The maximum concentrations of chlorpyrifos and permethrin were ۲.۲۰ and ۸.۰۳ µg/L, respectively. The methoxychlor residue was observed only in one sample (C=۰.۳۵ µg/L) and all other samples were free of methoxychlor. Residues of studied pesticides in all samples are much less than the maximum allowable in the national standard and the World Health Organization (WHO) and Environmental Protection Agency (EPA) guidelines. Therefore, it can be concluded that the studied networks water quality as well as the urban drinking water resources in Hamadan province are at a very desirable level in terms of the pesticide residues. If the consumption of pesticides is not controlled, there is a possibility of increasing the concentration of these pollutants in water resources, .which in turn may threaten the human health in the future

کلمات کلیدی:
Pesticide, Drinking water, Hamadan province, Gas chromatography