

عنوان مقاله:

Residual organochlorine pesticides in the salad vegetables cultivated in Lagos, Nigeria and their human health risks

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خلاصه مقاله:

Concerns are mounting over the health risks associated with the use of harmful pesticides to control crop pests. In this study, the salad vegetables and soil samples from three farms in Lagos, Nigeria were evaluated for organochlorine pesticide residue concentrations using gas chromatography-mass spectrometry (GC-MS). Eighteen organochlorine pesticides were detected in the vegetable and soil samples. In Idi-Araba farm, α -BHC had the highest concentration (0.06 ± 0.07 mg/kg) in lettuce shoots, Endosulfan I had the highest concentration (0.29 ± 0.26 mg/kg) in spring onion. P, P-DDE and L-cyhalothrin had the highest concentrations (0.08 ± 0.03 and 0.08 ± 0.08 mg/kg, respectively) in spinach shoots. In Tejuosho farm, L-cyhalothrin, PF-38, and chlorothalonil had the highest concentrations (0.50 ± 0.71 , 0.13 ± 0.07 , and 0.03 ± 0.01 mg/kg, respectively) in lettuce shoots, spring onions, and spinach, respectively. In Alapere farm, Endosulfan I had the highest concentration (0.03 ± 0.02 mg/kg) in lettuce shoots, Aldrin had the highest concentration (0.02 ± 0.01 mg/kg) in spring onion shoots, and L-cyhalothrin had the highest concentration (0.04 ± 0.05 mg/kg) in spinach shoots. The concentrations of these pesticides were higher than the maximum residual limit prescribed by the European Union (EU) Commission. Moreover, the hazard index (HI) calculated for spring onion and spinach from Idi-Araba farm and lettuce from Tejuosho farm exceeded one ($HI > 1$). These results may be a reflection of what obtains in other countries where harmful pesticides are still being used. Therefore, governments and stakeholders should raise awareness to discourage farmers from the use of organochlorines and other harmful pesticides.

کلمات کلیدی:

Contamination, Food Chain, Hazard index, Pesticides

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