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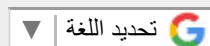
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Evaluation of pesticides multiresidue contamination of khat leaves from Jazan region, Kingdom Saudi Arabia, using solid-phase extraction – gas chromatography/mass spectrometry

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Abstract

The habit of khat chewing is widespread with a deep-rooted sociocultural tradition in these regions and as such poses a public health problem. The use of pesticides is considered to be indispensable practice for the production of adequate food supply for the increasing demands by the global population and for control of insect-borne diseases. Thus, contamination of the environment with pesticides and entry of these chemicals into the food chain is unavoidable especially in developing countries. The main objective of our current study was to assess pesticide pollution

of khat leaves (unknown origin) obtained while being smuggled into the Kingdom of Saudi Arabia and to be used in Jazan area. A total of 120 khat leaf samples were extracted using solid-phase extraction followed by gas chromatography/mass spectrometry analysis for the presence of 69 standard pesticides using an internal standard, tiphenyl phosphate. No pesticide residues were detected in all the studied samples. These data as preliminary and more experiments need to be performed to confirm our present findings. Routine monitoring of the pesticide residues is important for the prevention, control, and reduction of environmental pollution and also for legal decisions to minimize health risks.

Keywords: pesticides, khat leaves, SPME, GC/MS



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