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Polycyclic aromatic hydrocarbons (pahs) in vegetables and fruits produced in Saudi Arabia
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Abstract
Popular varieties of vegetables were collected from major cities of Saudi Arabia and analyzed for polycyclic aromatic hydrocarbons (PAH) contents. Eight important PAH congeners were analyzed. Total PAH contents of the root vegetables like potato and carrot showed higher values (11 lg kg-1), whereas turnip showed relatively lower contents at 9.26 lg kg-1. For the fruit vegetables, all the peels were found to be more contaminated than cores. For leafy veg etables, maximum PAH level was shown by cabbage (8.34 lg kg-1), which turned out to be more than any of the cores of fruit vegetables. Among individual PAH congeners, anthracene showed higher levels in all vegetables. For benzo(a)anthracene, maximum concentration (2.21 ± 1.75 lg kg-1) was encountered in turnip cores. Highest benzo(e)-pyrene concentration was found in potato (2.90 ± 1.10 lg kg-1) followed by turnip (2.10 ± 1.09 lg kg-1). Benzo (b)fluoranthene and benzo(k)fluoranthene showed relatively lower levels in all samples studied. Human exposure to PAH by consumption of these vegetables is estimated, by using typical Saudi intake rates. The study revealed that cumulative dietary exposure of Saudi population to PAHs ranges from 0.20 to 0.85 lg p-1 d-1. © Springer Science+Business Media, LLC 2012.

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