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POLYCYCLIC AROMATIC HYDROCARBONS IN DIFFERENT SOILS AND VEGETABLES FROM THE PEARL RIVER DELTA, SOUTH CHINA

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Abstract

Surface soil samples and vegetable samples from the Pearl River Delta, South China were collected and analyzed for 16 USEPA priority polycyclic aromatic hydrocarbons (PAHs). The total concentrations of 16 PAHs in soils ranged from 22.1 to 1256.9 ng/g. Naphthalene, phenanthrene, fluoranthene and benzo(b)fluoranthene were consistently the most prevalent individual PAHs. The concentrations of 16 PAHs in vegetables varied from 31.2 to 726.8ng/g. Naphthalene and phenanthrene were the predominant PAH. Abundance of higher molecular weight PAHs in vegetable, however, was lower than that in soil. Concentrations of PAH in paddy soil were slightly higher than those in vegetable soil. The concentration of PAH in vegetable decreased in the order leaf > melon > paddy.

Key words: Pearl River Delta, polycyclic aromatic hydrocarbon, soil, vegetable

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