



Effectiveness of *Dracaena deremensis* plant in elimination of BTEX from air using SPME-GC-FID

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Background and Aims: To assess the ability of *Dracaena deremensis* (Janet Craig) for removing indoor air pollutants including Benzene, toluene, ethyl benzene and xylene (BTEX) this study was conducted.

Methods: In an experimental study the plant was exposed to 0.8 ppm mixture of BTEX in sealed chamber over four days. The air in the chamber was contaminated with the BTEX by injecting the proper micro liter of them through a plastic septum. All air sampling was carried out during four days and the concentration of BTEX was measured using solid phase microinstruction (SPME) method.

Results: According to the results, the concentration of Benzene decreased from 0.8ppm to 0.73, 0.5, 0.04 and 0 ppm for days 1, 2, 3 and 4, respectively. Ethyl benzene, toluene and xylene were also decreased to zero at fourth day. The decrease of BTEX concentration by plant and soil together was higher than soil alone ($p < 0.05$).

Conclusions: The highest absorption was seen by benzene and then followed by ethyl benzene, toluene and xylene, respectively. These findings confirm that mixture of compounds can be absorbed by *Dracaena deremensis* regardless of the synergism effects. The present study indicate that *Dracaena deremensis* is useful for improving indoor air quality.

Keywords: BTEX; *Dracaena deremensis*; SPME-GC-FID