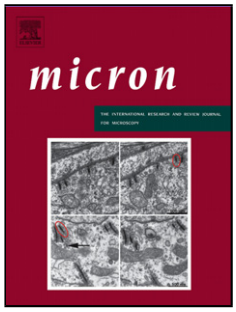

Title: Detection of Polycyclic Aromatic Hydrocarbons (PAHs) in *Medicago sativa* L. by Fluorescence Microscopy

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Graphical abstract

Alfalfa (*Medicago sativa* L.) leaves and roots grown in the presence and absence of 150 ppm polycyclic aromatic hydrocarbons (PAHs) for 40 days are washed with distilled water, dried with filter paper and immersed in n-hexane for 30 seconds to remove adhered surface PAHs. Subsequently, the samples are mounted on slides with 50% glycerol and viewed under a fluorescence microscope (Leica DM 5000 B model with Leica Filter cube A: UV excitation range, excitation filter BP340-380 nm, dichromatic mirror 400 nm and suppression filter LP 425 nm). Images are recorded with a digital camera (Leica DFC 500) under UV and visible light. The location of PAHs is evidenced by the detection of blue autofluorescence, typical of the PAH studied, under UV light (*). This is the first report of PAHs in alfalfa tissues detected by fluorescence microscopy and intense fluorescence in the glandular secreting trichomes (GSTs) of plants grown in contaminated soil. These trichomes, with as as-yet-unknown function, may be sites of PAH conjugation and degradation in alfalfa.