

# THE POLYCYCLIC AROMATIC HYDROCARBONS CONTENT IN SELECTED SILTY SOILS

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## Summary

The aim of the present study was to determine the content of polycyclic aromatic hydrocarbons in relation to the intensity and type of soil management. Two types of soil were selected for the present studies, i.e.: Haplic Phaeozem developed from loess and Eutric Fluvisol originating from silty formations. Five objects were chosen in each of the soils included in the present study, i.e.: apple orchards, hop gardens, arable plots, grassland and natural forest ecosystems. Samples were collected from the depth of 0–10, 10–20 and below 35 cm. In the study material obtained, the content of 16 PAHs was determined by means of the HPLC-UV method. The content of polycyclic aromatic hydrocarbons clearly depended both on the soil type and soil management method. Only in the case of two objects (hop garden and grassland plot) both the Haplic Phaeozem and the Eutric Fluvisol were characterized by the highest PAH content. The influence of soil management method on both the PAH sum and the content of individual compounds was more clearly marked in the Haplic Phaeozem than in the Eutric Fluvisol. PAH migration deeper into the soil profile similarly to their content depended on the soil type and soil management method. However, both in the Eutric Fluvisol and in the Haplic Phaeozem, an increase in naphthalene share was observed with a decrease in depth. Nevertheless, the effect of pollutant leaching deeper into the soil profile was more clearly marked in the case of Eutric Fluvisol.