

OCCURANCE OF AIRBORNE FUNGAL SPORES WITH POTENTIAL ALLERGOGEN EFFECT IN URBAN AND RURAL EDUCATIONAL INSTITUTIONS FROM IAȘI COUNTY, ROMANIA

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Abstract

Air contamination by airborne fungal spores in five educational institutions placed in urban and rural locations of Iasi county, Romania was investigated in 2014 over a period of 3 months (April-June) using the Petri plate gravitational settling (passive) method. Petri plates contained nutrient media (PDA) in three different compositions (classic, with rose-bengal and with streptomycin) were exposed to room air for a 15-min period face upwards to collect particles settling by gravity. The location differed in habitat characteristics, such as urbanisation level, vegetation and microclimate and these characteristics could affect spore occurrence in indoor air.

The identification of the fungi was made according to their microscopic properties and through references. The fungal genera most commonly isolated in all five locations were *Penicillium*, *Cladosporium* and *Aspergillus* (40.5, 26.3 and 23.5% of the total, respectively).

Our results showed that fungal spores density in the educational institutions air was within the sanitary level accepted for public buildings, with exception of one classroom from the rural area (Mogoșești-Siret), which has potential to develop adverse health effects to the occupants (1196 UFC/m³ air).

Key words: indoor air - airborne fungal spores density - educational institution - urban and rural areas
