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Microfungal Contamination of Damp Buildings--Examples of Risk Constructions and Risk Materials

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Abstract

To elucidate problems with microfungal infestation in indoor environments, a multidisciplinary collaborative pilot study, supported by a grant from the Danish Ministry of Housing and Urban Affairs, was performed on 72 mold-infected building materials from 23 buildings. Water leakage through roofs, rising damp, and defective plumbing installations were the main reasons for water damage with subsequent infestation of molds. From a score system assessing the bioavailability of the building materials, products most vulnerable to mold attacks were water damaged, aged organic materials containing cellulose, such as wooden materials, jute, wallpaper, and cardboard. The microfungal genera most frequently encountered were *Penicillium* (68%), *Aspergillus* (56%), *Chaetomium* (22%), *Ulocladium*, (21%), *Stachybotrys* (19%) and *Cladosporium* (15%). *Penicillium chrysogenum*, *Aspergillus versicolor*, and *Stachybotrys chartarum* were the most frequently occurring species. Under field conditions, several trichothecenes were detected in each of three commonly used building materials, heavily contaminated with *S. chartarum*. Under experimental conditions, four out of five isolates of *S. chartarum* produced satratoxin H and G when growing on new and old, very humid gypsum boards. *A. versicolor* produced the carcinogenic mycotoxin sterigmatocystin and 5-methoxysterigmatocystin under the same conditions. **Key words:** allergy, *Aspergillus versicolor*, building materials, mold, mycotoxins, *Penicillium chrysogenum*, *Stachybotrys chartarum*. -- *Environ Health Perspect* 107(suppl 3):505-508 (1999).

<http://ehpnet1.niehs.nih.gov/docs/1999/suppl-3/505-508gravesen/abstract.html>

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