



Purchase

Export

Search ScienceDirect



Advanced search

Article outline

 Show full outline

Abstract

Keywords

1. Introduction
 2. Materials and methods
 3. Results
 4. Discussion
- References

Figures and tables

- Table 1
- Table 2
- Table 3
- Table 4
- Table 5
- Table 6
- Table 7
- Table 8



Atmospheric Environment

Volume 36, Issue 35, November 2002, Pages 5443–5448

12th Clean Air & Environment Congress and Exhibition



Effect of air-conditioner on fungal contamination ☆

Nobuo Hamada , Tadao Fujita

[Show more](#)

Choose an option to locate/access this article:

Check if you have access through your login credentials or your institution

[Check access](#)[Purchase \\$35.95](#)[Rent at DeepDyve](#)[Get Full Text Elsewhere](#)[http://dx.doi.org/10.1016/S1352-2310\(02\)00661-1](http://dx.doi.org/10.1016/S1352-2310(02)00661-1)[Get rights and content](#)

Abstract

Air-conditioners (AC) produce much dew and wet conditions inside their apparatus, when in operation. We studied the fungal contamination in AC and found that the average fungal contamination of AC filters was about 5-fold greater than that of a carpet, and *Cladosporium* and *Penicillium* were predominant in AC filters. The fungal contamination inside AC, which were used everyday, increased more markedly than those not used daily, e.g. a few days per week or rarely. Moreover, the airborne fungal contamination in rooms during air-conditioning was about 2-fold greater than one in rooms without AC, and was highest when air-conditioning started and decreased gradually with time. We recognized that the airborne fungal contamination was controlled by the environmental condition of the rooms, in which AC were used. It is suggested that AC might promote mold allergies in users via airborne fungal spores derived from the AC. On the other hand, AC was estimated to remove moisture in the room atmosphere and carpets, and reduce the relative humidity in rooms. It was found that the average fungal contamination in the house dust of carpets with AC was suppressed by two-third of that in rooms without AC. The use of AC for suppressing fungal hazards was discussed.

Keywords

Mold; Air-conditioner; Allergy; Moisture; *Cladosporium*

☆ This paper was originally submitted to the 2001 World Clean Air Congress.

Corresponding author. Fax: +81-66772-0676

Copyright © 2002 Elsevier Science Ltd. All rights reserved.

ELSEVIER

[About ScienceDirect](#)[Remote access](#)[Shopping cart](#)[Contact and support](#)[Terms and conditions](#)[Privacy policy](#)Cookies are used by this site. For more information, visit the [cookies page](#).

Copyright © 2017 Elsevier B.V. or its licensors or contributors. ScienceDirect® is a registered trademark of Elsevier B.V.

RELX Group™

▼ This article belongs to a special issue

[12th Clean Air & Environment Congress and Exhibition](#)

Other articles from this special issue

[Addressing uncertainty in environmental modelling: a ...](#)Helen M ApSimon, , Rachel F Warren, , Serpil Kayin, [more](#)[Characteristics of TSP and PM_{2.5} measured at Tokch...](#)Seung-Bok Lee, , Gwi-Nam Bae, , Kil-Choo Moon, [...](#) [more](#)[SPM and fungal spores in the ambient air of west Kor...](#)Hwan-Goo Yeo, , Jong-Ho Kim, [more](#)[View more articles »](#)[▶ Recommended articles](#)[▶ Citing articles \(16\)](#)[▶ Related book content](#)

Read the article online here: <http://www.sciencedirect.com/science/article/pii/S1352231002006611>