Fungal Index and Contamination in Air Conditioners when cooled

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Abstract
Using a fungal index, the microclimate was assessed in air conditioners and the air-conditioned rooms in summer. The fungal index is a parameter for detecting and assessing fungal growth in the environment. Although the index revealed no fungal growth at any site within the room, the index was high inside and at the cooled air outlets of air conditioners. The index was the highest inside the air conditioners. A high probability of fungal growth in air conditioners was indicated. Fungi that contaminated air conditioners used in dwellings were isolated and identified. Cladosporium spp. were the dominant fungi that contaminated these air conditioners. The spores of the fungi spread from these air conditioners, although few spores spread from new air conditioners. It was concluded that the inside climate of air conditioners, which is suitable for fungal growth when cooled, induces fungal contamination in air conditioners. As a result, fungal spores are scattered throughout the room. Air conditioners are clearly sources of air pollutants in rooms.

Key word: air conditioner, air conditioning, contamination, fungus, fungal index, microorganism