

Air Sampling and Analysis for Mold in Hills Building UMass

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Re-evaluate Room 122 Hills North, basement & Procopio room

Introduction

A re-evaluation of room 122 of Hills North was conducted for airborne mold on October 26, 2011. In addition, the Procopio room (105) and the basement were also evaluated.

Methods

Air samples were collected for mold analysis using a BioPump Plus sampler that operated at a verified flow rate of 15 L/min and a 5-minute sample (0.075 m³ total volume) was collected in an Air-O-Cell cassette. One sample was taken outdoors for comparison with indoor air samples. Collection media in the cassettes were analyzed microscopically by PAACB certified spore analysts at 400X magnification. The whole trace was enumerated and counts were converted to concentration and expressed as the number of spores per cubic meter of air (spores/m³). The lower limit of detection was 13.3 spores/m³ of air

Results

Outdoors – at back of building; 51.7°F, 70%RH

Basidiospores	10,427
<i>Penicillium/Aspergillus</i> -like	333
Ascospores	200
Unknown	200
<u>Hyphal fragments</u>	13.3 * not included in total
Total	11,160 spores/m ³

Light amount of airborne particles

Room 105 Procopio – some landscape models present; 67.2°F, 44%RH

Basidiospores	3,333
<i>Penicillium/Aspergillus</i> -like	160
Ascospores	53.3
<i>Cladosporium</i>	26.7
Unknown	80
<u>Hyphal fragments</u>	66.7 * not included in total
Total	3,653 spores/m ³

Light amount of airborne particles

Room 122 re-evaluated – 7 potted plants; carpet appears dry; suspended ceiling does not have moisture damage; window open; potential asthma triggers identified – bouquet of lavender and 4 scented candles; 71.3°F, 46%RH

Basidiospores	2,120
<i>Penicillium/Aspergillus</i> -like	563
<i>Cladosporium</i>	80
Ascospores	80
Smut	80
Myxomycetes	26.7
<i>Stachybotrys</i>	26.7
Unknown	40
Pollen	40 * not included in total
Total	3,026.4 spores/m ³

Moderate amount of airborne particles

Basement

Basidiospores	2,027
<i>Penicillium/Aspergillus</i> -like	200
Ascospores	53.3
Unknown	120
Hyphal fragments	40 * not included in total
Total	2,400.3

Light amount of airborne particles

Interpretation

In room 122, again the concentration of *Penicillium/Aspergillus*-like spores exceeds outdoor levels and this time exceeds 500 spores/m³ which could indicate a moisture source and possible mold growth. The presence of low concentrations of *Stachybotrys* spores also strongly indicates a possible source of moisture in this space as this is a moisture loving fungus. The level of *Penicillium/Aspergillus*-like spores likely does not pose a health threat to normal healthy individuals. Even in previously sensitized individuals exacerbation of symptoms at this level would be uncommon. The Procopio room (105) and the basement spore concentrations and taxa are as expected for a naturally ventilated space.

Recommendation

Further investigate a source of moisture in room 122 that could be associated with mold growth. If occupant has allergic symptoms, remove potential triggers of asthma (lavender and candles). If symptoms persist, relocate until after correction of any issues identified during inspection and cleaning of the space has occurred.