SPORE TRAP INTERPRETATION TIPS

Contains opinions and interpretations

Currently there are no numeric standards for indoor airborne or surface microbial contamination. Suggested guidelines are constantly being reviewed and updated as more information is collected.

Some common denominators should be considered when interpreting results:

1. Comparison of indoor/outdoor concentration ratios.

2. Complaint vs. non-complaint areas or affected vs. non-affected areas.

3. Consider air exchange rates and activity levels in a building structure, weather, and season of the year.

4. Rank order assessment and concentration (e.g., spores/m^3 of air) of the fungi.

5. Predominant fungal genera: Are there water indicator microorganisms present, such as but not limited to: *Chaetomium, Stachybotrys, Trichoderma,* and *Scopulariopsis.*

6. Generally fungal counts indoors should be lower than outdoor counts and the types of fungi found indoors should be similar to outdoors.

7. There is always a potential bias from infiltration of outdoor air, poor housekeeping, excessive indoor relative humidity, or potential contamination sources (e.g. water intrusion through a basement wall) that may negatively influence post remedial verification (PRV) or clearance levels.

8. The investigator should look for various patterns among the indoor types of molds detected:

   a. Increased levels of primary (1st) colonizers in damp or moisture intrusion areas of homes or commercial buildings: ***Aspergillus/Penicillium*** or ***Cladosporium*** are usually noted.

   b. ***Chaetomium*** or ***Stachybotrys*** are tertiary (3rd) colonizers of indoor materials and are usually associated with chronic long-standing water/moisture issues in a building.

   c. The presence of **hyphal fragments** or **fruiting structures** noted on spore trap samples usually indicates amplification (growth) of fungi on building substrates.

   d. **Ascospores** and **basidiospores** noted on indoor spore trap samples most often represent the entrance of inadequately filtered outdoor air. During inclement weather, remember to note time, temperature, and season. Most indoor materials will not support the growth of these fungi.

9. When unidentified **hyaline** (clear) or **dematiaceous** (dark-pigmented) conidia are noted on a spore trap sample, it indicates that no particular fungus can be identified. These fungal conidia may represent such yeast-like fungi as *Aureobasidium, Sporidiobolus,* unidentifiable *Acremonium* species, Basidiomycetes (basidiospores), and Ascomycetes (ascospores).

10. Keep in mind when interpreting spore trap sample reports, that indoor levels may be higher than corresponding outdoor levels (winter time in the northern U.S.) with a predominance of *Aspergillus/Penicillium* or *Cladosporium* conidia with no significant amplification of any molds.

SPORE TRAP GUIDELINES

DEBRIS RATING		
DEBRIS RATING	**Debris Load** per high power field (600 X)	**SIGNIFICANCE**
0	A visible trace, including particulates and debris, is not observed.	Indicates the sample is a blank, the area is exceptionally clean, or improper sampling occurred.
1	<5%	Minimal amount of debris is observed.
2	5-25%	Low amount of debris is observed, counts may be affected.
3*	25-75%	Moderate amount of debris is observed, counts of conidia/hyphal fragments may be underestimated.
4* See Relative Abundance chart below	75-90%	High amount of debris is observed, counts are estimated or relative abundance is reported. Suggest recollection.
5*	>90%	Unable to analyze. Recollect sample.

*A rating of 3 or greater indicates that the accuracy of the analysis is likely affected.

RELATIVE ABUNDANCE of FUNGAL PARTICLES (hyphal fragments, spores)	
RATING	**Fungal Particle Load** per high power field (600 X)
Rare	<5%
Few	5-25%
Moderate	25-75%
Many	75-90%
Numerous	>90%

SKIN CELL RATING	
SKIN CELL RATING	**Skin Cell Load** per high power field (600 X)
0	No skin cells present
1	<5%
2	5-25%
3	25-75%
4	75-90%
5	>90%