



Interpreting Airborne Mold Testing Results

First of all, let it be known that there are no regulatory guidelines for interpreting air sample test results for mold. So, when do airborne molds pose a problem? That is a difficult question to answer. The one thing certain is that when the indoor molds become *elevated* or *out of sync* with outdoor or control sample levels, it becomes a *potential* problem.

The two most popular forms of air sampling in use today are *spore traps* and *sieve impactors*. Following sample collection, spore trap samples are directly examined in a microbiology laboratory under a high powered microscope. Since some mold spores have unique enough characteristics to allow for their direct identification and enumeration, this method can yield very timely results. Sieve impactors, on the other hand, utilize a growth medium (agar) that is inoculated during the sampling process. The mold spores collected, if they are viable and able to compete against other microorganisms, will form colonies on the agar surface. This is a culture method that requires time for colonies to form and grow, so results can take several days to a week or more to be derived.

When can indoor mold become a problem?

- The airborne mold counts are *elevated* or *out of sync* with outdoor or control sample levels
- The mold types present (in the air or on a surface) are *allergenic*, *pathogenic* or *toxigenic*¹
- There is visible or hidden mold growth that could be disturbed (even by routine housekeeping activities or pressure differentials created by variable outdoor winds, opening windows, HVAC system operation, etc.)
- There are, or is a history of, conditions conducive to mold growth (i.e., water damage or prolonged episodes of high relative humidity)
- People are likely to visit, occupy or mix air with a problematic area
- Occupants or visitors have allergies or other environmental sensitivities
- Occupants or visitors are predisposed with asthma or other respiratory issues
- Occupants or visitors are immune-compromised
- Occupants or visitors experience an adverse reaction of any kind

It should be noted that it is always possible a mold-type may be present indoors which has not been targeted for assay or is present in such small quantity that it could not be detected by routine testing. It is also possible that variables in sample collection, such as those created by an isolated mold source or intermittent spore emission, the random selection of a sample location, etc., could affect sampling results. Therefore, it is always possible an unanticipated exposure is occurring even when air sample results do not show it. Finally, it should be understood that there will always be some level of mold exposure.

In matters involving indoor air quality, health, and safety, there is no substitute for sound medical advice. Persons experiencing adverse health effects of any kind should seek a medical diagnosis without delay; symptoms could be related to the onset of a serious illness and delay of any kind should be avoided.

¹ Most molds are considered allergenic to some degree. Some molds can be pathogenic. Certain species of *Fusarium*, *Penicillium*, and *Aspergillus* are capable of producing mycotoxins (toxic metabolites). *Stachybotrys chartarum* may also produce mycotoxins.

